Laird's Corner Roundabout

At the intersection of State Route 190 and Road 152 (Bliss Lane)
east of Tipton in Tulare County
06-FRE-190-PM 4.0/5.0
Project ID: 06-12000182 (EA 06-0P5900)

Initial Study
with Proposed Negative Declaration

Prepared by the
State of California Department of Transportation

March 2014

General Information About This Document

What's in this document?

The California Department of Transportation (Caltrans) has prepared this Initial Study, which examines the potential environmental impacts of alternatives being considered for the proposed project in Tulare, California. The document describes the project, the existing environment that could be affected by the project, potential impacts from the project, and proposed avoidance, minimization, and/or mitigation measures.

What should you do?

- Please read this Initial Study. 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, at the Tipton Branch Library at 221 North Evans Road, Tipton, CA 93272, and at the Porterville City Library at 41 W. Thurman Avenue, Porterville, CA 93257. 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 project, please send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to Caltrans at the following address:

  Michelle Ray, Acting Branch Chief
  Sierra Pacific Environmental Analysis Branch
  California Department of Transportation
  855 M Street, Suite 200
  Fresno, CA 93721

  Submit comments via email to: michelle.ray@dot.ca.gov

- Submit comments by the deadline: May 9, 2014.

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.

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: Michelle Ray, Sierra Pacific Environmental Analysis Branch, 855 M Street, Suite 200, Fresno, CA 3721; (559) 445-5286 29 (Voice).

06-TUL-190-PM4.0/5.0
06-12000182

Improve the intersection at State Route 190 and Road 152 (Bliss Lane)
east of Tipton in Tulare County

INITIAL STUDY
with Proposed Negative Declaration

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

THE STATE OF CALIFORNIA
Department of Transportation

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3/18/14
Date of Approval

Jennifer H. Taylor, Office Chief
Central Region
Environmental South
California Department of Transportation
CEQA Lead Agency

The following persons may be contacted for additional information concerning this document:

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Proposed Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to improve the intersection of State Route 190 and Road 152 (Bliss Lane) in Tulare County east of the Tipton (post miles 4.0 to 5.0). Two Alternatives are under consideration, a No Build Alternative and a Build Alternative. The Build Alternative proposed the construction of a roundabout on the existing alignment of State Route 190.

Determination

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

Draft

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

The proposed project would have no effect on aesthetics, agricultural resources, air quality, cultural resources, geology/soils, hazardous waste and hazardous materials, hydrology/water quality, land use/planning, mineral resources, population/housing/ public services, recreation, transportation/traffic, and utilities/service systems.

The proposed project would have less than a significant effect on farmland, noise, and the San Joaquin kit.

_____ _____

JENNIFER H. TAYLOR, Office Chief
Central Region
Environmental South
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
CDFG	California Department of Fish and Game
USFWS	United States Fish and Wildlife Service

Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) proposes to improve the intersection of State Route 190 and Road 152 (Bliss Lane), Postmiles 4.0 to 5.0, east of Tipton in Tulare County, California (see Figure 1-1 and Figure 1-2). The project has two alternatives under consideration, a No Build Alternative and a Build Alternative. The Build Alternative proposes construction of a single-lane roundabout that would require all traffic to make right-hand turns creating a traffic pattern that promotes a safer intersection by slowing down traffic from all directions on a high-speed roadway.

The project is located about 4.5 miles east of Tipton at the intersection of State Route 190 and Road 152 (Bliss Lane), once known as Laird's Corner. The area is primarily farmland to the north and residential or farmland/commercial to the south. The posted speed limit is 55 miles per hour (mph) and flashing beacon lights are placed on State Route 190 and on Road 152 (Bliss Lane) notifying drivers of the upcoming intersection. Traffic on Road 152 (Bliss Lane) is currently controlled by stop signs but traffic on State Route 190 does not have to stop.

State Route 190 is an east-west corridor that originates from State Route 99 near the community of Tipton and heads east toward the Sierra Nevada Mountain Range. State Route 190 serves the communities of Tipton, Poplar, Porterville, and Springville. Most of State Route 190 is a two-lane conventional highway but within the City of Porterville, the route becomes a divided four-lane expressway. Travelers use the route to gain direct access to Success Lake, Camp Nelson, Sequoia National Forest, and other recreational areas to the east of the project area. The route also provides access to the Tule River Indian Reservation, Eagle Mountain Casino, the Walmart Distribution Center, Porterville Community College and the Porterville State Hospital. The route intersects with State Route 65 near Porterville and provides access for agricultural goods movement as well as other products manufactured in Tulare County.

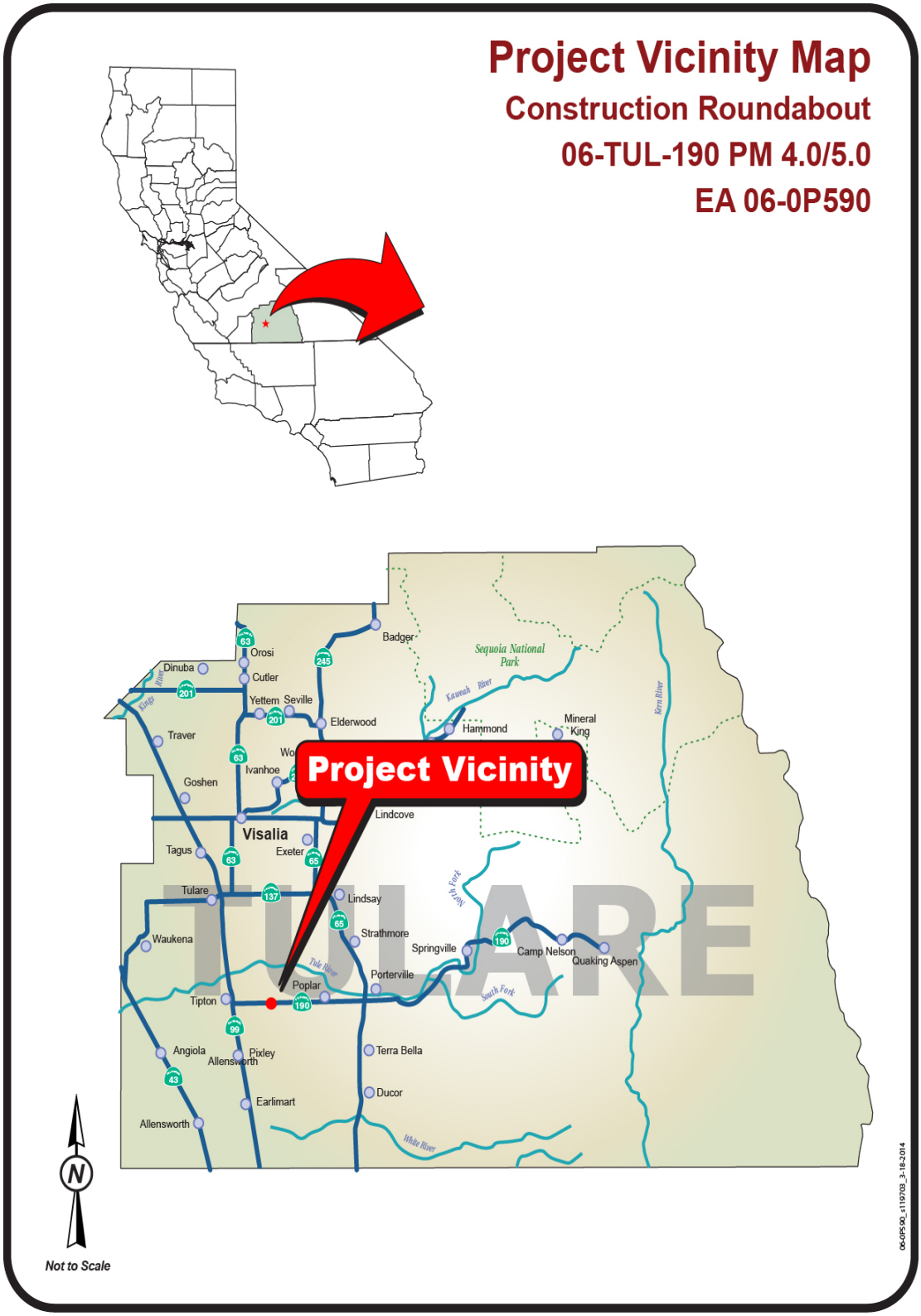

Figure 1-1 Project Vicinity Map

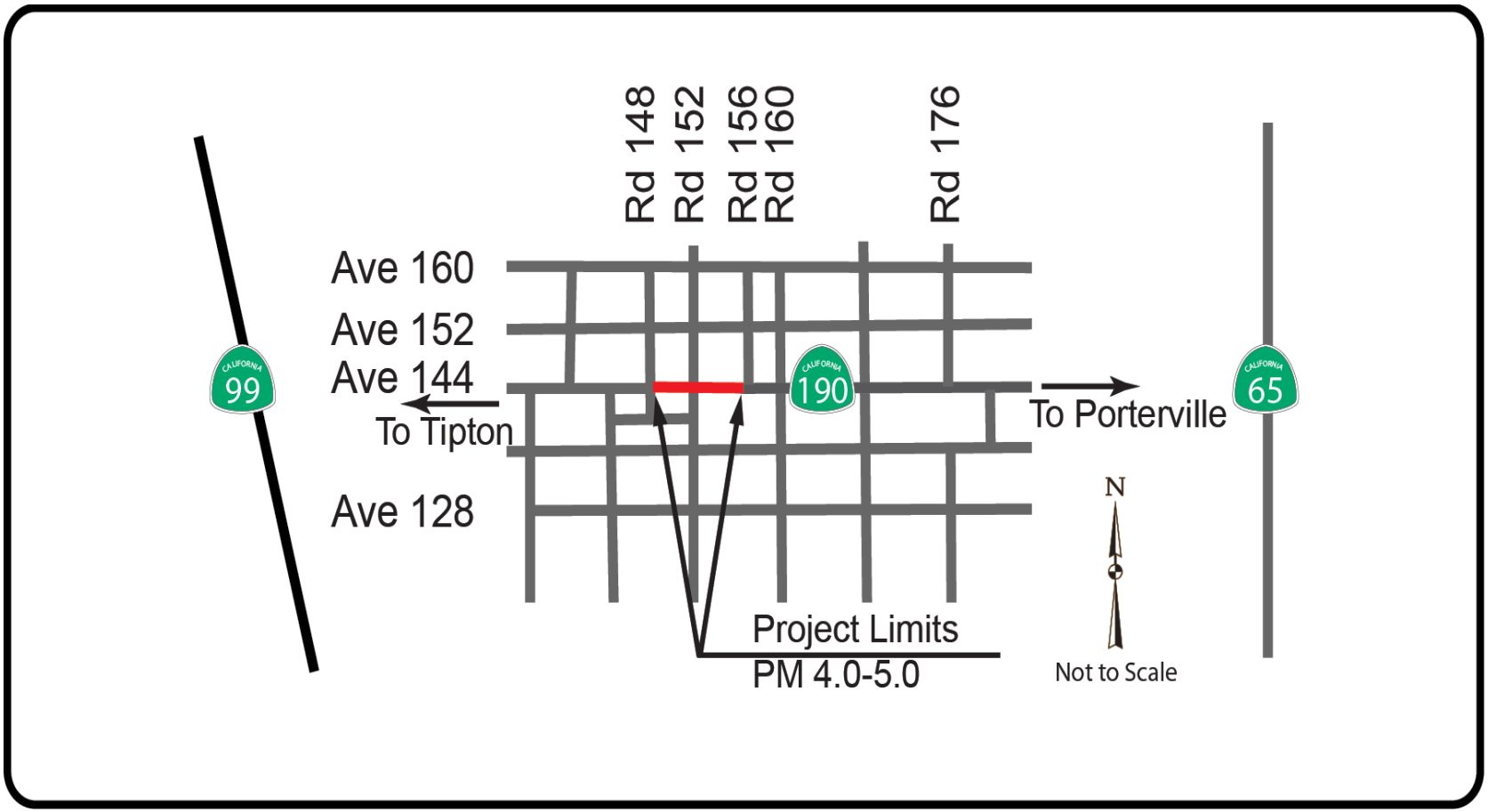

Figure 1-2 Project Location Map

The estimated capital cost is $3.34 million and the project is programmed in the 2014 State Highway Operation and Protection Program (SHOPP). The route is part of the Tulare County Regional Road System and is currently not a bicycle route.

