Caldwell Interchange

On State Route 99 at Avenue 280 in Tulare County, California

06-TUL-99 PM 35.8/37.1

EA: 06-48740 Project ID: 06-1600-0029

SCH # 2018111056

Initial Study with Mitigated Negative Declaration/ Environmental Assessment

Prepared by the

State of California Department of Transportation

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

June 2019

Caltrans

General Information About This Document

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has prepared this Initial Study with Mitigated Negative Declaration/Environmental Assessment for the proposed project in Tulare County, California. Caltrans is the lead agency under the National Environmental Policy Act (NEPA) and the lead agency under the California Environmental Quality Act (CEQA). The document tells you why the project is being proposed, what alternatives have been considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

The Initial Study/Draft Environmental Assessment circulated for public review and comment for 30 days between December 3, 2018 and January 2, 2019. Comments received during this period are included in Appendix H, which has been added since the draft document was circulated. Elsewhere throughout this document, a vertical line in the margin indicates where a change was made since the draft document circulation. Minor editorial changes and clarifications have not been so indicated.

Additional copies of this document and the related technical studies are available for review at the Caltrans District 6 Public Information Office at 1352 W. Olive Avenue, Fresno, CA 93728, the Tulare County Library, Visalia Branch, 200 W. Oak Avenue, Visalia, CA 93291 and the Tulare County Library, Farmersville Branch, 623 N. Avery Avenue, Farmersville, CA 93223. The document can also be downloaded at the following website: http://www.dot.ca.gov/d6/environmental/envdocs/d6/sr99_caldwell_ave_may_2019.pdf

Alternative Formats

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please write to or call Caltrans, Attention: Jeff Sorensen, Environmental Division, 855 M Street, Suite 200, Fresno, CA 93721; (559) 445-6447, (Voice), or use the California Relay Service 1-800-735-2929 (TTY), 1-800-735-2929 (Voice), or 711.

SCH# 2018111056
06-TUL-99-35.8/37.1
EA: 06-48740
ID: 0616000029

Reconstruct the Caldwell Interchange on State Route 99
at Avenue 280 in Tulare County from post miles 35.8/37.1

INITIAL STUDY
with Mitigated Negative Declaration
/ENVIRONMENTAL ASSESSMENT
with Finding of No Significant Impact

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C)

THE STATE OF CALIFORNIA
Department of Transportation

6/14/19
Date

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

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

Jeff Sorensen
855 M Street, Suite 200
Fresno, CA 93721
(559) 445-6447

California Department of Transportation

Finding of No Significant Impact (FONSI)

for the

Caldwell Interchange Project

The California Department of Transportation (Caltrans) has determined that Alternative 5 will have no significant impact on the human environment. This FONSI is based on the attached Environmental Assessment (EA) and incorporated technical studies that have been independently evaluated by Caltrans and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. It provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. Caltrans takes full responsibility for the accuracy, scope, and content of the attached Environmental Assessment and incorporated technical studies.

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

6/14/19
Date

Jennifer H. Taylor
Office Chief, Central Region
Southern San Joaquin Valley
Environmental

Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to reconstruct the Caldwell Avenue interchange on State Route 99 from post miles 35.8/37.1. The project will improve traffic safety and operations.

Determination

Caltrans has prepared an Initial Study for this project and, following public review, has determined from this study that the proposed project will not have a significant effect on the environment for the following reasons:

The project will have no effect on natural communities, animal species of special concern, wild and scenic rivers, fisheries resources, costal resources, forest resources, cultural resources, geology and soils, mineral resources, population and housing, environmental justice, parks and recreation, community character and cohesion, recreation and tribal cultural resources.

The project will have no significant effect on aesthetics, air quality, agriculture, wetlands and other waters, plant species, threatened and endangered species, invasive species, hazardous materials, hydrology and water quality, land use and planning, utilities and service systems, transportation and traffic, paleontology, public services, noise, and greenhouse gas emissions.

The project will have no significantly adverse effect on biological habitat because the following mitigation measure will reduce potential effects to less than significant:

- Oak trees will be replanted on-site, along the same watershed, and/or at an off-site location. Replanting oak trees will be at a ratio of 10:1 based on their size.

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

6/14/19
Date

Table of Contents

List of Figures

List of Tables

Chapter 1 Proposed Project

1.1 Introduction

California participated in the "Surface Transportation Project Delivery Pilot Program" (Pilot Program) pursuant to 23 USC 327, for more than five years, beginning July 1, 2007, and ending September 30, 2012. MAP-21 (P.L. 112-141), signed by President Barack Obama on July 6, 2012, amended 23 USC 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, Caltrans entered into a Memorandum of Understanding pursuant to 23 USC 327 (NEPA Assignment MOU) with the Federal Highway Administration. The NEPA Assignment MOU became effective October 1, 2012, and was renewed on December 23, 2016 for a term of five years. In summary, Caltrans continues to assume Federal Highway Administration responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, the Federal Highway Administration assigned and Caltrans assumed all of the U.S. Department of Transportation (USDOT) Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off of the State Highway System within the State of California, except for certain categorical exclusions that the Federal Highway Administration assigned to Caltrans under the 23 USC 326 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

Caltrans, as assigned by the Federal Highway Administration, is the lead agency under the National Environmental Policy Act (NEPA). Caltrans is also the lead agency under the California Environmental Quality Act (CEQA).

Caltrans, in cooperation with the Tulare County Association of Governments (TCAG), will improve the Caldwell interchange on State Route 99 at Avenue 280 in Tulare County from post miles 35.8/37.1. Alternative 5 was selected as the preferred alternative.

The project is programmed in the 2018 State Transportation Improvement Program (STIP). The 2018 State Transportation Improvement Program was approved by the California Transportation Commission in March 2018. The two funding sources are Locally Generated and Regional Improvement Program. The programmed funds reflect the 2017 estimates escalated to the proposed fiscal year of approval. As the project progresses, adjustment to the funds may be required.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the project is to:

- Alleviate future congestion and improve safety and traffic operations on Caldwell Avenue at and near the State Route 99 interchange.
- Provide operational performance at the interchange that is consistent with the Tulare County Association of Governments (TCAG) goals and consistent with the land use and traffic circulation policies and objectives in the Tulare County and City of Visalia General Plans. The interchange will also be upgraded to correct nonstandard features.

1.2.2 Need

The Caltrans Caldwell Middle Segment project, which widened State Route (SR) 99 from four to six lanes (post mile 35.2 to post mile 37.3), was completed in 2016. Due to funding constraints, the on-ramps and off-ramps were not widened by that project to accommodate the additional capacity provided on the mainline, as had been planned. Congestion is projected to increase at the interchange due to future development in south Visalia. Traffic generated by the planned Sequoia Gateway Commerce Park, a commercial development at the southeast quadrant of the interchange, will also affect the Caldwell Avenue interchange during peak hours. The project will accommodate the planned eight lane facility on State Route 99.

With the existing interchange configuration, traffic conditions at the Caldwell Avenue (Avenue 280) intersections at the northbound and southbound ramps, and at Drive 85, will all deteriorate to Level of Service (LOS) F prior to 2043 resulting in long delays at each stopped intersection. The actual accident rates on the mainline and ramp locations are also higher than the statewide average accident rates for similar type of facilities.

Traffic Operations and Congestion

Average traffic volume per year on a segment of roadway can be measured by dividing the total traffic for one year by 365 days to obtain the "annual average daily traffic" (AADT) count. On State Route 99 within the project limits, the AADT in 2015 was 55,000. Traffic projections indicate that the AADT will increase to 66,500 on opening day for the project in 2023. Improvements at the interchange will be needed to meet the purpose and need for the project of improving safety and operations at the interchange.

The operations of roadways are described with the term "Level of Service" (LOS). LOS is a description of traffic flow based on such factors as speed, travel time, delay, and freedom to maneuver. Six LOS levels are defined, ranging from LOS A (the best operating conditions) to LOS F (the worst operating conditions). LOS E represents "at-capacity" operations when volumes exceed capacity, stop-and-go conditions result, and operations are designated as LOS F. Caltrans District 6 has established LOS D as the minimum acceptable LOS for this segment of State Route 99. The freeway mainline will operate at LOS C based at the evening (PM) peak hour volume of 3,290 vehicles per hour for the six-lane facility in 2023.

Levels of service for freeways are illustrated in Figure 1-1.

Figure 1-1 Level of Service

LEVELS OF SERVICE
for Freeways

Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		70	Highest quality of service. Traffic flows freely with little or no restrictions on speed or maneuverability. **No delays**
B		70	Traffic is stable and flows freely. The ability to maneuver in traffic is only slightly restricted. **No delays**
C		67	Few restrictions on speed. Freedom to maneuver is restricted. Drivers must be more careful making lane changes. **Minimal delays**
D		62	Speeds decline slightly and density increases. Freedom to maneuver is noticeably limited. **Minimal delays**
E		53	Vehicles are closely spaced, with little room to maneuver. Driver comfort is poor. **Significant delays**
F		<53	Very congested traffic with traffic jams, especially in areas where vehicles have to merge. **Considerable delays**

Existing and future AADT counts at the ramps are shown in Table 1.1. The overall growth in AADT includes the volume of traffic that will be generated by the Sequoia Gateway Commerce Park.

Table 1.1 Existing and Future Annual Average Daily Traffic on Ramps Without Project

Intersection	2015 (existing)	2023	2043
Northbound 99 Off-ramp to Caldwell Avenue	2,200	6,000	8,300
Northbound 99 On-ramp from Caldwell Avenue	2,400	7,000	8,800
Southbound 99 Off-ramp to Caldwell Avenue	2,100	7,000	8,800
Southbound 99 On-ramp from Caldwell Avenue	2,200	6,000	8,300

Source: Caltrans Traffic Operation Division

With the existing interchange configuration, traffic conditions at the Caldwell Avenue (Avenue 280) intersections at the northbound and southbound ramps, and at Drive 85, will all deteriorate to LOS F prior to 2043, as shown on Table 1.2. The minimum acceptable LOS for the ramps is LOS C in rural areas.