Caltrans is the lead agency under the California Environmental Quality Act (CEQA). Because funding for the proposed project includes federal funds and there are no environmental impacts, a National Environmental Policy Act Categorical Exclusion (NEPA-CE) would be prepared after circulation and public comment of this document.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the project is to improve safety at the intersection of State Route 190 and Road 152 (Bliss Lane).

1.2.2 Need

The project is needed because the accident rate at this intersection is higher than the statewide average for similar intersections within the state. It is expected that the Roundabout Alternative would provide greater safety and more efficient traffic operation with higher benefit to cost ratio than other improvements.

The accident history for the intersection of State Route 190 and Road 152 (Bliss Lane) for the most recent three-year study period (April 1, 2007 to March 31, 2010) shows the actual total accident rate of 3.15 accidents per million vehicles was ten times higher than the statewide average accident rate of 0.30 accidents per million vehicles. There were 16 accidents reported at this intersection during the three-year study period: Fatal (1), Injury (5), and Property Damage Only (10). Table 1.1 shows the accident rate data for the intersection and the state average.

Table 1.1 Accident Rates at State Route 190 and Road 152 (Bliss Lane) (April 1, 2007 – March 31, 2010)

Accident Rates (per million vehicles)			
	Fatal	**Fatal + Injury**	***Total**
Actual	0.197	1.180	*3.150
State Average	0.006	0.130	*0.300

Source: Department of Transportation Office of Traffic Engineering
**Includes non-fatal or injury accidents, such as property damage*

State Route 190 at this location is designated as a terminal access route under the National Network for larger trucks allowed by the Surface Transportation Assistance Act (STAA) of 1982. Trucks account for about 24 percent of the average daily traffic (ADT), which for this segment of the highway, was 5,800 vehicles in 2013.

The Traffic Investigation conducted for this intersection determined the intersection did not meet the warrant for a traffic signal (Caltrans District 6 Office of Traffic Investigation).

1.3 Project Description

This section describes the proposed action and the project alternatives that were developed to meet the identified purpose and need of the project while avoiding or minimizing environmental impacts. The project is proposing to construct a single-lane roundabout that would require all traffic to make right-hand turns creating a traffic pattern that promotes a safer intersection by slowing down traffic from all directions on a high-speed roadway.

1.4 Project Alternatives

The project has two alternatives under consideration, a No Build Alternative and a Build Alternative.

1.4.1 Build Alternative

The Build Alternative proposes construction of a single-lane roundabout intersection that would require all traffic to make right-hand turns creating a traffic pattern that promotes a safer intersection by slowing down traffic from all directions on a high-speed roadway (See Figure 1-3). The roundabout design would accommodate agricultural equipment, buses, and oversized trucks.

Design Features of the Build Alternative

The Build Alternative would include the following:

- A central island in the intersection
- Outside shoulders in all directions
- A truck apron
- Four splitter islands (to separate traffic) with a pedestrian refuge
- Sidewalks and curb ramps on each corner of the intersection
- Improves about 0.5 mile of State Route 190 east and west of Road 152 (Bliss Lane)

- Improves about 600 feet of Road 152 (Bliss Lane) north and south of State Route 190
- Storm water drainage basins on each side of Road 152 (Bliss Lane)

Construction of the Roundabout Alternative would result in:

- Acquiring about 7 acres of right-of-way (total) from the north and south sides of State Route 190
- Converting approximately 7 acres of prime and unique farmland
- Relocating two non-residential structures
- Constructing a storm water drainage basin south of the existing State Route 190 on both sides of Road 152 (Bliss Lane)

1.4.2 No-Build (No-Action) Alternative

Consideration of a No-Build Alternative is required by the National Environmental Policy Act. The No-Build Alternative would leave the intersection as it is, and as a result, the high number of collisions would continue and the purpose and need would not be met.

1.5 Comparison of Alternatives

Criteria to evaluate alternatives include purpose and need objectives and potential environmental effects of the proposed project. Table 1.2 compares the alternatives using the evaluation criteria.

Table 1.2 Comparison of Alternatives

Evaluation Criteria	Single-lane Roundabout Intersection	No Build Alternative
Meets Purpose and Need	Would lower traffic speed and create a traffic pattern of right-hand turns that promotes a safer intersection by slowing down traffic from all directions on a high-speed roadway	Would not meet purpose and need
Estimated Cost	$3.34 Million	Cost for maintenance of existing intersection
Environmental Impacts: Land Use	Consistent with local, state, and regional land use	Improvements would not be made
Right-of-way Needed	Acquires about 7 acres of right-of-way from both sides of State Route 190	No right-of-way would be necessary
Relocation	Relocates several non-residential structures and some utility poles	No relocations would be necessary
Farmland	Converts 7 acres of prime and unique farmland	No farmland would be converted
Traffic Circulation	A two-way left turn lane (about 300-feet long) would provide access to residents in close proximity to the intersection on the south side of State Route 190	No change in circulation
Threatened and Endangered Species	"*may effect, not likely to adversely affect*" for the impacts to the San Joaquin kit fox (kit fox)	No change to resource

1.5.1 Alternatives Considered but Eliminated from Further Discussion

Three other alternatives were considered during the draft project report/draft environmental document phase:

- Alternative 1B considered a single-lane roundabout intersection 100 feet north of the existing alignment of State Route 190. This alternative was rejected because the cost was above the limit allowed by the Caltrans' Safety Index (SI) for transportation facilities.
- Alternative 2 considered a signalized intersection. This alternative was rejected because it does not satisfy the signal warrants requirement from Caltrans District 6 Traffic Operations.
- Alternative 3 considered an all-way stop (a four-way stop) intersection but was rejected because it did not meet the purpose and need for the project, and as traffic volumes increase over time, the level of service would decrease causing significant traffic delays and congestion.

1.6 Permits and Approvals Needed

No permits are required for this project but Caltrans is requesting concurrence from the United States Fish and Wildlife Service (USFWS) on a determination of "*may effect, not likely to adversely affect*" for the impacts to the San Joaquin kit.

Agency	Permit/Approval	Status
U.S. Fish and Wildlife Service (USFWS)	Section 7 Letter of Concurrence for Threatened and Endangered Species	Concurrence with Caltrans' initiated informal consultation determination prior to approval of the Final Environmental Document

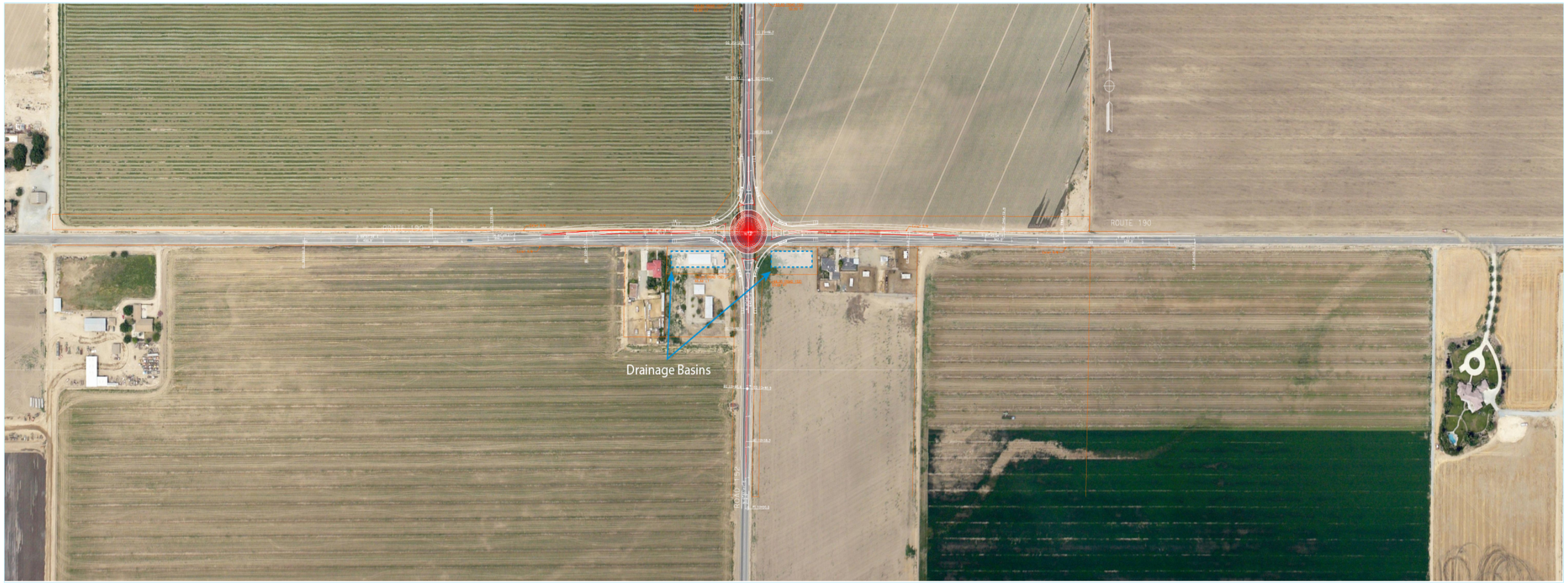

Figure 1-3 Build Alternative: Single Lane Roundabout Intersection

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 conducted for the project, the following environmental issues were considered, but no adverse impacts were identified. Consequently, there is no further discussion regarding these issues in this document.

- Land Use - The project is consistent with existing and future land use and with state, regional, and local plans (Tulare County General Plan 2008, SHOPP Safety Improvement Program in 2012/2013, Regional Transportation Plan 2012, Federal Transportation Improvement Program 2008).
- Coastal Zone - The project is not located within a coastal zone (Field Review, October 2013).
- Wild and Scenic Rivers - There are no wild or scenic rivers within the project limits (Field Review, October 2013).
- Parks and Recreation - There are no parks or recreation facilities within the project limits (Field Review, October 2013).
- Growth - The project would not promote growth because it is a safety project that upgrades an existing intersection (Field Review, October 2013).
- Farmland/Timberlands - No timberland is located within the project limits (Field Review, October 2013). Farmland is discussed in Section 2.2.1 of this document.
- Environmental Justice - The alternatives would not cause disproportionately high and adverse effects on any minority or low-income populations as per Executive Order 12898 regarding environmental justice. (Field Review and Scoping Meeting, October 2013).

- Visual/Aesthetics - No qualifying scenic resources, as defined in the enactment of Section 1530(c) of the State Environmental Impact Report (EIR) Guidelines, would be affected by the project, and no residual or cumulative adverse visual impact would result from the project (Scenic Resource Evaluation (SRE), October 2013).
- Cultural Resources - No archaeological or historical resources were identified within the project area (Historic Property Survey Report, October 2013).
- Geology/Soils/Seismic/Topography - The project would not result in substantial soil erosion or landslides. The project is not located on a geologic unit or soil that is unstable or that will become unstable as a result of the project (U.S. Geological Survey Earthquake Hazards Program, December 2011).
- Paleontology - Excavation associated with the proposed project is unlikely to encounter scientifically important paleontological resources. (Paleontological Identification Report, May 2013).
- Air Quality - Caltrans completed a PM 2.5 and PM10 Hot-spot conformity Assessment for the project in July 2013 and determined the project met the criteria for "not a project of air quality concern." On July 24, 2013, the Environmental Protection Agency (EPA) and Caltrans' interagency consultation partners concurred with the determination the project is not a project of air quality concern. During construction, according the Caltrans' Standard Specifications, the contractor must comply with all local Air Pollution Control District's (APCD) rules, ordinances, and regulations for air quality restrictions.
- Natural Communities - No known natural communities were identified in the project area (Natural Environmental Study-Minimal Impacts, December 2013).
- Wetlands and other Waters - No wetlands or other waters were identified in the project area (Natural Environmental Study-Minimal Impacts, December 2013).
- Plant Species - No plant species of concern were found within the project area (Natural Environmental Study-Minimal Impacts, December 2013).
- Animal Species - One special status species has the potential to occur in the proposed project area, the federally endangered, San Joaquin kit fox (*Vulpes macrotis mutica*) (Natural Environmental Study-Minimal Impacts, December 2013).
- Invasive Species - The spread of invasive species during construction would be prevented with the use of best management practices (Natural Environmental Study-Minimal Impacts, December 2013)

2.1 Human Environment

2.1.1.1 Farmland

Regulatory Setting

The National Environmental Policy Act (NEPA) and the Farmland Protection Policy Act (FPPA, 7 United States Code [USC] 4201-4209; and its regulations, 7 Code of Federal Regulations [CFR] Part 658) require federal agencies, such as the Federal Highway Administration (FHWA), to coordinate with the Natural Resources Conservation Service (NRCS) if their activities may irreversibly convert farmland (directly or indirectly) to nonagricultural use. For purposes of the Farmland Protection Policy Act, farmland includes prime farmland, unique farmland, and land of statewide or local importance.

The California Environmental Quality Act (CEQA) requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and efficient urban growth. The Williamson Act provides incentives to landowners through reduced property taxes to discourage the early conversion of agricultural and open space lands to other uses.

Affected Environment

Tulare County ranks as the 2nd largest agricultural producing county in the entire nation, second only to Fresno County. Tulare County leads the nation in dairy production and milk was the first agricultural commodity worth more than $1 billion ever recorded in any California county. In 2012, total gross production value for the county of Tulare was $6,210,693,000. The county has more than 46 crops worth more than $1 Million each in farm gate gross value (http:///www.agcomm.co.tulare.ca.us/).

The north side of this one-mile segment of State Route 190 is used for growing crops and has no structures. A few dairies are located along the south side of State Route 190 along with residential and non-residential structures, and commercial businesses all with driveways connecting to the existing State Route 190.

The project is primarily located within soils identified as Akers-Akers but toward the eastern end of the project these soils are mixed with Colpien loam and Tagus loam (http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx).

Environmental Consequences

A Natural Resource Conservation Service (NRCS) Farmland Conversion Impact Rating was completed for the project in July 2013. The Natural Resources Conservation Service 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 Farmland Protection Policy Act requires consideration of impacts from those alternatives exceeding 160 points on the Natural Resources Conservation Service Farmland Conversion Impact Rating, and Caltrans considers measures that would minimize or mitigate farmland impact if the impact rating is more than 160 points.

The Natural Resources Conservation Service determined the Build Alternative would convert 7 acres of Prime or Unique farmland (NRCS Form AD-1006, July 2013). Table 2.1 shows the conversion rating used to determine the Farmland Impact Rating for Tulare County.

Table 2.1 Farmland Conversion

Build Alternative	Land Converted (acres)	Prime and Unique Farmland (acres)	Percent of Farmland in County	Farmland Conversion Impact Rating
	7	7	0.0008	111

Source: Form NRCS-AD-1600

The proposed project requires thin slivers of property from the frontage parcels along the roadways of 10 property parcels including 5 property parcels under Williamson Act contracts. The amount of acreage acquired from each property parcel in relation to the size of each parcel is considered minimal and would not be expected to result in the cancellation of any Williamson Act contracts.

A relative value of 90 points out of 100 possible points was given under the Natural Resource Conservation Service criteria. Additional points were factored in based on the Natural Resource Conservation Service Type Site Assessment Criteria and the total impact rating for the Build Alternative was 111 points (See Appendix D).

Avoidance, Minimization, and/or Mitigation Measures

Because the impact rating for the Build Alternative was less than 160 points, no further minimization or mitigation measures are required other than payment for the property acquired.

2.1.2 Community Impacts

2.1.2.1 Community Character and Cohesion

Regulatory Setting

The National Environmental Policy Act of 1969 (NEPA), as amended, established that the federal government use all practicable means to ensure that all Americans have safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). The Federal Highway Administration in its implementation of the National Environmental Policy Act (23 United States Code [USC] 109[h]) directs that final decisions on projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services.

Under the California Environmental Quality Act (CEQA), an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's effects.

Affected Environment

No residential housing is located on the north side of State Route 190 in the location of the project. On the southwest corner of the intersection is a parcel with a single-family residence with non-residential structures (fencing and an out-building or storage structure) adjacent to State Route 190.

Environmental Consequences

The Build Alternative would require right-of-way from both sides of State Route 190. On the north side of State Route 190, right-of-way would be acquired from farmland. On the south side of State Route 190, right-of-way would be acquired from the two parcels east and west of Road 152 (Bliss Lane). The right-of-way acquisition from the parcel on the southwest would result in the demolition of non-residential structures (a cement fence and an out-building) or relocation of the structures elsewhere on the property.

During the Scoping Meeting held in October 2013, property owners expressed concern for their neighbors stating they did not want the proposed project to force anyone from their home.

Avoidance, Minimization, and/or Mitigation Measures

The Build Alternative cannot avoid acquiring new right-of-way. A Caltrans appraiser would determine just compensation for property acquired, as well as compensation for any damages caused to the remainder of the property parcel, such as the relocation of fencing or utilities.

Relocations and Real Property Acquisitions

Regulatory Setting

Caltrans's Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 Code of Federal Regulations (CFR) 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 Sates Code 2000d, et seq.). Please see Appendix B for a copy of Caltrans's Title VI Policy Statement.

Affected Environment

The north side of this one-mile segment of State Route 190 is used for growing crops and has no structures. The south side of State Route 190, however, has a couple of dairies, residential and non-residential structures, and commercial businesses all with driveways connecting to the existing State Route.

Environmental Consequences

The Build Alternative would acquire 7 acres of right-of-way from both sides of State Route 190. The right-of-way acquired would include farmland and residential properties located along State Route 190.

Avoidance, Minimization, and/or Mitigation Measures

The proposed project cannot avoid acquiring right-of-way. During the design phase of the project, a more detailed study would be conducted to determine the necessary right-of way

needed. Caltrans' Right-of-Way personnel would work with the property owners of the parcels to be partially acquired using standard relocation provisions for compensation.

2.1.2.2 Utilities/Emergency Services

Affected Environment

Overhead utility lines are located throughout the proposed project area. The utility poles carry electrical power lines, fiber-optic cable, and telephone lines. The utility ownership identified by field inspection includes AT&T and Southern California Edison (SCE).

The Tulare County Fire Department provides fire protection for the rural area surrounding the proposed project and has stations in Tipton and Porterville.

Law enforcement is provided by the Tulare County Sheriff's Department and has sub-stations in Pixley and Porterville.

Ambulance services are dispatched and provided by the Tulare County Consolidated Ambulance Dispatch in the City of Tulare.

Environmental Consequences

The Build Alternative requires moving utilities. Table 2.2 compares utility relocation by alternative.

Table 2.2 Utilities Affected

Utilities Affected	Build Alternative	No Build Alternative
AT&T Overhead Telephone Poles	Yes	No
AT&T Underground telephone lines	Yes	No
Southern California Edison Overhead Electrical Poles	Yes	No
Southern California Edison Electrical Vault	Yes	No
Southwestern Bell Corporation/AT&T Plus Pedestal	Yes	No

Utilities may be temporarily shut off while being moved and transferred, and may require temporary construction easements and new permanent easements for construction of the proposed project.

During construction, fire protection, law enforcement, emergency, and other public services may be delayed but would be given priority access. The project is expected to have a

beneficial impact on emergency response times and services by improving safety at the intersection.

Avoidance, Minimization, and Mitigation Measures

During the design phase of the project, a more detailed study would be conducted to determine the necessary relocation of utilities. Caltrans would meet with the effected utilities to coordinate the details for relocations and easements to avoid or minimize any interruption in service.

2.1.2.3 Traffic and Transportation/Pedestrian and Bicycle Facilities

Regulatory Setting

Caltrans, as assigned by the Federal Highway Administration, directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (see 23 Code of Federal Regulations 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

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

Operational deficiencies have been identified within the project limits by Caltrans District 6 Traffic Operations and are discussed in Chapter 1 Section 1.2 Purpose and Need.

Traffic Circulation - Currently, State Route 190 is a two-lane conventional highway that allows residents and businesses located along State Route 190 direct access to enter westbound or eastbound traffic.

Pedestrian and Bicycle Facilities - No pedestrian or bicycle facilities, such as sidewalks, pedestrian crossings, or bicycle lanes, were identified during field reviews for the project.

Environmental Consequences

Traffic Circulation – The Build Alternative would construct a roundabout on the existing alignment of State Route 190 and water drainage basins on the west and east side of Road 152 (Bliss Lane) south of State Route 190. Residents on the south side of State Route 190 should be able to make left-in and left-out turns from their driveways to access State Route 190 because the roundabout design provides a two-way left-turn lane (about 300-feet long) for their access. There are no residents on the north side of State Route 190 in close proximity to the intersection.

Pedestrian Facilities - The proposed project would install pedestrian crossings and ramps that would be in compliance with the 1990 Americans with Disabilities Act (ADA) that would provide equal access for all persons. In addition, the four splitter islands separating traffic would provide pedestrian refuge.