Table 1.2 Existing and Future Average Annual Daily Traffic at Intersections Without Project

Intersection	Peak Hour	2015 (existing)	2023	2043
Caldwell Avenue/Northbound Ramps	AM	C	F	F
	PM	D	F	F
Caldwell Avenue/Southbound Ramps	AM	D	F	F
	PM	D	F	F
Northbound Ramps/Drive 85	AM	B	C	F
	PM	B	E	F

Source: Traffic Operational Analysis, October 2017

The Tulare County Association of Governments (TCAG) recognizes the need for improvements in the project area. The Tulare County Association of Governments has included the project in its 2018 Regional Transportation Plan (RTP). The project is consistent with the Regional Transportation Plan objectives for major interchange improvements at the Avenue 280 (Caldwell Avenue) interchange.

Safety

In the draft environmental document, traffic accident information for the ramps within the project limits represented the three-year period from April 1, 2011 to March 31, 2014. After completion of the draft environmental document, more recent traffic accident information was provided by the Caltrans Traffic Operations unit. Accident data was received for the period from January 1, 2016 to December 31, 2018. These accident rates are based on the number of accidents per million vehicle miles (MVM) traveled. The rates are calculated for fatal accidents, fatal-plus-injury accidents, and total accidents.

The collision rates for northbound State Route 99 at the Caldwell Avenue interchange between post miles 35.8 and 36.8 indicate that the actual *Fatal + Injury* and *Total* collision rates are higher than the statewide averages for similar routes. However, the actual *Fatal* collision rate is lower than the statewide average. A total of 35 collisions were recorded within this segment (0-Fatal, 13-Injury, 22-Property Damage Only). The collision rates for the segment in number of collisions per million vehicle miles are shown in Table 1.3.

The collision rates for southbound State Route 99 between post miles 35.8 and 36.8 for the same study period indicate that the actual *Fatal + Injury* and *Total* collision rates are also higher than the statewide averages for similar routes. But, again, the actual *Fatal* collision rate is lower than the statewide average. A total of 24 collisions were recorded within this segment (0-Fatal, 6-Injury, 18-Property Damage Only). The collision rates in million vehicle miles are shown in Table 1.3.

For the project, auxiliary lanes are being constructed and are dictated by future traffic volumes in the project traffic operational analysis. The auxiliary lanes will also improve the State Route 99 mainline safety conditions as the roadway becomes more congested in the future.

A review of the most current accident history, shown in Table 1.3, of the northbound State Route 99 off-ramp to Caldwell Avenue indicates that the actual accident rates (Total, Fatal + Injury and Fatal) are lower than the statewide average for a similar exit-ramp with comparable traffic volumes. Therefore, no further analyses are required.

For the northbound State Route 99 on-ramp from Caldwell Avenue, Table 1.3 shows that the actual total accident rate is lower than the statewide average for a similar entrance-ramp with comparable traffic volumes. Therefore, no further analyses are required.

At the southbound State Route 99 off-ramp to Caldwell Avenue, the actual total accident rate and the actual Fatal + Injury accident rate are also higher than the statewide average for a similar exit-ramp with comparable traffic volumes, as shown in Table 1.3. However, the actual fatal and total collision rates are lower than statewide averages. A total of one collision (0-Fatal, 1-Injury, 0-Property Damage Only) was recorded at this ramp in the study period from January 1, 2016 to

December 31, 2018. The collision was an "overturn," and the primary collision factor was listed as "improper turn." There were no "hit object" type collisions recorded in the study period.

The accident rates for the southbound State Route 99 on-ramp from Caldwell Avenue, shown in Table 1.3, are lower than the statewide average for a similar entrance-ramp with comparable traffic volumes. Therefore, no further analyses are required.

Table 1.3 Accident Rates

Ramp	Rates	Fatal	Fatal + Injury	Total
Northbound 99 Off-ramp to Caldwell Avenue	Actual	0.000	0.00	0.00
	CA Average	0.008	0.40	1.37
Northbound 99 On-ramp from Caldwell Avenue	Actual	0.000	0.00	0.00
	CA Average	0.003	0.17	0.58
Southbound 99 Off-ramp to Caldwell Avenue	Actual	0.000	0.38	0.38
	CA Average	0.004	0.32	0.92
Southbound 99 On-ramp from Caldwell Avenue	Actual	0.000	0.00	0.00
	CA Average	0.005	0.17	0.50
Northbound Tulare 99 PM 35.8-36.8	Actual	0.000	0.36	0.96
	CA Average	0.004	0.14	0.41
Southbound Tulare 99 PM 35.8-36.8	Actual	0.000	0.17	0.66
	CA Average	0.004	0.14	0.41

Source: Caltrans Traffic Operations Division

Nonstandard Improvements

There are currently no sidewalks or bicycle lanes within the project limits. These deficiencies increase the safety risk to pedestrians. This will be corrected with both Alternatives 4 and 5, which will construct sidewalks and bike lanes as part of the project on Caldwell Avenue (Avenue 280). This will improve pedestrian mobility and safety. These pedestrian improvements will tie into the Caldwell Avenue (Avenue 280) widening project that is under construction just east of the proposed project.

The project will correct the non-standard vertical clearance of 15 feet 6 inches at the Avenue 280 bridge over State Route 99. A new bridge will be constructed to provide for the standard vertical clearance of 16 feet 5 inches. The alignment of Avenue 280 at the bridge structure will be realigned and straightened to the south by approximately 26 feet to 46 feet to improve roadway operations and eliminate the bridge superelevation, also known as banking.

The project is consistent with the 2018 Tulare County Association of Governments Regional Transportation Plan. It is included in the list of projects scheduled for funding with Measure R funds and is consistent with all applicable Regional Transportation Plan goals and policies. The project will improve safety and operations at the interchange while enhancing the regional corridor.

1.3 Project Description

This section describes the proposed action developed to meet the purpose and need of the project, while avoiding or minimizing environmental impacts. Two build alternatives, Alternatives 4 and 5, and a no-build alternative were considered in the draft environmental document.

Caltrans, in cooperation with the Tulare County Association of Governments, will improve the Caldwell interchange on State Route 99 at Avenue 280 in Tulare County from post miles 35.8 to 37.1 (see Vicinity and Location Maps, Figures 1-2 and 1-3). Within the limits of the project, State Route 99 is a north-south six-lane divided rural freeway that is planned ultimately as an eight-lane freeway. This section of freeway is in flat terrain and has 10-foot outside shoulders and 10-foot inside shoulders.

The purpose of the project is to alleviate future congestion and to improve safety and traffic operations at the interchange. The project will also improve operational performance at the interchange that is consistent with the goals of the Tulare County Association of Governments and is consistent with the land use and traffic circulation policies and objectives in the Tulare County and City of Visalia General Plans. The interchange will also be upgraded to correct nonstandard features.

Project Alternatives

Two build alternatives and a No-Build Alternative were considered for the project. Each alternative considered the present and predicted future traffic conditions, safety and other local needs and constraints. The alternatives were developed and analyzed based on potential environmental impacts, constructability, cost effectiveness, and purpose and need of the project.