Bicycle Facilities - No bicycle facilities are planned for the proposed project. However, the shoulders would be widened and provide extra room for bicyclists. In addition, Tulare County has developed a Regional Bicycle Transportation Plan that includes a Class II Bikeway (Bike Lane) on Olive Avenue (Avenue 152) parallel to State Route 190 linking the cities of Tipton and Porterville (2010 Tulare County Regional Bicycle Transportation Plan). A Class II bikeway or bike lane provides a striped lane for one-way bike travel on a street or highway (Highway Design Manual Definitions 1001.4).

Avoidance, Minimization, and Mitigation Measures

Traffic Circulation - During construction, a Transportation Management Plan would be developed to handle local traffic patterns and reduce delay, congestion, and the likelihood of accidents during construction. The Transportation Management Plan includes notifying the public of construction activities via media outlets, using changeable message signs, construction strategies, and use of the Central Valley Traffic Management Center that reduces congestion by monitoring traffic and informing the public via media outlets, such as radio and television.

Pedestrian and Bicycle Facilities - No minimization or mitigation measures are required.

2.2 Physical Environment

2.2.1 Hydrology and Floodplain

Regulatory Setting

Executive Order (EO) 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The Federal Highway Administration requirements for compliance are outlined in 23 Code of Federal Regulations (CFR) 650 Subpart A.

To comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments.
- Risks of the action.
- Impacts on natural and beneficial floodplain values.
- Support of incompatible floodplain development.
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the project.

The base floodplain is defined as "the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year." An encroachment is defined as "an action within the limits of the base floodplain"

Affected Environment

This project is in the Flood Insurance Rate Map (FIRM) designation *Zone X* within classification *Other Areas*, defined as "Areas determined to be outside the 0.2% annual chance flood" (Hydraulics Memorandum April 24, 2012).

Both State Route 190 and Road 152 (Bliss Lane) are crowned (high at the center) but the agricultural property on the northeast corner of the intersection appears to be slightly higher than the existing pavement of State Route 190. There are side ditches on both sides of State Route 190 to convey the water flow and a corrugated metal pipe (CMP) under State Route 190 that transfers water from the northeast corner of the intersection to the southeast corner of the intersection.

Environmental Consequences

No water appeared to pond on the southwest corner of the intersection but there was open land on the southeast corner of the intersection where water ponds and minor ponding was identified on the northwest and northeast corners of the intersection. The ponding water on

the northeast corner was considered more significant and was encroaching on the northbound travel lane of Road 152 (Bliss Lane). Pavement water from the north side of Road 152 (Bliss Lane), approximately 500 feet in length, flows south to the intersection.

Avoidance, Minimization and/or Mitigation Measures

To handle the minor ponding, shallow water drainage basins would be placed in the southwest and southeast corners of the project requiring right-of-way from the property parcels located in the southeast and southwest corners of the existing intersection.

The proposed project cannot avoid acquiring right-of-way for the water drainage basins. During the design phase of the project, a more detailed study would be conducted to determine the necessary right-of way needed, and Caltrans' Right-of-Way personnel would work with the property owners of the parcels to be partially acquired using standard relocation provisions for compensation.

2.2.2 Water Quality and Storm Water Runoff

Regulatory Setting

Federal Requirements: Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source[1] unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the National Pollutant Discharge Elimination System permit scheme. The following are important Clean Water Act sections:

Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.

Section 401 requires an applicant for a federal license or permits to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).

[1] A point source is any discrete conveyance such as a pipe or a man-made ditch.

Section 402 establishes the National Pollutant Discharge Elimination System a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCB) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).

Section 404 establishes a permit program for the discharge of dredge or fill materials into waters of the United States. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The goal of the Clean Water Act is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

The U.S. Army Corps of Engineers issues two types of 404 permits: General and Standard permits. There are two types of General permits: Regional permits and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of the U.S. Army Corps of Engineers' Standard permits. There are two types of Standard permits: Individual permits and Letters of Permission. For Standard permits, the U.S. Army Corps of Engineers decision to approve is based on compliance with U.S. Environmental Protection Agency's Section 404 (b)(1) Guidelines (U.S. Environmental Protection Agency Code of Federal Regulations [CFR] 40 Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the U.S. Environmental Protection Agency in conjunction with the U.S. Army Corps of Engineers, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the U.S. Army Corps of Engineers may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities

that violate water quality or toxic effluent[2] standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition, every permit from the U.S. Army Corps of Engineers, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the least environmentally damaging practicable alternative (LEDPA) determination, if any, for the document is included in the Wetlands and Other Waters section.

State Requirements: Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the Clean Water Act and regulates discharges to waters of the state. Waters of the state include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined, and this definition is broader than the Clean Water Act definition of "pollutant." Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the Clean Water Act.

The State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards are responsible for establishing the water quality standards (objectives and beneficial uses) required by the Clean Water Act and regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable Regional Water Quality Control Board Basin Plan. In California, Regional Boards designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect these uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the State Water Resources Control Board identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with Clean Water Act Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-point source controls ("wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall."(National Pollutant Discharge Elimination system permits or Water

[2] The U.S. Environmental Protection A defines "effluent" as "wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall."

Discharge Requirements), the Clean Water Act requires the establishment of Total Maximum Daily Loads (TMDLs). Total Maximum Daily Loads specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

The State Water Resources Control Board (SWRCB) administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, Total Maximum Daily Loads, and National Pollutant Discharge Elimination permits. Regional Water Control Quality Boards are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

- **National Pollutant Discharge Elimination System Program**

  Municipal Separate Storm Sewer Systems (MS4)

  Section 402(p) of the Clean Water Act requires the issuance of National Pollutant Discharge Elimination permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (MS4s). An Municipal Separate Storm Sewer Systems is defined as “any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water.” The State Water Resources Control Board has identified the Department as an owner/operator of and Municipal Separate Storm Sewer Systems under federal regulations. The Department’s Municipal Separate Storm Sewer Systems permit covers all Department rights-of-way, properties, facilities, and activities in the state. The State Water Resources Control Board or the Regional Water Quality Control Board issues National Pollutant Discharge Elimination System permits for five years, and permit requirements remain active until a new permit has been adopted.

  The Department’s Municipal Separate Storm Sewer Systems Permit (Order No. 2012-0011-Department of Water Quality) was adopted on September 19, 2012 and became effective on July 1, 2013. The permit has three basic requirements:

1. The Department must comply with the requirements of the Construction General Permit (see below);
2. The Department must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and
3. The Department storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs), to the Maximum Extent Practicable, and other measures as the State Water Resources Control Board determines to be necessary to meet the water quality standards.

To comply with the permit, the Department developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The Statewide Storm Water Management Plan assigns responsibilities within the Department for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The Statewide Storm Water Management Plan describes the minimum procedures and practices the Department uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of Best Management Practices (BMPs). The proposed project will be programmed to follow the guidelines and procedures outlined in the latest State Storm Water Management Plan to address storm water runoff.

Construction General Permit

Construction General Permit (Order No. 2009-009-DWQ), adopted on September 2, 2009, became effective on July 1, 2010. The permit regulates storm water discharges from construction sites that result in a Disturbed Soil Area (DSA common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least one acre must comply) of one acre or greater, and/or are smaller sites that are part of a larger with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the Regional Water Quality Control Board. Operators of regulated construction sites are required to develop storm water pollution prevention plans; to

implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The 2009 Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective Storm Water Pollution Prevention Plan (SWPPP). In accordance with the Department's Standard Specifications, a Water Pollution Control Plan (WPCP) is necessary for projects with disturbed soil area (DSA) less than one acre.

Section 401 Permitting

Under Section 401 of the Clean Water Act, any project requiring a federal license or permit that may result in a discharge to a water of the United States must obtain a 401 Certification, which certifies that the project will be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are Clean Water Act Section 404 permits issued by the U.S. Army Corps of Engineers. The 401 permit certifications are obtained from the appropriate Regional Water Quality Control Board, dependent on the project location, and are required before the U.S. Army Corps of Engineers issues a 404 permit.

In some cases, the Regional Water Quality Control Board may have specific concerns with discharges associated with a project. As a result, the Regional Water Quality Control Board may issue a set of requirements known as Waste Discharge Requirements (WDRs) under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. Waste discharge requirements can be issued to address both permanent and temporary discharges of a project.

Affected Environment

Caltrans conducted a water compliance study for the project in November 2013. The project is located within the South Valley Floor, Tule Delta Hydrologic Unit 558.20. There are no water bodies within the project limits.

Environmental Consequences

The proposed project would have no long-term water quality impacts but has potential to impact short-term surface and groundwater quality in the area. If the potential water quality impacts are correctly identified and minimized by best management practices (BMPs), it is unlikely that the proposed project would have any adverse effect on surface or groundwater quality.

Avoidance, Minimization, and/or Mitigation Measures

All short-term water quality impacts need to be addressed in the Design and Construction phase of the project by selecting and implementing Best Management Practices (BMPS) in accordance with the Project Planning and Design Guide. Any potential impact (erosion, accidental spills of hazardous material and disruption of natural drainage patterns) must be addressed, eliminated or minimized to the maximum extent practicable during the design and construction by incorporating the appropriate permanent and temporary best management practices (BMPs) into the project.

The following measures are recommended:

1. The contractor, as required in Caltrans Standard Specification (SSP) Section 13-1, must address all potential water quality impacts that may occur during construction.
2. Before project initiation, the Caltrans' Stormwater Unit should be consulted to identify the appropriate management practices for all storm water concerns.
3. Because the project would disturb one acre or more of soil, the following is required:
    - A notification of Intention (NOI) is to be submitted to the appropriate Regional Water Quality Control Board at least 30 days prior to the start of construction.
    - A Stormwater Pollution Prevention Plan (SWPPP) is to be prepared and implemented during construction to the satisfaction of the Resident Engineer.
    - A Notice of Termination (NOT) shall be submitted to the Regional Board upon completion of construction and site stabilization. A project will be considered complete when the criteria for final stabilization in the Construction General permits is met.

2.2.3 Hazardous Waste or Materials

Regulatory Setting

Hazardous materials, including hazardous substances and wastes, are regulated by many state and federal laws. Statutes govern the generation, treatment, storage and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health and land use.

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Resource Conservation and Recovery Act of 1976 (RCRA). The purpose of the Comprehensive Environmental Response, Compensation and Liability Act often referred to as "Superfund," is to identify and clean up abandoned contaminated sites so that public health and welfare are not compromised. The Resource Conservation and Recovery Act provides for "cradle to grave" regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, Executive Order (EO) 12088, *Federal Compliance with Pollution Control Standards*, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the CA Health and Safety Code and is also authorized by the federal government to implement The Resource Conservation and Recovery Act in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires clean up of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that

address waste management and prevention and clean up contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is found, disturbed, or generated during project construction.

Affected Environment

Caltrans completed a Hazardous Waste Compliance Memorandum on June 2013.

Environmental Consequences

There are no known hazardous waste deposits or spills in the project area. Caltrans recommends the implementation of a lead compliance plan, as well as dust control measures, for the health and safety of workers during construction of the proposed project.