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

Figure 1-2 Project Vicinity Map

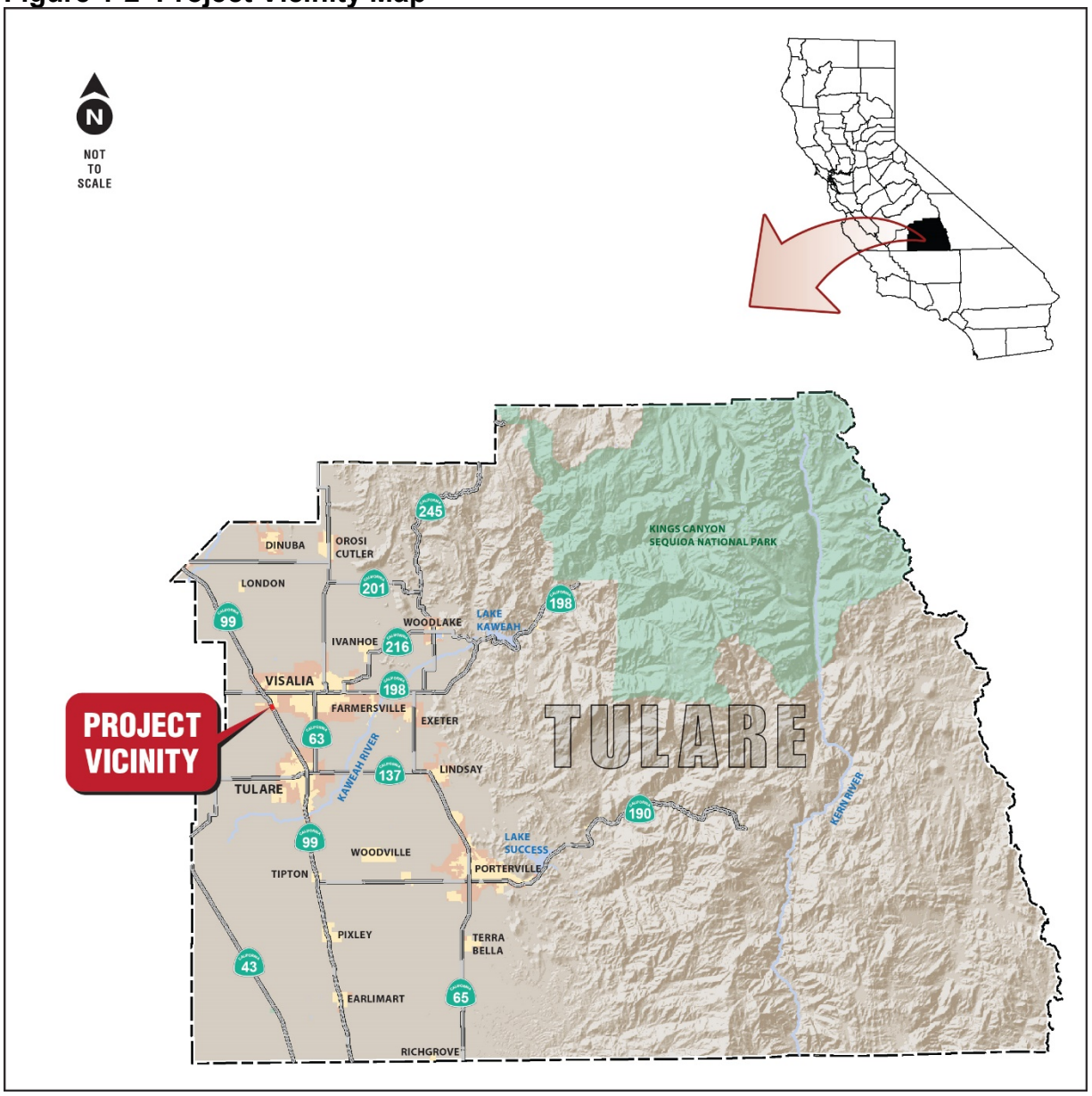
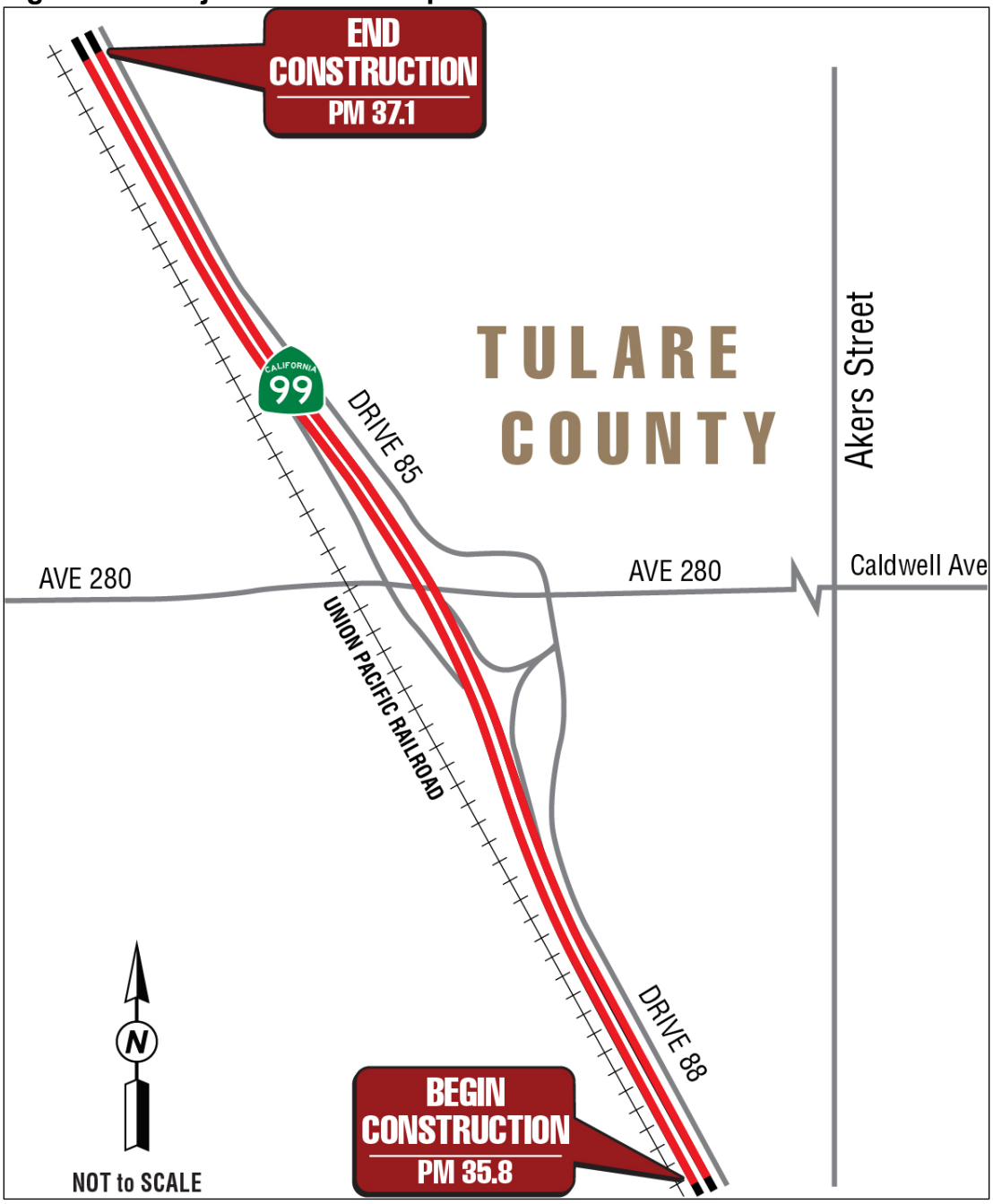


Figure 1-3 Project Location Map



Context sensitive solutions such as landscaping will be included in the project. A landscape/replanting plan will include planting oak trees at the interchange. Oak trees reflect the unique character of the community, including both Tulare County and the City of Visalia.

Complete Streets elements have been considered and will be included in the project. A Class II Bike Lane facility will be provided within the project limits along Caldwell Avenue, including the structure. Sidewalks will be provided on each side of the bridge and through the limits of the project. The project will not change the existing infrastructure for transit. However, possible future bus stops, when the proposed Sequoia Gateway Commerce Park opens, will be considered if development occurs in the area.

1.3.1 Build Alternatives

In addition to a No-Build Alternative (Alternative 1), two build alternatives were considered. The build alternatives are identified as Alternatives 4 and 5 and are shown in Figures 1-4 and 1-5. Both the common and unique design features for those alternatives are detailed below. The project initially considered two additional build alternatives (Alternatives 2 and 3), but they were eliminated from further discussion as explained in Section 1.4. The engineered project plans for Alternatives 5 are shown in Appendix I.

Common Design Features of the Build Alternatives

The two build alternatives (Alternatives 4 and 5) share these common design features:

- Relocate, expand and signalize the Drive 85/88 frontage road intersection at Avenue 280. The existing portion of Drive 88 adjacent to the northbound mainline will be relocated slightly east to provide standard outer separation distance.
- Construct a road connection to the In & Out Food Mart/Shell gas station from the planned Sherman Way within the Sierra Gateway commercial center.
- Add a northbound slip ramp designed for westbound traffic on Avenue 280.
- Reconstruct/realign ramps and widen ramp terminals of the northbound and southbound off-ramps. Based on the projected traffic volume, northbound and southbound auxiliary lanes on the mainline will be constructed. The project post mile limits were extended from 36.1 to 35.8 at the beginning post mile and 36.8 to 37.1 at the ending post mile for this project due the auxiliary lane's design.
- Ramp metering at the on-ramps will be considered. High occupancy vehicle preferential lanes, enforcement areas and maintenance vehicle pullouts will also be considered.
- Raise the profile of both bridge approaches east and west of the interchange.
- Widen and raise the Avenue 280 overcrossing bridge to provide standard vertical clearance. A full replacement for this structure will be required.

- Realign and straighten Avenue 280 at the bridge structure to the south by approximately 26 feet to 46 feet.
- Replace the Mid-Valley Overhead bridge to provide the minimum vertical clearance over the railroad tracks.
- Modify the South Fork of the Persian Ditch, the Middle Fork of the Persian Ditch, the Evans Ditch, and the Mill Creek culvert by extending the concrete culverts and relocating headwalls as needed to widen the Drive 85 and Drive 88 frontage roads.
- Provide new bike lanes and sidewalks along Avenue 280.
- Relocate existing American Telephone and Telegraph (AT&T) and Southern California Edison (SCE) overhead utilities along Avenue 280, Drive 85, and Drive 88.
- Construct new drainage basins.
- Construct retaining walls for the southbound on- and off-ramps to avoid impacts to the railroad.
- Acquire right-of-way and temporary construction easements.
- This project contains a number of standardized project measures that are used on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project. These measures are addressed in more detail in the Environmental Consequences sections found in Chapter 2.

Unique Features of the Build Alternatives

Alternative 4

- Construct two signalized intersections on Avenue 280 at the northbound and southbound ramp intersections (see Figure 1-4).
- Widen existing Avenue 280 to six through lanes plus additional dual left-turn lanes at on-ramp intersections. This configuration will transition into the ongoing four-lane Avenue 280 (Caldwell Avenue Widening) project by Tulare County.
- The capital outlay cost (construction and right-of-way) for the project is estimated at $52,600,000.

Alternative 5

- Remove the existing northbound hook ramp and construct a series of two roundabouts on Caldwell Avenue at both the northbound and southbound ramp intersections (see Figure 1-5).
- Widen Avenue 280 to four lanes at the vicinity of the roundabouts and four through lanes with dual eastbound left-turn lanes and a single westbound left-turn lane at the signalized Drive 85/Drive 88 intersection. This configuration will tie

into the ongoing four-lane Avenue 280 (Caldwell Avenue Widening) project by Tulare County.

- The capital outlay cost (construction and right-of-way) for the project is estimated at $45,029,000.

1.3.2 No-Build (No-Action) Alternative

The No-Build Alternative would maintain the current configuration of the existing facility. The No-Build Alternative is not compatible with the transportation needs of Caltrans and Tulare County and is not consistent with local and regional planning. The No-Build Alternative will not bring the facility up to current standards for vertical clearance. Also, it does not meet the purpose and need for the project by providing acceptable levels of service, and therefore does not improve safety and operations at the interchange.

1.3.3 Comparison of Alternatives

The two build alternatives for this project—Alternatives 4 and 5—have similar impacts associated with them. The difference between the two build alternatives is Alternative 4 would have a new interchange with signalized intersections at the northbound and southbound ramp intersections of the ramps and Avenue 280, while Alternative 5 will have two roundabouts at the northbound and southbound ramp intersections of the ramps and Avenue 280. The overall design of the interchange would be similar for both alternatives. The difference between the two alternatives at the interchange is Alternative 4 would have an additional northbound loop ramp paired with a slip ramp, while Alternative 5 will not (see Figures 1-4 and 1-5). Each build alternative would require the removal of approximately 6 to 8 eucalyptus trees and 2 oak trees. Both build alternatives would require additional right-of-way. Alternative 4 would acquire 14.935 acres of right-of-way from 21 parcels in addition to four temporary construction easements. Alternative 5 will acquire 9.174 acres of right-of-way from 18 parcels in addition to six temporary construction easements. Table 1.4 shows the differences between the two build alternatives.