Avoidance, Minimization and/or Mitigation Measures

Caltrans recommends the following Caltrans Standard Special Provisions (SSPs) for the health and safety of workers during construction:

- Caltrans Standard Special Provision (SSP) 7-1.02K(6)(j)(iii) Earth Material Containing Lead
- Caltrans Standard Special Provision (SSP) 14-11.07 Remove Yellow Traffic Stripe and Pavement Markings (Hazardous Waste)

If construction includes grinding the entire pavement surface and the project does not require removal of the paint or thermoplastic before grinding begins, Caltrans recommends:

- Caltrans Standard Special Provision (SSP) 15-1.03B – Residue Containing Lead from Paint and Thermoplastic – Requires a lead compliance plan when high lead concentration paints are on the surface to be ground or cold planed but residue will be non-hazardous. The estimated cost to include the lead compliance plan is $3,000.

2.2.4 Noise and Vibration

Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969 and the California Environmental Quality Act (CEQA) provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement

and/or mitigation, however, differ between the National Environmental Policy Act and the California Environmental Quality Act.

California Environmental Quality Act

The California Environmental Quality Act requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under the California Environmental Quality Act, then the California Environmental Quality Act dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The California Environmental Quality Act noise analysis is included at the end of this section.

National Environmental Policy Act and 23 CFR 772

For highway transportation projects with the Federal Highways Administration (and Caltrans, as assigned) involvement, the federal-Aid Highway Act of 1970 and the associated implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The noise abatement criteria differ depending on the type of land use under analysis. For example, the noise abatement criteria for residences (67 decibels) are lower than the noise abatement criteria for commercial areas (72 decibels). The following table lists the noise abatement criteria for use in the National Environmental Policy Act 23 CFR 772 analysis.

Table 2.3 Noise Abatement Criteria

Activity Category	NAC, Hourly A-Weighted Noise Level, Leq(h)	Description of activity category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B1	67 (Exterior)	Residential
C1	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F	No Noise Abatement Criteria—reporting only	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities,shipyards, utilities (water resources, water treatment,electrical, etc.), and warehousing.
G	No Noise Abatement Criteria—reporting only	Undeveloped lands that are not permitted.

1 Includes undeveloped lands permitted for this activity category.

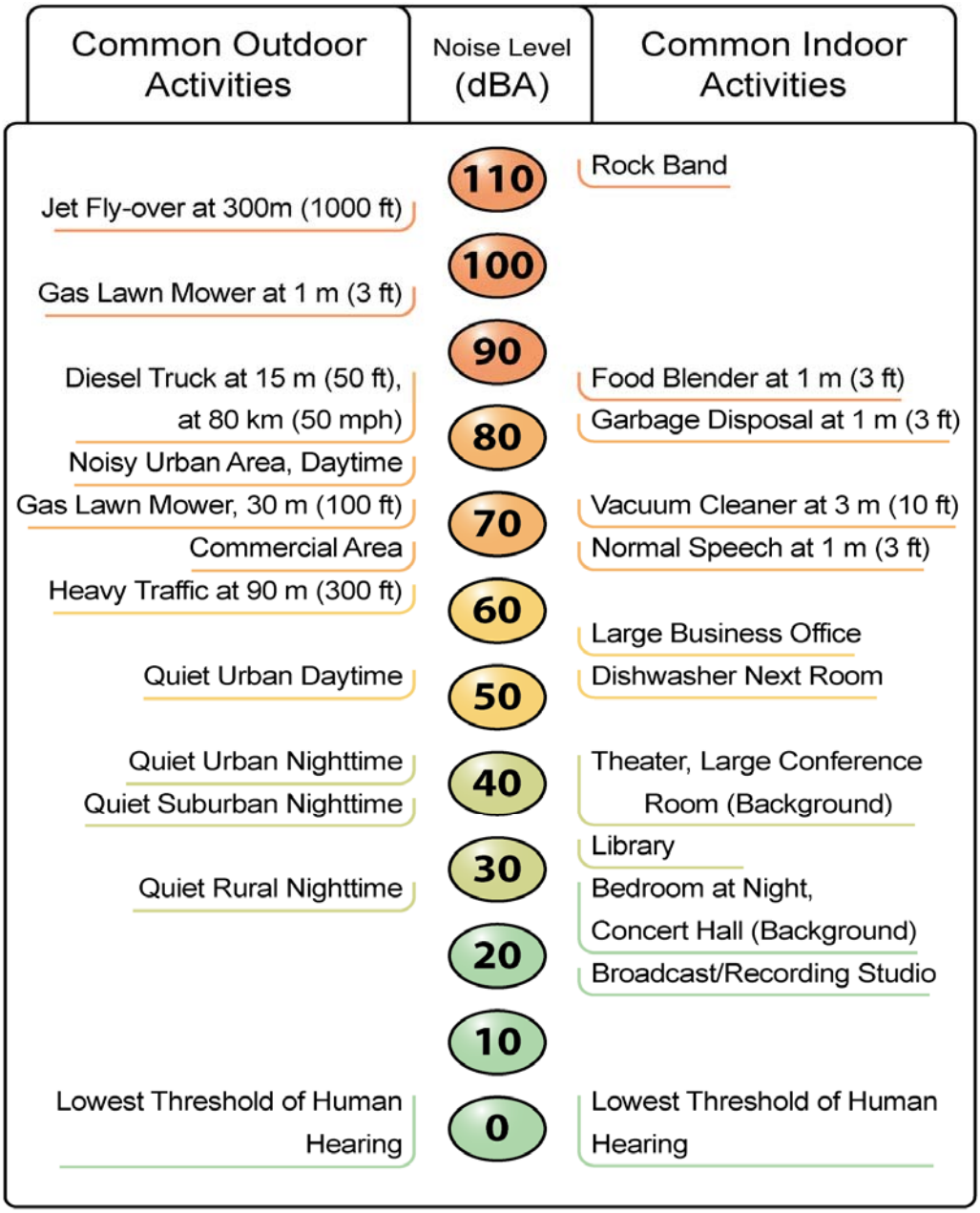

Figure 2-1 Noise Levels of Common Activities

According to the Department's *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, May 2011*, a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12 decibels or more increase) or when the future noise level with the project

approaches or exceeds the noise abatement criteria. Approaching the noise abatement criteria is defined as coming within 1 decibel of the noise abatement criteria.

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

The Department's *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 7 decibel reduction in the future noise level must be achieved for an abatement measure to be considered feasible. Other considerations include topography, access requirements, other noise sources, and safety considerations. The reasonableness determination is basically a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include: residents' acceptance and the cost per benefited residence.

Affected Environment

Caltrans completed a Noise Study Memorandum for the project on August 22, 2013. The study described the project area as rural with a few scattered residences near the project area.

Environmental Consequences

The study determined the project was not a Type I project, which is subject to Caltrans' Traffic Noise Analysis Protocol and is defined in Section 23 Code of Federal Regulations 772 as: "A proposed federal or federal-aid highway project for the construction of a highway on new location, or the physical alternation of an existing highway which significantly changes either the horizontal or vertical alignment, or increase the number of through-traffic lanes".

The study determined the construction of the project would take about 6 months and the construction noise would intermittently dominate the noise environment in the immediate area of construction. However, no adverse noise impacts from construction activities are anticipated because construction would be temporary and would be conducted in accordance with Caltrans Standard Specifications Section 14-8.02 and Tulare County Noise Ordinance

Avoidance, Minimization, and/or Noise Abatement Measures

In addition to adhering to Standard Specifications Section 14-8.02 and the Tulare County Noise Ordinance, implementing the following measures would minimize the temporary noise impacts from construction:

- All equipment will have sound-control devises that are no less effective than those provided on the original equipment.
- No equipment will have an unmuffled exhaust.

2.3 Biological Environment

2.3.1 Threatened and Endangered Species

Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA), are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take statement, a Letter of Concurrence and/or documentation of a No Effect finding. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code Section 2050, et seq. The California Endangered Species Act emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife (CDFW) is the agency responsible for implementing the California Endangered Species Act. Section 2081 of the Fish and Game Code prohibits "take" of any species

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

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

Affected Environment

Caltrans completed a Natural Environment Study (Minimal Impacts) (NES-MI) on December 2, 2013 and a Biological Assessment was submitted to the United States Fish and Wildlife (USFWS) on December 9, 2013. It was determined that no United States Fish and Wildlife (USFWS) designated critical habitat occurs within the biological study area and only one special status species has the potential to occur in the proposed project area, the federally endangered, San Joaquin kit fox (*Vulpes macrotis mutica*).

Environmental Consequences

The project would not result in any temporary or permanent affect to any United States Fish and Wildlife (USFWS) designated critical habitat although marginal San Joaquin kit fox foraging habitat would be affected by construction of the proposed project.

Caltrans is requesting concurrence from the United States Fish and Wildlife Service on a determination of *"may effect, not likely to adversely affect"* for the impacts to the San Joaquin kit fox.

Avoidance, Minimization, and/or Mitigation Measures

Only marginal San Joaquin kit fox foraging habitat would be impacted by construction of the proposed project. The proposed project is located within the project impact area of anther proposed project, the State Route 190 Rehabilitation project located on State Route 190 between west of State Route 99 and east of Road 180, post miles 0.0/8.0. Caltrans will be proposing to purchase mitigation bank credits for impacts to the San Joaquin kit fox foraging habitat for the State Route 190 Rehabilitation project; therefore, Caltrans is not proposing any additional mitigation for the Laird's Corner Roundabout Project but is recommending the following avoidance and minimization measures:

- Prior to groundbreaking, a Caltrans biologist will conduct an education and training session for all construction personnel. All individuals who will be involved in the site preparation or construction shall be present, including the project representative(s) responsible for reporting take to the California Department of Fish and Wildlife (CDFW) and the United States Fish and Wildlife Service (USFWS). Training sessions shall be repeated for all new employees before they access the project site.
- At the end of each working day the contractor will take measures to prevent the entrapment of San Joaquin kit fox in all excavated, steep-walled holes or trenches. These measures will include covering excavations with plywood or providing dirt or plank escape ramps. The contractor will 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 will not be disturbed (other than to move it to a safe location if necessary) until after the San Joaquin kit fox has escaped.
- The contractor shall immediately notify the Senior Resident Engineer if a dead, injured or entrapped San Joaquin kit fox is found. All construction activity within a 150-foot radius of the San Joaquin kit fox shall be halted and may not resume until Caltrans consults with the appropriate resources agencies and provides written authorization to the Resident Engineer. Any entrapped San Joaquin kit fox shall be permitted to escape. No injured or dead San Joaquin 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 shall be halted and the Resident Engineer shall be contacted immediately. Construction may not resume within the 150-foot radius until the Resident Engineer provides written authorization.

- All food related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers and removed at least once every day from the entire project site.
- All construction related vehicles will adhere to a twenty mile per hour speed limit while within construction limits and vehicle travel will be limited to established roadways.
- No pets or firearms shall be permitted on the construction site to avoid harassment, killing or injuring of a San Joaquin kit fox.