Table 1.4 Comparison of Alternatives

Breakdown	Alternative 4	Alternative 5
Right-of-Way (parcels impacted)	21	18
Right-of-Way required (acreage)	14.94 acres	9.17 acres
Bisected Agricultural Parcels (Acres)	3 parcels (9.85 acres)	3 parcels (11.20 acres)
Business Relocations	1	0
Cost	$52,600,000	$45,029,000

1.3.4 Identification of a Preferred Alternative

The preferred alternative for any Caltrans project is selected by Caltrans at the recommendation of the Caltrans Project Development Team. In selecting a recommended alternative, the Project Development Team evaluates the environmental impacts of the project, design features supporting the purpose and need of the project, and comments from the public and agencies submitted during the circulation of the draft environmental document.

The Project Development Team—made up of individuals from the Tulare County Association of Governments, Tulare County, City of Visalia, and Caltrans—met on February 8, 2019 to recommend a preferred alternative. After reviewing all comments on the draft Initial Study/Environmental Assessment and technical studies, the Project Development Team compared the two build alternatives against the project purpose and need, environmental impacts (to both the natural and the physical environment), and project cost. After comparing the two alternatives (see Figures 1-4 and 1-5), the Project Development Team recommended Alternative 5 as the preferred alternative.

Alternative 5 was recommended as the preferred alternative because it will provide the greatest improvement to safety and traffic operations. It will construct a roundabout at each of the ramp intersections compared to Alternative 4, which proposed traffic signals at the ramp intersections. Roundabouts provide a 35 percent reduction in all accidents, a 76 percent reduction in injury accidents, and a 90 percent reduction in fatal accidents. Roundabouts reduce the potential for broadside and head-on accidents, result in less delay, and reduce fuel consumption, emissions, and noise due to less stopping and starting.

Although Alternative 4 and Alternative 5 would both provide the minimum acceptable level of service (LOS D) at the Avenue 280 northbound and southbound ramp intersections and at the Drive 85/Drive 88 intersection, Alternative 5 will provide the better LOS at these intersections. The forecasted traffic volumes show that the Alternative 5 LOS will be better both on opening day (2023) and in the future condition (2043).

Alternative 5 also requires less right-of-way acquisition than Alternative 4. Alternative 5 requires approximately 9 acres of right-of-way, while Alternative 4 requires approximately 15 acres. Alternative 5 will not displace any businesses. Alternative 4 would require the acquisition of the In & Out Food Mart/Shell gas station in the southeast quadrant of the interchange.

The capital outlay cost (construction and right-of-way) for Alternative 5 is $45,029,000, which is less than the Alternative 4 cost of $52,600,000.

The No-Build Alternative would maintain the current configuration of the existing facility. The No-Build Alternative is not compatible with the transportation needs of Caltrans and Tulare County and is not consistent with local and regional planning. Also, it will not meet the purpose and need for the project because it will not improve safety and operations at the interchange. Under the No-Build Alternative, the existing

traffic conditions at the Caldwell Avenue northbound and southbound ramp intersections and at the Drive 85/Drive 88 intersection will all deteriorate to LOS F prior to 2043.

1.3.5 Alternatives Considered but Eliminated from Further Discussion Prior to the Draft Initial Study/Environmental Assessment (IS/EA)

On May 15, 2018, the Project Development Team determined that Alternatives 2 and 3 should be withdrawn from further consideration. Tulare County and the Tulare County Association of Governments were also consulted in a meeting with Caltrans staff on April 17, 2018. It was determined that because the Cartmill Avenue interchange and the Betty Drive interchange projects in Tulare County were constructed based on the ultimate eight-lane freeway corridor, the Caldwell interchange project should also be constructed based on the ultimate eight-lane corridor to provide route continuity.

Alternative 2

Alternative 2 would reconfigure the northbound ramps to an L-7 (single-quadrant cloverleaf) configuration. Drive 85 would be realigned farther east to connect to Caldwell Avenue. This alternative is similar to Alternative 4, except no new northbound slip on-ramp would be constructed to serve the westbound traffic on Caldwell Avenue. This alternative would be consistent with the existing six-lane mainline widening.

Although this alternative has minimal right-of-way impact and cost, the proposed Avenue 280 overcrossing bridge No. 46-0195 would have to be reconstructed in the future. The proposed northbound and southbound ramps would also need to be reconstructed in the future to accommodate the ultimate eight-lane freeway corridor. This alternative was eliminated from further consideration because it would be inconsistent with the ultimate eight-lane freeway concept.

Alternative 3

Alternative 3 would be similar to Alternative 2, except that a new northbound on-ramp (slip ramp) would be added to serve the westbound traffic on Caldwell Avenue.

The turning movement volume from westbound Caldwell Avenue to northbound State Route 99 is projected to be 748 vehicles in the evening peak period by 2043. A slip on-ramp would better accommodate this high volume than a left-turn movement to a loop on-ramp. The loop on-ramp will be used exclusively by eastbound traffic on Caldwell Avenue.

As with Alternative 2, this alternative was eliminated because it would be inconsistent with the ultimate eight-lane freeway concept.

Figure 1-4 Alternative 4

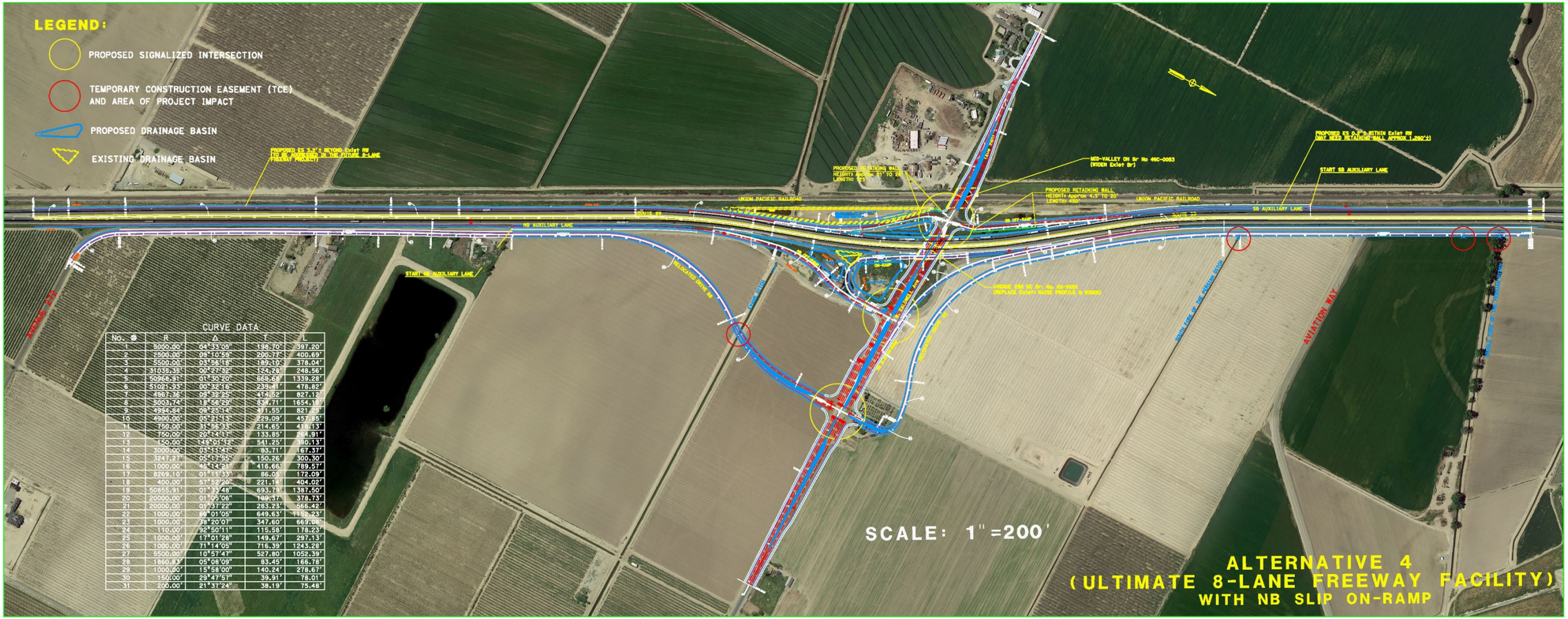
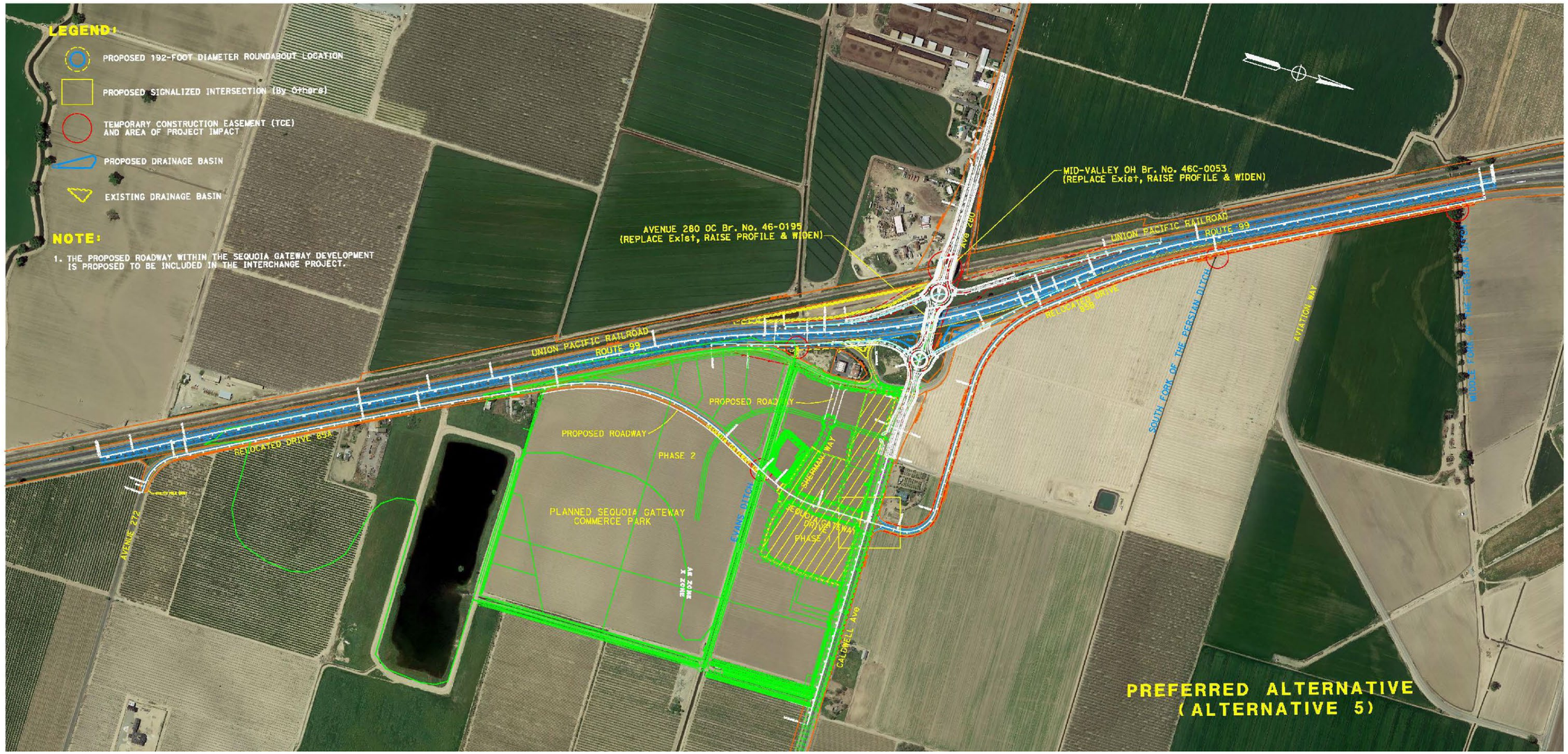