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 gas (GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) 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 the emissions of greenhouse gases generated by human activity including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of greenhouse gas emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles make up the largest source of greenhouse gas-emitting sources. The dominant greenhouse gas emitted is carbon dioxide (CO_2), mostly from fossil fuel combustion.

There are typically two terms used when discussing the impacts of climate change. “Greenhouse Gas Mitigation” is a term for reducing greenhouse gas emissions in order to reduce or "mitigate" the impacts of climate change. “Adaptation," refers to the effort of planning for and adapting to impacts resulting from climate change (such

as adjusting transportation design standards to withstand more intense storms and higher sea levels)[1].

There are four primary strategies for reducing greenhouse gas emissions from transportation sources: 1) improving the transportation system and operational efficiencies, 2) reducing travel activity, 3) transitioning to lower greenhouse gas-emitting fuels, and 4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued cooperatively.[2]

Regulatory Setting

This section outlines state and federal efforts to comprehensively reduce greenhouse emissions from transportation sources.

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.

Assembly Bill 1493 (AB 1493), Pavley, Vehicular Emissions: Greenhouse Gases, 2002: This bill 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.

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

Assembly Bill 32 (AB 32), Núñez and Pavley, The Global Warming Solutions Act of 2006: Assembly Bill 32 sets the same overall greenhouse gas emissions reduction goals as outlined in Executive Order S-3-05, while further mandating that the California Air Resources Board create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases."

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[1] http://climatechange.transportation.org/ghg_mitigation/
[2] http://www.fhwa.dot.gov/environment/climate_change/mitigation/

Executive Order S-20-06 (October 18, 2006): This executive order establishes the responsibilities and roles of the Secretary of the California Environmental Protection Agency (Cal/EPA) and state agencies with regard to climate change.

Executive Order S-01-07 (January 18, 2007): This executive order 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 (SB 97), Chapter 185, 2007, Greenhouse Gas Emissions: required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the California Environmental Quality Act (CEQA) Guidelines for addressing greenhouse gas emissions. The amendments became effective on March 18, 2010.

Senate Bill 375 (SB 375), Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires the California Air Resources Board (CARB) to set regional emissions reduction targets from passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan for the achievement of the emissions target for their region.

Senate Bill 391 (SB 391) Chapter 585, 2009 California Transportation Plan: This senate bill requires the State's long-range transportation plan to meet California's climate change goals under Assembly Bill 32.

Federal

Although climate change and greenhouse gas reduction are a concern at the federal level; currently no regulations or legislation have been enacted specifically addressing greenhouse gas emissions reductions and climate change at the project level. Neither the United States Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration (FHWA) has issued explicit guidance or methods to conduct project-level greenhouse gas analysis.[3] The Federal Highway Administration supports the approach that climate change considerations should be integrated throughout the transportation decision-making process, from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will assist in decision-making and improve efficiency at the

[3]To date, no national standards have been established regarding mobile source GHGs, nor has U.S. EPA established any ambient standards, criteria or thresholds for GHGs resulting from mobile sources.

program level, and will inform the analysis and stewardship needs of project-level decision-making. Climate change considerations can be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

The four strategies outlined by the Federal Highway Administration to lessen climate change impacts correlate with efforts that the state is undertaking to deal with transportation and climate change; these strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and a reduction in travel activity.

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

Executive Order 13514 (October 5, 2009): This executive order is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also directs federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change.

The U.S. Environmental Protection Agency's authority to regulate greenhouse gas emissions stems from the U.S. Supreme Court decision in *Massachusetts v. Environmental Protection Agency* (2007). The Supreme Court ruled that greenhouse gases meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Supreme Court's ruling, the U.S. Environmental Protection Agency finalized an endangerment finding in December 2009. Based on scientific evidence it found that six greenhouse gases constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Act and the Environmental Protection Agency's assessment of the scientific evidence that form the basis for the Environmental Protection Agency's regulatory actions. The U.S. Environmental Protection Agency in conjunction with the National Highway Traffic Safety Administration (NHTSA) issued the first of a series of greenhouse emission standards for new cars and light-duty vehicles in April 2010.[4]

[4] http://www.c2es.org/federal/executive/epa/greenhouse-gas-regulation-faq

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

The final combined standards that made up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards implemented by this program are expected to reduce greenhouse gas emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

On August 28, 2012, the U.S. Environmental Protection Agency and the National Highway Traffic Safety Administration issued a joint Final Rulemaking to extend the National Program for fuel economy standards to model year 2017 through 2025 passenger vehicles. Over the lifetime of the model year 2017-2025 standards this program is projected to save approximately four billion barrels of oil and two billion metric tons of greenhouse gas emissions.

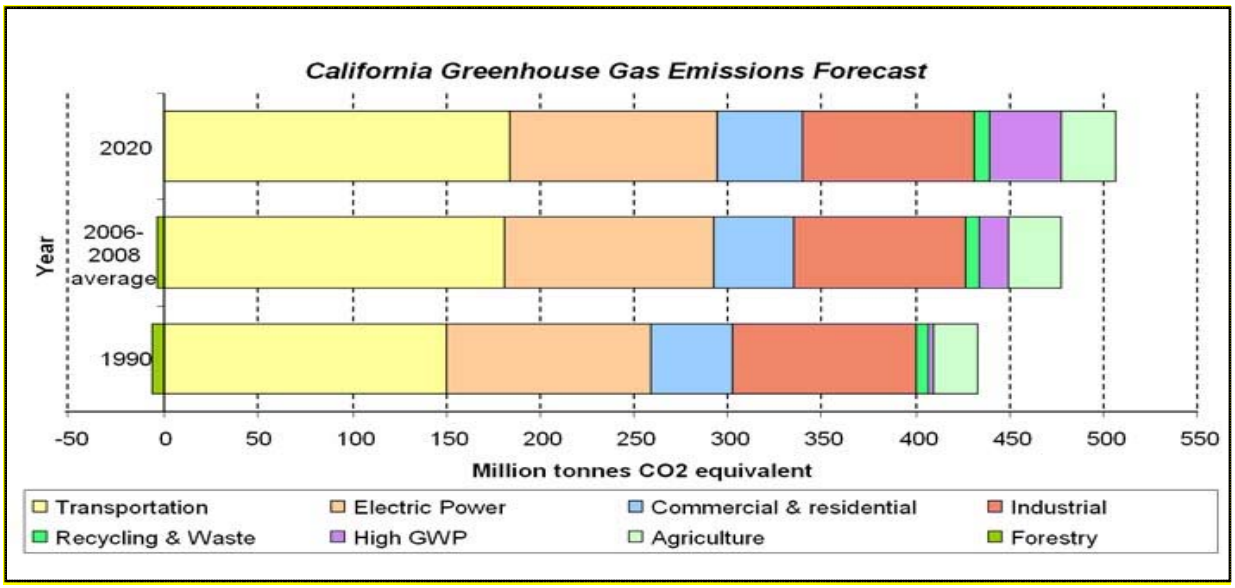
The complementary U.S. Environmental Protection Agency and National Highway Traffic Safety Administration standards that make up the Heavy-Duty National Program apply to combination tractors (semi trucks), heavy-duty pickup trucks and vans, and vocational vehicles (including buses and refuse or utility trucks). Together, these standards will cut greenhouse gas emissions and domestic oil use significantly. This program responds to President Barack Obama's 2010 request to jointly establish greenhouse gas emissions and fuel efficiency standards for the medium- and heavy-duty highway vehicle sector. The agencies estimate that the combined standards will reduce carbon dioxide (CO_2) emissions by about 270 million metric tons and save about 530 million barrels of oil over the life of model year 2014 to 2018 heavy duty vehicles.

Project Analysis

An individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its incremental change in emissions when combined with the contributions of

all other sources of greenhouse gas.[5] In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (California Environmental Quality Act Guidelines Sections 15064(h)(1) and 15130). To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects to make this determination is a difficult, if not impossible, task.

The Assembly Bill 32 Scoping Plan mandated by Assembly Bill 32 includes the main strategies California will use to reduce greenhouse gas emissions. As part of its supporting documentation for the Draft Scoping Plan, the California Air Resources Board released the greenhouse gas inventory for California (forecast last updated: October 28, 2010). The forecast is an estimate of the emissions expected to occur in 2020 if none of the foreseeable 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.



Source: http://www.arb.ca.gov/cc/inventory/data/forecast.htm

Figure 2-2 California Greenhouse Gas Forecast

[5] 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 South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

Caltrans and its parent agency, the Transportation 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 emissions are from transportation, Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006.[6]

One of the main strategies in Caltrans's Climate Action Program to reduce greenhouse emissions is to make California's transportation system more efficient. The highest levels of carbon dioxide (CO_2) from mobile sources, such as automobiles, occur at stop-and-go speeds (0-25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0-25 miles per hour (see Figure 2-2). To the extent that a project relieves congestion by enhancing operations and improving travel times in high congestion travel corridors greenhouse gas emissions, particularly carbon dioxide ($CO_{2)}$, may be reduced.

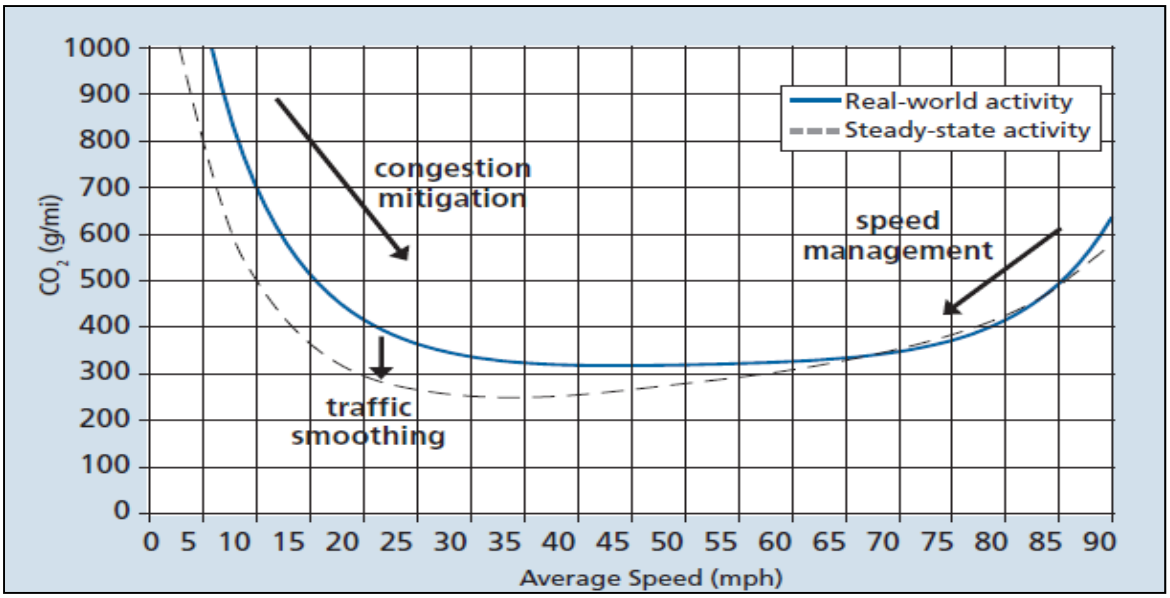


Figure 2-3 Possible Effect of Traffic Operation Strategies in Reducing On-Road Carbon Dioxide ($CO_{2)}$ Emission[7]

[6] 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

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

Caltrans proposes to construct a single-lane roundabout at the intersection of State Route 190 and Road 152 (Bliss Lane) in Tulare County, California. One build and a no-build alternative are under consideration. Construction and implementation of the project would not increase capacity. The features of the project are designed to make the traffic flow more smoothly in the project area. Implementation of the Build Alternative is likely to reduce emissions when the future build conditions are compared to the future no-build conditions. For the proposed single-lane roundabout, vehicles would not idle as long because drivers are not required to stop while passing though a roundabout. This helps reduce fuel consumption and vehicle emissions. A literature review by the Insurance Institute for Highway Safety found that roundabouts can reduce fuel consumption by 23 to 34 percent and carbon dioxide (CO_2) emissions by approximately 23 to 37 percent.[8] Although there will likely be long-term greenhouse gas benefits associated with improved operation through smoother pavement surfaces and reduced queuing, construction emissions will be unavoidable.