Figure 1-5 Alternative 5



1.4 Permits and Approvals Needed

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

Agency	Permit/Approval	Status
Regional Water Quality Control Board	Clean Water Act Section 402—National Pollutant Discharge Elimination System (NDPES): Waste Discharge Permit A Storm Water Pollution Prevention Plan required by Caltrans will be prepared and is expected to provide all the necessary temporary pollution and erosion control measures required during construction Clean Water Act Section 401 Water Quality Certification *(Evans Ditch, South Fork of the Persian Ditch, Middle Fork of the Persian Ditch)*	Compliance with (1) the Statewide National Pollutant Discharge Elimination System Permit (Order No. 99-06-DWQ NPDES No. CAS000003) and (2) the General Permit, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity (Order No. 99-08-DWQ, NPDES No. CAS000002) 401 certification (permit) to be obtained prior to start of construction
U.S. Army Corps of Engineers	Clean Water Act Section 404 Individual Permit for filling or dredging waters of the U.S. *(Evans Ditch, South Fork of the Persian Ditch, Middle Fork of the Persian Ditch)*	404 Permit to be obtained prior to start of construction
California Department of Fish and Wildlife	Fish and Game Code Section 1602 Streambed Alteration Agreement *(South Fork of the Persian Ditch, Middle Fork of the Persian Ditch, Mill Creek culvert)* 2081 Incidental Take Permit for Swainson's hawk and/or San Joaquin kit fox	Streambed Alteration Agreement to be obtained prior to start of construction To be obtained prior to construction (if needed depending on results of preconstruction surveys)
San Joaquin Valley Unified Air Pollution Control District	National Emissions Standards for Hazardous Air Pollutants notification	Contractor will be required to notify the air district 10 days prior to start of construction

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

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

- Natural Communities—The project will not impact any natural communities. Surveys of the project area yielded no observations of any natural communities *(NESMI September 10, 2018)*
- Animal Species—The project will not impact animal species of special concern. Surveys of the project area yielded no observations of any animal species of special concern. *(NESMI September 10, 2018)*
- Forest Resources—The project will not impact forest resources. There are no forest resources in the vicinity of the project.
- Coastal Resources—There will be no effects to coastal resources because the project is not located within a coastal zone.
- Fisheries Resources—This project is located outside of National Marine Fisheries Service (NMFS) jurisdiction. A query for a National Marine Fisheries Service list was sent, but no results were returned. Since the query resulted in no findings, a species list could not be generated.
- Wild and Scenic Rivers—There are no wild and scenic rivers in the study area.
- Cultural/Historic Resources—Caltrans Professional Qualified Staff (PQS) determined there are "No Historic Resources Present" within the Area of Potential Effect (APE), and therefore, pursuant to Section 106, determined a finding of "No Historic Properties Affected" as appropriate for this undertaking. There are no Section 4(f) resource types within the project vicinity. *(Historical Property Survey Report, April 2018)*
- Cultural/Archeological Resources—The project will not impact any archeological resources. No archeological resources are known to exist within the project area. *(Archaeological Survey Report, April 2018)*
- Geology and Soils—No project impacts related to geology, soils, seismicity or topography are anticipated. Groundwater data within the project area reflected a deep-water table. There are no major topographic or geologic features within the project area. The project will be designed to meet current seismic standards for roadway and bridge construction. *(District Preliminary Geotechnical Report, March 2018)*
- Mineral Resources—The project will not impact mineral resources. The project area is mapped by the Department of Conservation as an area where available geologic information indicates that little likelihood exists for the presence of

significant mineral resources. Also, there are no mineral resource sites in the vicinity of the project that are delineated in the Tulare County general plan, any specific plan, or other land use plans.

- Population and Housing—The project will not impact population or housing. It will not induce substantial population growth because it is not proposing new homes or businesses and will not extend any roads or infrastructure. The project is in a rural agricultural area. There are only three existing residences in the project area, and none will be displaced by the project.
- Environmental Justice—The project area is rural and agricultural. No minority or low-income populations exist in the area that would be adversely affected by the proposed project. Therefore, this project is not subject to the provisions of Executive Order 12898.
- Community Character and Cohesion—There are no existing established communities within the project area, therefore there will be no impact to community character and cohesion.
- Parks and Recreational Facilities—There are no parks or recreational facilities in the project vicinity. The nearest facility is Sunset Park, about 1.8 miles east of the project. School sites can be used for recreational activities. The nearest school is the Charter Alternatives Academy at 6832 Avenue 280, 2 miles west of the interchange. There are no 4(f) resources in the project area. Staged construction will be used for the project, allowing the interchange to remain open during construction for continued access to the area.
- Public Services—Public services will not be impacted by the project. Staged construction will be used to prevent the need for any long-term closure of the interchange during construction.
- Tribal Cultural Resources—The project will not impact tribal cultural resources. There are no identified human remains within the project limits. Native American consultation was conducted, and the Tule River Tribe indicated it has no knowledge of culturally sensitive items or sites within the project area. *(Archaeological Survey Report, April 2018)*

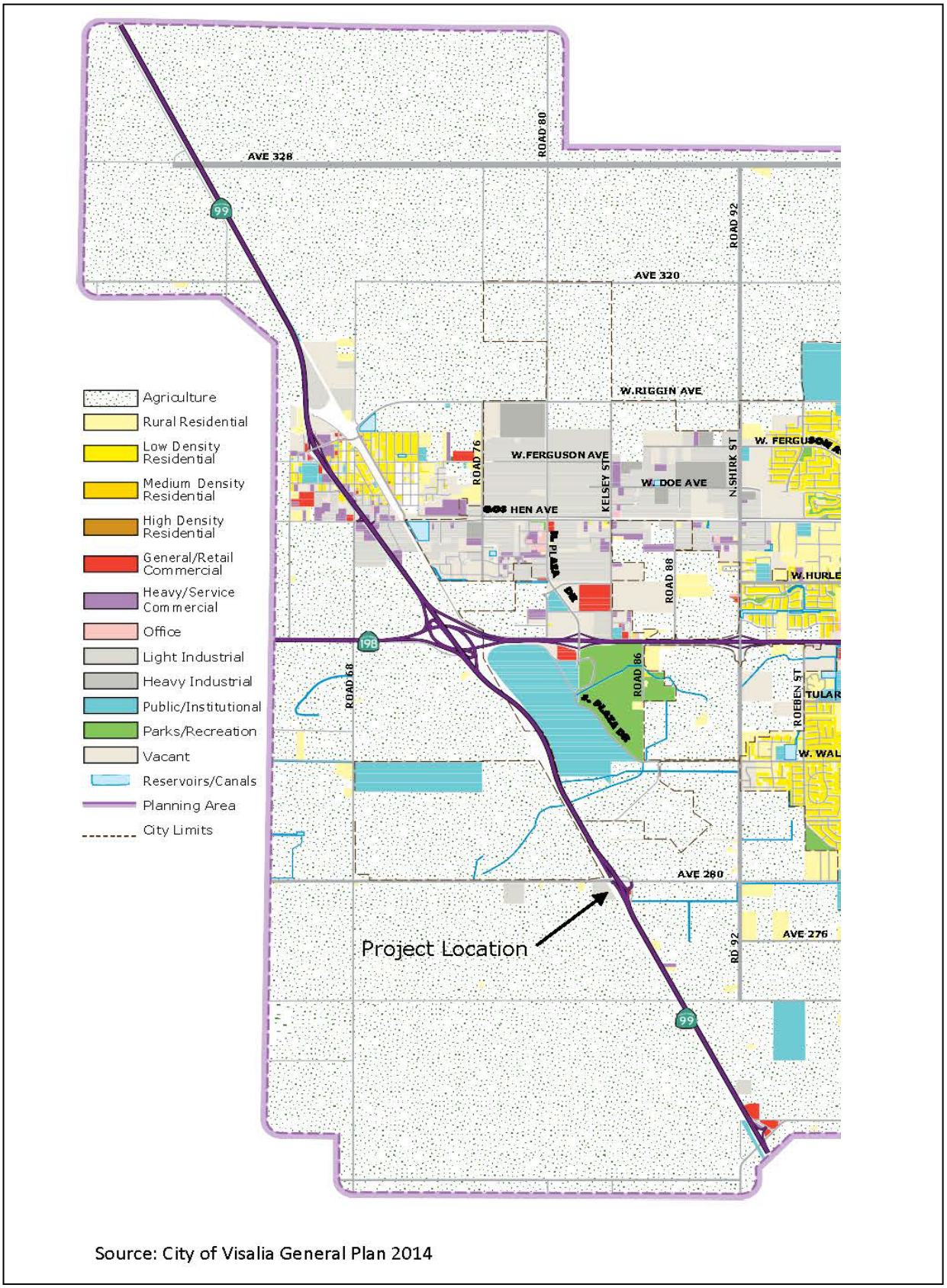
2.1 Human Environment

2.1.1 Existing and Future Land Use

Affected Environment

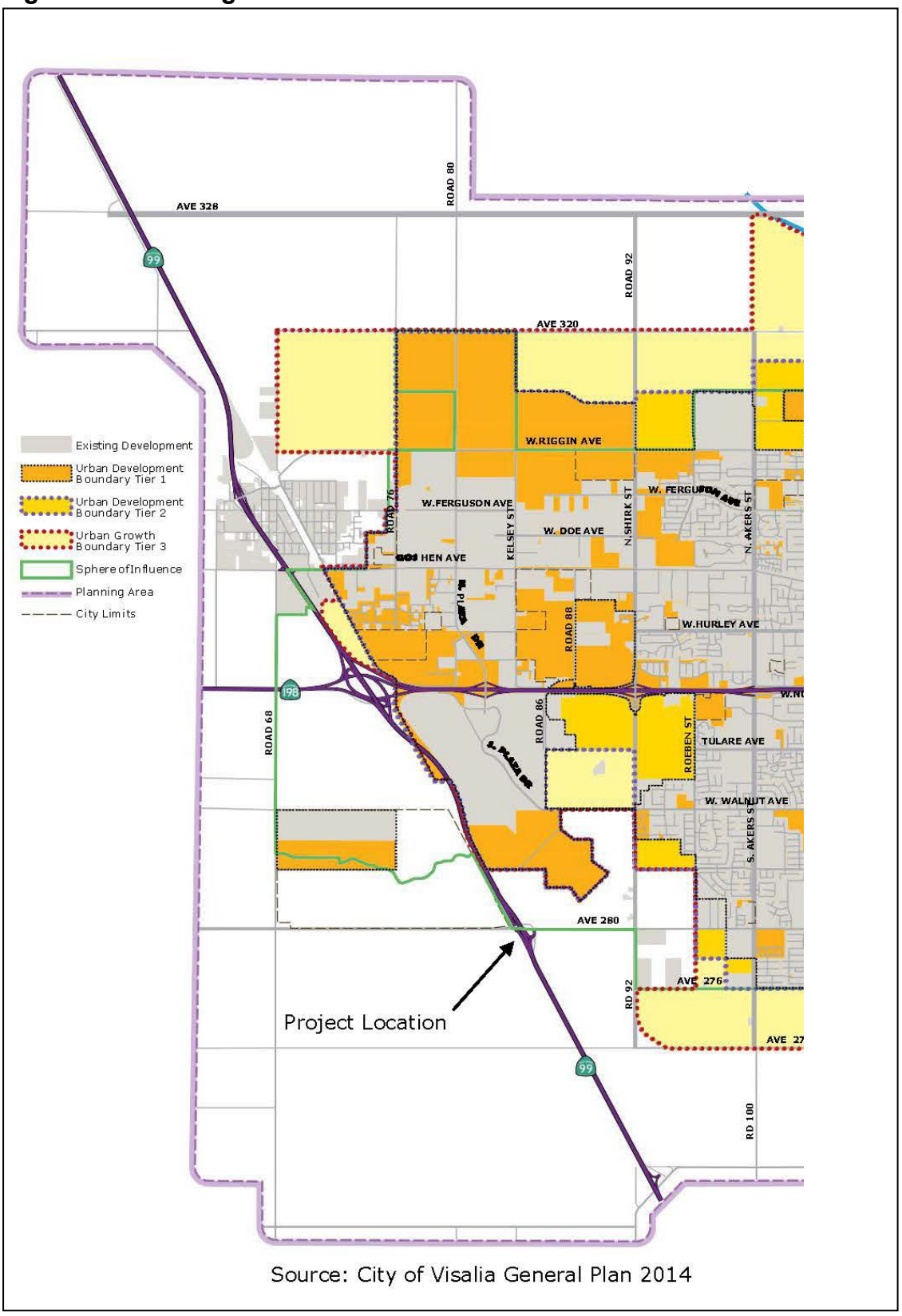
The existing land use in the project area is mostly agriculture with limited commercial, industrial, and rural residential uses. The surrounding area near the project site does not contain any lands officially described as Parks and Recreational Facilities. As shown in Figure 2-1, the northwest quadrant of the interchange project is within the city limits of the City of Visalia, and the northeast quadrant lies within the City of Visalia Sphere of Influence. The Sphere of Influence contains lands that are anticipated to be annexed to the City of Visalia.

Figure 2-1 Existing Land Use



Source: City of Visalia General Plan 2014

Figure 2-2 Existing and Planned Growth



Source: City of Visalia General Plan 2014

The southwest and southeast quadrants are within the City of Visalia Planning Area. The City of Visalia Planning Area contains unincorporated lands that still bear relation to City of Visalia planning efforts. The City of Visalia's planning area encompasses 66,640 acres or about 104 square miles. Existing growth and planned growth are shown in Figure 2-2.

In addition to the city limit boundaries and the Sphere of Influence, other planning-related boundaries are established by the City of Visalia in coordination with the County of Tulare. The Urban Development Boundary (UDB) and Urban Growth Boundary (UGB) are established boundaries contained within the City of Visalia Planning Area that serve to clearly define urban edges and prevent urban sprawl. The Urban Development Boundary and Urban Growth Boundary are planned to increase in size to incorporate population growth of the City of Visalia and surrounding areas, as shown in Figure 2-2.

As mentioned above, the northwest quadrant of the interchange project is within the city limits of the City of Visalia, and the northwest quadrant lies within the City of Visalia Sphere of Influence. The southwest and southeast quadrants lie within the City of Visalia Planning Area, but outside of the current and projected Urban Development Boundary and Urban Growth Boundary, as shown in Figure 2-2. A breakdown of the land uses in the vicinity of the project within the City of Visalia's Planning Area is presented below.

- Agricultural Uses – 39,518 acres (65 percent)
- Low Density Residential – 6,640 acres (11 percent)
- Rural Residential – 4,104 acres (7 percent)
- Vacant – 2,917 acres (5 percent)
- Public/Institutional – 1,960 acres (3 percent)
- Light Industrial – 1,471 acres (2 percent)
- Parks and Recreation – 1,161 acres (2 percent)
- General Retail/Commercial – 801 acres (1 percent)
- Heavy/Service Commercial – 540 acres (1 percent)
- Office – 351 acres (1 percent)
- Heavy Industrial – 299 acres (less than 1 percent)
- Right of Way – 254 acres (less than 1 percent)
- Canal – 205 acres (less than 1 percent)
- Water – 186 acres (less than 1 percent)
- Railroad – 91 acres (less than 1 percent)

Within the Visalia city limits, land uses are as follows:

- Low Density Residential – 6,289 acres (33 percent)
- Agricultural – 2,778 acres (15 percent)
- Vacant – 2,262 acres (12 percent)
- Rural Residential – 1,430 acres (8 percent)
- Public/Institutional – 1,554 acres (8 percent)
- Light Industrial – 1,180 acres (6 percent)
- Parks and Recreation – 1,108 acres (6 percent)
- General Retail/Commercial – 723 acres (4 percent)
- Heavy/Service Commercial – 343 acres (2 percent)
- Office – 338 acres (2 percent)
- Medium Density Residential – 262 acres (1 percent)
- Heavy Industrial – 233 acres (1 percent)
- Water – 163 acres (1 percent)
- Right of Way – 148 acres (1 percent)
- High Density Residential – 126 acres (1 percent)
- Railroad – 46 acres (less than 1 percent)
- Canal – 34 acres (less than 1 percent)

Figure 2-3 shows that lands northwest of the State Route 99/Avenue 280 interchange within the Visalia city limits are zoned Agriculture (Agriculture). Lands northeast of the interchange are zoned Exclusive Agricultural – 20-Acre Minimum (AE-20). Lands southwest and southeast of the interchange are zoned Exclusive Agriculture Zone – 40-Acre Minimum (AE-40). A smaller piece of land next to the existing interchange is zoned General Commercial (C-2-SR).

Future Land Use

Immediately southeast of the State Route 99/Avenue 280 interchange is a proposed 127-acre commercial development known as the "Sequoia Gateway project." That project will develop a range of commercial land uses in two phases. A proposed development along Avenue 280 just west of State Route 99 includes facilities for operating a concrete and hot asphalt batch plant along with concrete and asphalt recycling. Both development sites are shown in Figure 2-4.