In addition, the Tulare County Association of Governments 2011 Regional Transportation Plan adopted on July 189, 2010, addresses the role of efficient roadway circulation in reducing vehicle miles traveled (VMT) as well as the need to reduce greenhouse gases and incorporate the latest scientific information on planning efforts.[9] The 2011 Regional Transportation Plan policies addressing circulation include developing projects that are valuable to the regional road and circulation system that reduce vehicle miles traveled, reduce level of service, and create safe travel corridors within the region.

The Environmental Impact Report (EIR) for the 2011 Regional Transportation Plan included potential mitigation measures to reduce greenhouse gas emissions. These include support for land use plans that accommodate transit connectivity and other intermodal transportation as well as support for alternative fuel vehicle use in municipal operations to reduce vehicles miles traveled and greenhouse gas emissions.[10] The Regional Transportation Plan Environmental Impact Report also called for greater efforts in analysis of greenhouse gas emissions from goods movement and from the entire region. However, the Regional Transportation Plan Environmental Impact Report concluded it is unlikely that the suggested mitigation measures would reduce greenhouse gas emissions below existing conditions due to

[8] http://www.iihs.org/iihs/topics/t/roundabouts/qanda#cute-text-0-19
[9] http://www.tularecog.org/DocumentCenter/View/41
[10] http://www.tularecog.org/DocumentCenter/View/39

anticipated population growth. The Regional Transportation Plan Environmental Impact Report and 2011 Regional Transportation Plan did not conduct a quantitative analysis.

Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction greenhouse gas emissions include emissions produced as a result of material processing, emissions produced by on-site construction equipment, and emissions arising from traffic delays due to construction. These emissions 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 traffic management plans, and changes in materials, the greenhouse gas emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

CEQA Conclusion

While the project would result in a slight increase in greenhouse gas emissions during construction, it is anticipated that the project would not result in any increase in operational greenhouse gas emissions. While it is Caltrans' determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and California Environmental Quality Act significance, it is too speculative to make a significance determination regarding the project's direct impact and its contribution on the cumulative scale to climate change. Caltrans is firmly committed to implementing measures to help reduce greenhouse gas emissions. These measures are outlined in the following section.

Greenhouse Gas Reduction Strategies

Caltrans continues to be involved on the Governor's Climate Action Team as the California Air Resources Board works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in Assembly Bill 32. Many of the strategies Caltrans is using to help meet the targets in Assembly Bill 32 come from Former Governor Arnold Schwarzenegger's Strategic Growth Plan for California. The Strategic Growth Plan targeted a significant decrease in traffic congestion below

2008 levels and a corresponding reduction in greenhouse emissions, while accommodating growth in population and the economy. The Strategic Growth Plan relies on a complete systems approach to attain carbon dioxide (CO_2) reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as shown in Figure 2-4: The Mobility Pyramid.

Figure 2-4 Mobility Pyramid

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

Caltrans is also working towards enhancing the State's transportation planning process to respond to future challenges. Similar to requirements for regional transportation plans under Senate Bill (SB) 375 (Steinberg 2008), Senate Bill 391(Liu 2009) requires the State's long-range transportation plan to meet California's climate change goals under Assembly Bill (AB) 32.

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce greenhouse gas (GHG) emissions. The California Transportation Plan defines performance-based goals, policies, and strategies to achieve our collective vision for California's future, statewide, integrated, multimodal transportation system.

The purpose of the California Transportation Plan is to provide a common policy framework that will guide transportation investments and decisions by all levels of government, the private sector, and other transportation stakeholders. Through this policy framework, the California Transportation Plan 2040 will identify the statewide transportation system needed to achieve maximum feasible greenhouse gas emission reductions while meeting the State's transportation needs.

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

Table 2.4 Climate Change Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO_2 Savings Million Metric Tons (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements & Intelligent Transportation System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	0.07	2.17
Mainstream Energy & GHG into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, Cal EPA, ARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	.0045	0.0065 0.0450 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	1.20 0.36	4.2 3.6
Goods Movement	Office of Goods Movement	Cal EPA, ARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.18

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012): is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities.

Caltrans Activities to Address Climate Change (April 2013)[11] provides a comprehensive overview of activities undertaken by Caltrans statewide to reduce greenhouse gas emissions resulting from agency operations.

The following measures will also be included in the project to reduce the greenhouse gas emissions and potential climate change impacts from the project:

1. According to Caltrans Standard Specifications, the contractor must comply with all local Air Pollution Control District's (APCD) rules, ordinances, and regulations for air quality restrictions.
2. In 2008, the Air Resources Board (ARB) adopted a regulation for In-Use Off-Road Diesel Vehicles, which restricts idling time during construction to 5 consecutive minutes (*Advisory Number 377*, June 2008 California Environmental Protection Agency, Air Resources Board).
3. To the extent that it is feasible for the project, the use of reclaimed water may be used to reduce greenhouse gas emissions produced during construction. Currently 30 percent of the electricity used in California is used for the treatment and delivery of water, Use of reclaimed water helps conserve this energy, which reduces greenhouse gas emissions from electricity production.

Adaptation Strategies

"Adaptation strategies" refer to how Caltrans and others can plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will 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.

[11] http://www.whitehouse.gov/administration/eop/ceq/initiatives/adaptation

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the Council on Environmental Quality (CEQ), the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric Administration (NOAA), released its interagency task force progress report on October 28, 2011[12], outlining the federal government's progress in expanding and strengthening the Nation's capacity to better understand, prepare for, and respond to extreme events and other climate change impacts. The report provides an update on actions in key areas of federal adaptation, including: building resilience in local communities, safeguarding critical natural resources such as freshwater, and providing accessible climate information and tools to help decision-makers manage climate risks.

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

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

In addition to addressing projected sea level rise, the California Natural Resources Agency (Resources Agency) was directed to coordinate with local, regional, state and federal public and private entities to develop The California Climate Adaptation Strategy (Dec 2009)[13], 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 the California Environmental Protection Agency; Business, Transportation and Housing; Health and Human Services; and the

[12] http://www.whitehouse.gov/administration/eop/ceq/initiatives/adaptation
[13] http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF

Department of Agriculture. The document is broken down into strategies for different sectors that include: Public Health; Biodiversity and Habitat; Ocean and Coastal Resources; Water Management; Agriculture; Forestry; and Transportation and Energy Infrastructure. As data continues to be developed and collected, the state's adaptation strategy will be updated to reflect current findings. The National Academy of Science was directed to prepare a Sea Level Rise Assessment Report[14] to recommend how California should plan for future sea level rise. The report was released in June 2012 and included:

- Relative sea level rise projections for California, Oregon, and Washington taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates.
- The range of uncertainty in selected sea level rise projections.
- A synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems.
- A discussion of future research needs regarding sea level rise.

In 2010, interim guidance was released by The Coastal Ocean Climate Action Team (CO-CAT) as well as Caltrans as a method to initiate action and discussion of potential risks to the states infrastructure due to projected sea level rise. Subsequently, Coastal Ocean Climate Action Team updated the Sea Level Rise guidance to include information presented in the National Academies Study.

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

All projects that have filed a Notice of Preparation (NOP) as of the date of the Executive Order S-13-08, and/or are programmed for construction funding through 2013, or are routine maintenance projects may, but are not required to, consider these planning guidelines.

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[14] *Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future* (2012) is available at: http://www.nap.edu/catalog.php?record_id=13389.

The proposed project is outside the coastal zone and direct impacts to transportation facilities due to projected sea level rise are not expected.

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

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

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from 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 conducted in response to Executive Order S-13-08 and is mobilizing to be able to respond to the National Academy of Science Sea Level Rise Assessment.

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.

This Chapter summarizes the results of Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

Scoping Meeting

Caltrans held a public scoping meeting for the project on October 22, 2013 at the Pleasant View Elementary School located at 1800 Avenue 145 in Poplar from 4:30 p.m. to 7:00 p.m. The elementary school is about 2 miles away from the project at State Route 190 and Road 152 (Bliss Lane) but was the closest available public meeting facility.

Two public advertisements of the scoping meeting were published in the Visalia Delta Times and notices were posted in public places in Tipton and Poplar. Notices were also provided to the reception staff of the Pleasant View Elementary School but distribution via the student population was not arranged. Notices of the scoping meeting were mailed to federal, state, tribal, and locally elected officials, and to school officials in Tulare County. Local businesses, emergency services, and public agencies in neighboring Tipton, Visalia, Tulare, and Porterville were notified by mail.

The meeting planned for formal presentations at 5:00 p.m. and 6:00 p.m. but only one presentation was needed because all attendees were present for the first presentation and the question and answer session that followed. The presentation included a video showing how the roundabout was used by oversized trucks, busses, and agriculture equipment. Large (2 feet by 4 feet) aerial maps of the two build alternatives were displayed on a table so attendees were able to view them easily. Attendees were able to ask questions directly to the Caltrans personnel available, which included the

District 06 Deputy District Director of Maintenance and Traffic Operations, Project Managers, Project Engineers, and Environmental Planners.

The meeting was attended by only 11 people but 8 of them were property owners adjacent to the project. One comment card was submitted with the preference for Build Alternative 1B, the northern alignment. None of the attendees wanted their neighbor on the southwest corner to move and stated they would prefer the northern alignment because it would avoid relocating any structures. Some attendees stated they preferred the northern alignment because it provided a frontage road to their driveways.

U.S. Fish and Wildlife Service

On December 12, 2013, the Caltrans biologist initiated informal consultation with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act for concurrence of effect determination for the San Joaquin kit fox (kit fox).

Native American Coordination

Native American consultation with regards to the proposed project will occur during the circulation of the environmental document. Changes or modifications to the project limits resulting in additional studies or impacts will require additional consultation with tribal representatives and interested individuals.

In regard to cultural resources, Caltrans initiated consultation and coordination on May 13, 2010 with the submission of a letter to the Native American Heritage Commission (NAHC) requesting a search of their files to determine if any sacred sites, traditional cultural properties, or native plant gathering locations were known to exist within or near the project study area. The letter also requested the names of Native American individuals and group representatives who may be interested in or able to supply information relevant to the proposed project. An additional list of individuals who may be interested in the proposed undertaking was compiled by the District 06 Native American Coordinator and combined with the parties provided by the Native American Heritage Commission. All parties were provided a copy of the Historic Property Survey Report conducted for the proposed project. No written responses were received concerning cultural resources at the time of the writing of this document.

Chapter 4 List of Preparers

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

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Rajeev Dwivedi, Associate Engineering Geologist. Ph D., Environmental Engineering, Oklahoma State University, Stillwater; 21 years of environmental technical studies experience. Contribution: Water Compliance Study.

Angela Gallardo, Senior Biologist, Parsons Corporation, Staff Augmentation. B.S., Biology, California State University, Humboldt, Arcata; M.S., Environmental Policy and Management, University of Denver; 6 years of biological experience. Contribution: Natural Environmental Study and Biological Assessment.

Marie (Terry) Goewert, Environmental Planner (Air Quality Specialist). B.S., Foods and Nutrition, Colorado State University; 13 years environmental compliance and 8 years of environmental planning experience. Contribution: Hot-spot Conformity Assessment.

Richard Kuan, Transportation Engineer. B.S., Civil Engineering, California State University, Fresno; 25 years of design experience; Registered Civil Engineer. Contribution: Project Engineer.

David Lanner, Associate Environmental Planner. B.F.A., Art, Utah State University; 20 years of cultural resources experience. Contribution: Prepared Historic Property Survey Report with attached Archaeological Survey Report.

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.

Steven Milton, Senior Transportation Engineer. B.S., Civil Engineering, Cal Poly San Luis Obispo; 16 years Design experience and 7 years Project Management experience. Registered Civil Engineer and Certified Project Management Professional (PMP). Contribution: Project Manager.

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.

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.

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.

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; 10 years of hydraulic experience. Contribution: Hydraulics Memorandum

Appendix A California Environmental Quality Act Checklist

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where a clarifying discussion is needed, the discussion either follows the applicable section in the checklist or is placed within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA—not NEPA—impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒
II. AGRICULTURE AND FOREST RESOURCES: Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	☐	☐	☐	☒
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒
VI. GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☒
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

VII. GREENHOUSE GAS EMISSIONS: Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. Additional information is located in Technical Studies Bound Separately (Volume II) of this 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?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

IX. HYDROLOGY AND WATER QUALITY: Would the project:

a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water 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?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
j) Inundation by seiche, tsunami, or mudflow	☐	☐	☐	☒
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b)Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
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?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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 EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
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March 2013

NON-DISCRIMINATION
POLICY STATEMENT

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

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

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, 1823 14th Street, MS-79, Sacramento, CA 95811. Telephone: (916) 324-0449, TTY: 711, or via Fax: (916) 324-1949.

MALCOLM DOUGHERTY
Director

"Caltrans improves mobility across California"

Appendix C Minimization and/or Mitigation Summary

Community Character and Cohesion - The proposed project cannot avoid acquiring right-of-way. A Caltrans appraiser would determine just compensation for property acquired, as well as compensating for any damages caused to the remainder of the property parcel, such as the relocation of fencing or utilities.

Relocations - The proposed project cannot avoid acquiring right-of-way. Once the preferred alternative is chosen, Caltrans' Right-of-Way personnel would work with the property owners of the parcels to be partially acquired using standard relocation provisions for compensation.

Utilities and Emergency Services - During the design phase of the project, a more detailed study would be conducted to determine the necessary relocation of utilities. Caltrans would meet with the effected utilities to coordinate the details for relocations and easements to avoid or minimize any interruption in service.

Traffic Circulation - During construction, a Transportation Management Plan would be developed to handle local traffic patterns and reduce delay, congestion, and the likelihood of accidents during construction. The Transportation Management Plan includes notifying the public of construction activities via media outlets, using changeable message signs, construction strategies, and use of the Central Valley Traffic Management Center that reduces congestion by monitoring traffic and informing the public via media outlets, such as radio and television.

Water Quality – All short-term surface and groundwater quality impacts need to be addressed in the Design and Construction phase of the project by selecting and implementing Best Management Practices (BMPS) in accordance with the Project Planning and Design Guide. The following measures are recommended:

1. The contractor, as required in Caltrans Standard Specification (SSP) Section 13-1, must address all potential water quality impacts that may occur during construction.
2. Before project initiation, the Caltrans' Stormwater Unit should be consulted to identify the appropriate management practices for all storm water concerns.
3. Because the project would disturb one acre or more of soil the following is required:

- A notification of Intention (NOI) is to be submitted to the appropriate Regional Water Quality Control Board at least 30 days prior to the start of construction.
- A Stormwater Pollution Prevention Plan (SWPPP) is to be prepared and implemented during construction to the satisfaction of the Resident Engineer.
- A Notice of Termination (NOT) shall be submitted to the Regional Board upon completion of construction and site stabilization. A project will be considered complete when the criteria for final stabilization in the Construction General permits is met.

Hazardous Waste – Caltrans recommends the following Caltrans Standard Special Provisions (SSPs) for the health and safety of workers during construction:

- Caltrans Standard Special Provision (SSP) 7-1.02K(6)(j)(iii) Earth Material Containing Lead
- Caltrans Standard Special Provision (SSP) 14-11.07 Remove Yellow Traffic Stripe and Pavement Markings (Hazardous Waste)

If construction includes grinding the entire pavement surface and the project does not require the paint or thermoplastic be removed before grinding begins, Caltrans recommends:

- Caltrans Standard Special Provision (SSP) 15-1.03B – Residue Containing Lead from Paint and Thermoplastic – Requires a lead compliance plan when high lead concentration paints are on the surface to be ground or cold planed but residue will be non-hazardous. The estimated cost to include the lead compliance plan is $3,000.

Noise - As directed by Caltrans, the contractor will adhere to Standard Specifications Section (SSP) 14-8.02 and the Tulare County Noise Ordinance. Implementing the following measures would minimize the temporary noise impacts from construction:

- All equipment will have sound-control devices that are no less effective than those provided on the original equipment.
- No equipment will have an unmuffled exhaust.

Biology - Caltrans will be proposing to purchase mitigation bank credits for impacts to the San Joaquin kit fox (kit fox) foraging habitat for the State Route 190 Rehabilitation project (SR190-06-416500, Postmiles 0.0/8.0); therefore, Caltrans is not proposing any additional mitigation but is recommending the following avoidance and minimization measures:

- Prior to groundbreaking, a Caltrans biologist will conduct an education and training session for all construction personnel. All individuals who will be involved in the site preparation or construction shall be present, including the project representative(s) responsible for reporting take to the California Department of Fish and Wildlife (CDFW) and the United States Fish and Wildlife Service (USFWS). Training sessions shall be repeated for all new employees before they access the project site.
- At the end of each working day the contractor will take measures to prevent the entrapment of San Joaquin kit fox (kit fox) in all excavated, steep-walled holes or trenches. These measures will include covering excavations with plywood or providing dirt or plank escape ramps. The contractor will also inspect all pipes and culverts before burying, capping or other activities. If a San Joaquin kit fox (kit fox) is discovered during this inspection, the pipe or culvert will not be disturbed (other than to move it to a safe location if necessary) until after the San Joaquin kit fox (kit fox) has escaped.
- The contractor shall immediately notify the Resident Engineer if a dead, injured or entrapped San Joaquin kit fox (kit fox) is found. All construction activity within a 150 foot radius of the San Joaquin kit fox (kit fox) shall be halted and may not resume until the Resident Engineer provides written authorization. Any entrapped San Joaquin kit fox (kit fox) shall be permitted to escape. No injured or dead San Joaquin kit fox (kit fox) may be handled or otherwise disturbed.
- If a San Joaquin kit fox (kit fox) den is discovered, all construction activity within a 150 foot radius of the den shall be halted and the Resident Engineer shall be contacted immediately. Construction may not resume within the 150 foot radius until the Resident Engineer provides written authorization.
- All food related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers and removed at least once every day from the entire project site.
- All construction related vehicles will adhere to a twenty mile per hour speed limit while within construction limits and vehicle travel will be limited to established roadways.
- No pets or firearms shall be permitted on the construction site to avoid harassment, killing or injuring of a San Joaquin kit fox (kit fox).

Appendix D NRCS Farmland Conversion Impact Rating Form

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request July 11, 2013
Name of Project LAIRD'S CORNER ROUNDABOUT	Federal Agency Involved FHWA/CALTRANS
Proposed Land Use Highway project	County and State county and state Tulare, CA
PART II *(To be completed by NRCS)*	Date Request Received By NRCS 7/16/13 — Person Completing Form: Roger Tompkins

Does the site 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 ☐	Acres Irrigated 550, 342	Average Farm Size 223
Major Crop(s) Citrus, grapes, alfalfa	Farmable Land In Govt. Jurisdiction Acres: 638, 789 20.7%	Amount of Farmland As Defined in FPPA Acres: 867, 965 28.1%	
Name of Land Evaluation System Used California Storie System	Name of State of Local Site Assessment System None	Date Land Evaluation Returned by NRCS 8/7/13	

	Alternative Site Rating			
PART III *(To be completed by Federal Agency)*	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	7	14		
B. Total Acres To Be Converted Indirectly	n/a	n/a		
C. Total Acres In Site	7	14		
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	7	14		
B. Total Acres Statewide Important or Local Important Farmland	0	0		
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	.0008	.0016		
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	N/A	N/A		
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)	90	90		

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)*	Maximum Points	Site A	Site B	Site C	Site D
1. Area In Non-urban Use	(15)	15	15		
2. Perimeter In Non-urban Use	(10)	5	5		
3. Percent Of Site Being Farmed	(20)	10	10		
4. Protection Provided By State and Local Government	(20)	20	20		
5. Distance From Urban Built-up Area	(15)	15	15		
6. Distance To Urban Support Services	(15)	10	10		
7. Size Of Present Farm Unit Compared To Average	(10)	0	0		
8. Creation Of Non-farmable Farmland	(10)	0	0		
9. Availability Of Farm Support Services	(5)	5	5		
10. On-Farm Investments	(20)	10	10		
11. Effects Of Conversion On Farm Support Services	(10)	0	0		
12. Compatibility With Existing Agricultural Use	(10)	0	0		
TOTAL SITE ASSESSMENT POINTS	160	90	90	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	90	90	0	0
Total Site Assessment *(From Part VI above or local site assessment)*	160	90	90	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	180	180	0	0

Site Selected: Sites A and B are equal	Date Of Selection 1-10-14	Was A Local Site Assessment Used? YES ☐ NO ☒

Reason For Selection:

* 180/260 x 160 = 111 pts

Name of Federal agency representative completing this form: Julie Dick Tex — Date: 1-10-14

(See Instructions on reverse side) Form AD-1006 (03-02)

List of Technical Studies

Relocation Impact Statement

Hot-Spot Conformity Assessment

Noise Study Memorandum

Water Compliance Study

Natural Environment Study (MI)

Biological Assessment

Historical Property Survey Report

Hazardous Compliance Study

Scenic Resource Evaluation

Paleontological Identification Report