Figure 2-3 City of Visalia and Tulare County Zoning Designations

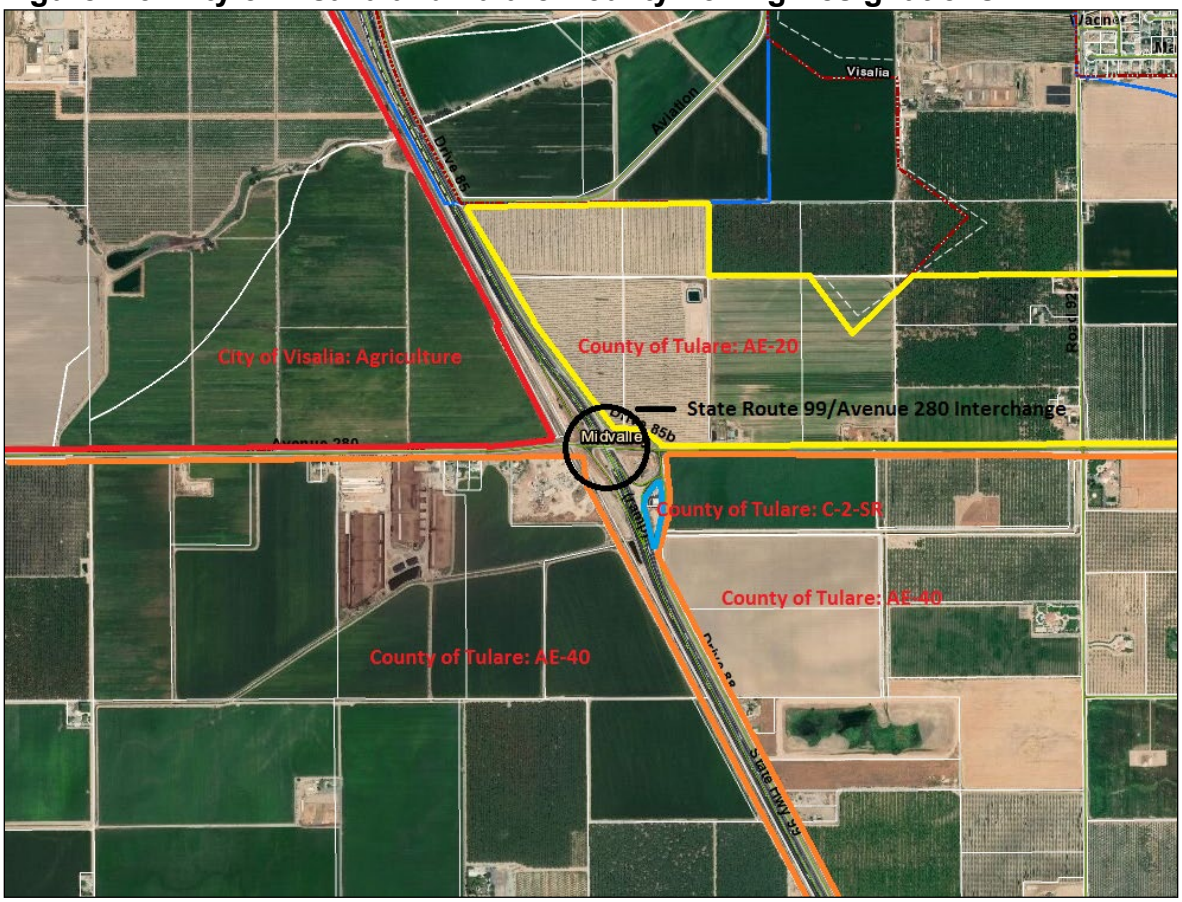


Figure 2-4 Future Land Use

Table 2.1 Land Uses (Existing and Proposed)

Name	Jurisdiction	Proposed Uses	Status
Sequoia Gateway	County of Tulare	Phase 1 – Fast Food Restaurants (3.98 acres) Gas Station/Convenience Store (1.46 acres) Multi-tenant Retail (0.81 acre) Medical Clinic (6.18 acres) Road Right of Way (3.78 acres) Storm-water Basin (2.70 acres) Phase 2 – Fast Food Restaurants (2.12 acres) Sit-Down Restaurant (2.71 acres) Hotel (8.01 acres) Office (5.95 acres) Regional Retail (82.76 acres) Road Right of Way (3.94 acres) Wastewater Treatment Plant (2.50 acres)	Approved
Unknown	County of Tulare	Concrete and hot asphalt batch plant (with material stockpiles), concrete and asphalt recycling operations on a 20-acre parcel.	Proposed

Source: Tulare County Planning Department

2.1.2 Consistency with State, Regional, and Local Plans and Programs

The following local, state and regional transportation and land use plans are applicable to the project and identify it as the State Route 99 at Caldwell Avenue Major Interchange Improvements Project. The project is consistent with the applicable goals from each plan as summarized below.

Plans

2018 Tulare County Association of Governments Regional Transportation Plan

The project is included in the Action Element of the 2018 Tulare County Association of Governments Regional Transportation Plan (RTP). The Regional Transportation Plan states that an efficient, integrated multi-modal transportation system for the

movement of people and goods that enhances the physical, economic, and social environment needs to be provided; goods movement within the region must be efficient and effective to increase economic vitality; preservation and enhancement of regional transportation roads and corridors will improve safety, connectivity, and efficiency; and congestion management will promote the improvement of air quality and the reduction of greenhouse gases.

City of Visalia General Plan (2014)

The City of Visalia General Plan (2014) states that the City of Visalia's traffic circulation planning efforts are integrated with those of the County of Tulare and Caltrans to promote a regional, cooperative transportation plan.

Programs

The project is consistent with, and is identified in, the following programs:

2019 Tulare County Association of Governments Federal Transportation Improvement Program

The project is consistent with the 2019 Tulare County Association of Governments Federal Transportation Improvement Program (FTIP). It is listed in the Federal Transportation Improvement Program as a Regional Choice project.

2018 Tulare County State Transportation Improvement Program

The project is consistent with the 2018 Tulare County State Transportation Improvement Program (STIP). The State Transportation Improvement Program identifies funding for design, right-of-way and construction of the proposed project.

Environmental Consequences

Plans

2018 Tulare County Association of Governments Regional Transportation Plan

Both build alternatives are consistent with the 2018 Tulare County Association of Governments Regional Transportation Plan. The project is included in the list of projects scheduled for funding through Measure R funds and is consistent with all applicable goals and policies. Both build alternatives would improve safety and operations at the interchange while also enhancing the regional corridor and providing effective and efficient goods movement within the region.

The No-Build Alternative would not be consistent with the 2018 Tulare County Association Governments Regional Transportation Plan because it would not provide the transportation-related infrastructure needed to improve safety and operations at the interchange nor accommodate planned development in the region.

City of Visalia General Plan (2014)

Both build alternatives are consistent with the City of Visalia General Plan (2014) because the City of Visalia traffic and circulation plans are integrated with the County of Tulare plans under the 2014 Tulare County Association of Governments Regional Transportation Plan.

The No-Build Alternative would be inconsistent with the City of Visalia General Plan because it would not provide the transportation-related infrastructure needed to improve safety and operations at the interchange or accommodate planned development in the region.

Programs

2019 Tulare County Association of Governments Federal Transportation Improvement Program and 2018 Tulare County State Transportation Improvement Program

Both build alternatives are consistent with the 2019 Tulare County Association of Governments Federal Transportation Improvement Program and the 2018 Tulare County State Transportation Improvement Program. The project is identified in each program.

The No-Build Alternative would be inconsistent with both the Federal Transportation Improvement Program and the State Transportation Improvement Program because it is identified as a necessary project in both the state and federal transportation programs.

Land Use

Neither build alternative will affect land use. All existing and planned land use in the area will remain the same if the interchange is improved.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures will be necessary for land use.

2.1.3 Farmland

Regulatory Setting

The National Environmental Policy Act (NEPA) and the Farmland Protection Policy Act (7 U.S. Code 4201-4209 and its regulations, 7 Code of Federal Regulations Part 658) require federal agencies, such as the Federal Highway Administration, to coordinate with the Natural Resources Conservation Service (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

Farmlands near the interchange improvement project consist mostly of field and nut crops along the north side of Caldwell Avenue, both east and west of State Route 99, and a dairy on the south side of Caldwell Avenue, west of State Route 99. The remaining farmlands next to the project along Drive 88 toward the southeast limits of the project area are nut crops. After the circulation of the draft environmental document in March 2019, 126 acres of farmland at the southeast quadrant of the interchange were approved by Tulare County for development of the Sequoia Gateway Commercial and Business Park. The project will convert the agricultural land to a regional retail and commercial center. A total of 20 agricultural parcels remain within the project area. Two of these parcels are under Williamson Act contract, as shown in Table 2.2.

Environmental Consequences

Research and consultation with the National Resources Conservation Service was conducted to evaluate the potential effects of the proposed interchange improvements on local farmlands. Documents reviewed included California Department of Conservation Farmland Mapping and Monitoring Program data and aerial photographs. The current City of Visalia and Tulare County General Plans, zoning ordinances and maps were also reviewed.

The project will permanently remove areas of Prime and/or Unique Farmland from agricultural production due to improving the interchange. Two parcels, under Williamson Act contract, totaling approximately 83.50 acres (Alternative 4) and one parcel under contract, totaling 49.61 acres (preferred Alternative 5) would be needed for the project. The preferred alternative (Alternative 5) will convert only 0.32 acre to non-agricultural use, as shown in Table 2.2. It is not feasible to avoid this Williamson Act parcel. The parcel will remain under Williamson Act contract after partial acquisition.

Table 2.2 Potential Impacts to Williamson Act Parcels

APN	Alternative	Proposed Acquisition Acreage	Remaining Acres (after acquisition)	Total Acres (before acquisition)
---	No-Build	0.00	N/A	0.00
119-021-034	4	0.15	33.74	33.89
	5 (preferred)	0.00	33.89	33.89
119-010-063	4	0.32	49.29	49.61
	5 (preferred)	0.32	49.29	49.61

Source: Caltrans Right-of-Way Division

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

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

Table 2.3 shows the acres of important farmland in Tulare County from 2008-2016 according to the Farmland Mapping and Monitoring Program prepared by the California Department of Conservation.

Table 2.3 Tulare County Important Farmland, 2008 to 2016

Farmland Category	Total Acres Inventoried by Year				
	2008	2010	2012	2014	2016
Prime Farmland	375,119	370,251	368,527	366,414	366,136
Farmland of Statewide Importance	327,204	323,598	321,296	320,887	322,355
Unique Farmland	11,919	11,594	11,474	11,421	11,691
Farmland of Local Importance	150,193	154,549	158,823	160,450	157,937
Important Farmland Total	864,435	859,992	860,120	859,172	858,119

Source: California Department of Conservation, Farmland Mapping and Monitoring Program

Table 2.4 summarizes the net acreage change (either negative or positive) from the previous Farmland Mapping and Monitoring Program survey. Negative numbers indicate loss of farmland in that two-year period. Surveys are done every two years.

Table 2.4 Area Change for 2008 to 2016

Farmland Category	Area Change in Acres				
	2006–2008	2008–2010	2010–2012	2012–2014	2014–2016
Prime Farmland	-4,641	-4,868	-1,724	-2,113	-278
Farmland of Statewide Importance	-4,954	-3,606	-2,302	-409	1,468
Unique Farmland	-299	-325	-120	-53	270
Farmland of Local Importance	6,367	4,356	4,274	1,627	-2,513
Important Farmland Total	-3,527	-4,443	128	-948	-1,053

Source: California Department of Conservation, Farmland Mapping and Monitoring Program

Under Alternative 4 and the preferred alternative (Alternative 5), interchange construction would result in total conversion of 27.06 to 30.71 acres of Prime and Unique Farmland to nonagricultural use as shown in Table 2.5 and presented in the Natural Resources Conservation Service AD 1006 form in Appendix A.

The Natural Resources Conservation Service Farmland Conversion Impact Rating was completed for the project in July 2018 as shown in Appendix A. This rating determines the relative value of farmland to be converted by using a formula that weights farmland classifications, soil characteristics, acreage, creation of non-farmable land, availability of farm services, and other factors. If the rating is more than 160 points, Caltrans may consider measures that will minimize or mitigate farmland impacts. Alternative 4 and the preferred alternative (Alternative 5) had a Farmland Conversion Impact Rating of 157. These ratings are below the 160-point threshold. Table 2.5 shows the proposed farmland conversion for the project alternatives.

Table 2.5 Proposed Farmland Conversion

Farmland Conversion by Alternative				
Alternative	Land Converted (acres)	Prime and Unique Farmland (parcel acres)	Percent of Farmland in County	Farmland Conversion Impact Rating
1 (No-Build)	0	N/A	N/A	N/A
4	11.60	30.71	0.000045	157
5	12.60	27.06	0.000039	157

Sources: Form NRCS-AD-1006 (Farmland Conversion Impact Rating for Federally Funded Projects).

In addition, as shown in Table 2.5, the reduction of farmland expected to result from implementation of the build alternatives is negligible in the context of available farmland in Tulare County. The 27.06 to 30.71 acres to be converted under the build alternatives represent 0.000039 to 0.000045 percent of the total farmland in the county. Due to the large amount of land available for (and currently supporting) agricultural purposes in the immediate project vicinity and in the surrounding counties, it is not expected that the small amount of acreage that will be permanently

removed from agricultural production under the build alternatives will affect total agricultural production in the area.

Both Alternative 4 and the preferred alternative (Alternative 5) would realign the Drive 85 frontage road and bisect three agricultural parcels. It is anticipated that access would be maintained to these parcels during and after construction. It is unlikely that all the bisected parcels would remain practical for continued agricultural use due to the remaining parcel sizes and configurations, however, some of the bisected land may become suitable for future commercial development at the interchange. The bisected parcels are in the northeast quadrant of the interchange between the realigned Drive 85 frontage road and Avenue 280. The bisected parcels for each alternative are listed in Table 2.6 and shown in Figures 2-1 and 2-2.

Table 2.6 Bisected Agricultural Parcels

APN	Total Acreage	Alternative	Bisected Acreage
119-010-66	52.77	4	1.73
		5 (preferred)	1.22
119-021-36	41.16	4	2.54
		5 (preferred)	3.60
119-021-37	52.77	4	5.58
		5 (preferred)	6.38
Total Bisected Farmland		**4**	**9.85**
		5 (preferred)	**11.21**

Figure 2-5 Bisected Farmland (Alternative 4)

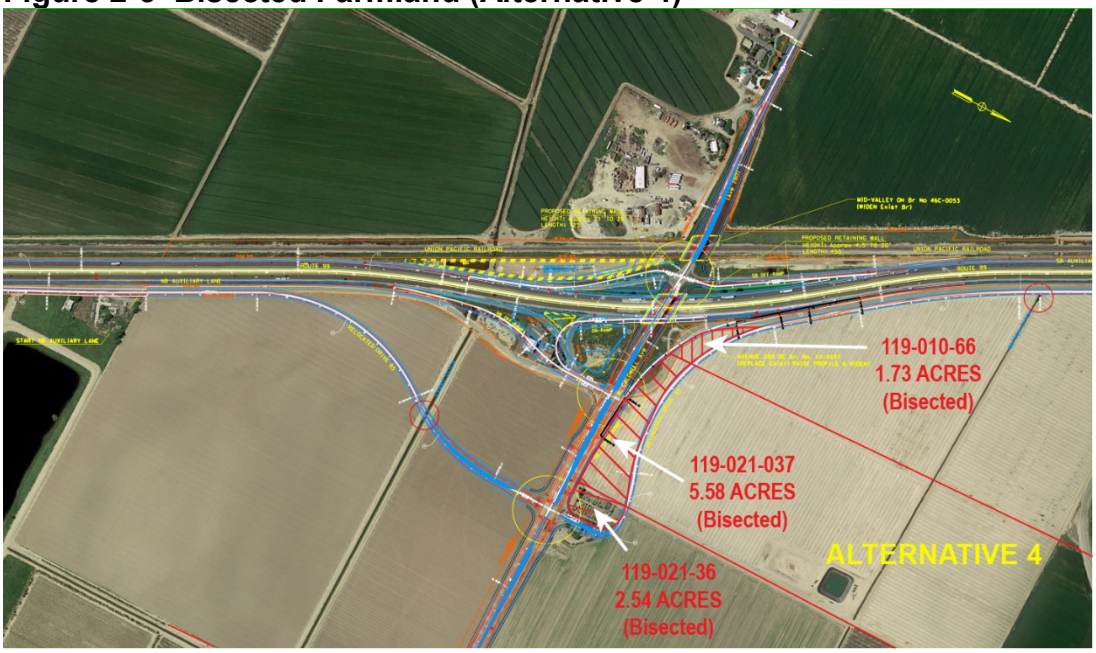


Figure 2-6 Bisected Farmland (Preferred Alternative 5)

Also, the project will not include uses incompatible with adjacent farmland under the build alternatives. The project would improve the existing interchange; that is compatible with and serves agricultural uses in the area.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization and/or mitigation measures will be required for farmland. Access to bisected lands will be provided during and after construction.

2.1.4 Growth

Regulatory Setting

The Council on Environmental Quality (CEQ) regulations, which established the steps necessary to comply with the National Environmental Policy Act (NEPA) of 1969, require evaluation of the potential environmental effects of all proposed federal activities and programs. This provision includes a requirement to examine indirect effects, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The CEQ regulations (40 Code of Federal Regulations 1508.8) refer to these consequences as indirect impacts. Indirect impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

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

Affected Environment

According to Caltrans' *Guidance for Preparers of Growth-Related, Indirect Impact Analyses,* four interrelated screening factors are considered when determining a project's influence on growth: accessibility, project type, project location, and growth pressure.

Accessibility

The State Route 99/Avenue 280 interchange was constructed in the 1960s. Currently, access to southbound State Route 99 is provided by an on-ramp from Avenue 280. Access to northbound State Route 99 is provided by a loop ramp from Drive 88. Access to the commercial gas station facility at the southeast quadrant of the interchange is also from Drive 88.

Project Type

Different types of projects present different potentials for influencing growth. According to the *Guidance for Preparers of Growth-Related, Indirect Impact Analyses*, projects that improve existing conditions on a facility but do not increase capacity or accessibility typically have a low likelihood of causing growth-related impacts. On the other hand, projects that do increase capacity and accessibility typically have a high likelihood of growth-related impacts, particularly projects that create new facilities and new access. The State Route 99/Avenue 280 interchange project would add capacity to an existing facility but would not create new access. This project presents a moderate potential for influencing growth and warrants consideration.

Project Location

The project area is at the southwest edge of the City of Visalia boundaries and within the city's Planning Area. Lands adjacent to the project area are mostly agricultural parcels with sparse rural residential properties and commercial/industrial facilities. The project area is considered rural.

Growth Pressure

According to the *Guidance for Preparers of Growth-Related, Indirect Impact Analyses*, growth pressure is the amount and intensity of development in a given area and can be an indicator of potential growth-related impacts. Whether or not a project has an influence on growth depends on several factors, including maintaining existing zoning restrictions and land use designations, implementing farmland protection policies, and adhering to adopted growth boundaries. The City of Visalia and the County of Tulare work cooperatively to plan for growth and development, as reflected by the establishment of the Urban Development Boundary and Urban Growth Boundary. Adherence to these boundaries aids in handling growth pressure by making adequate quantities of land available for development within the existing urban area. The project lies outside of the limits of the Urban Development Boundary and Urban Growth Boundary.

Environmental Consequences

To determine the potential for growth-related effects associated with the project, a first-cut screening analysis was performed in accordance with Caltrans' *Guidance for Preparers of Growth-Related, Indirect Impact Analyses.* A summary is below.

Accessibility

The project would reconstruct the existing interchange and would not provide access to new areas. Accessibility to existing and planned future areas of development would be improved according to the regional and local plans for the area. Implementation of Alternative 4 or preferred Alternative 5 would not result in an increase of unplanned growth.

Project Type

As described above, Caltrans' *Guidance for Preparers of Growth-Related, Indirect Impact Analyse*s describes this project as having a moderate potential for influencing growth. However, the project would not add new accessibility, and the capacity that is added would be needed to match development trends and projected growth forecasted by the local planning agencies.

Project Location

The project sits within the City of Visalia Planning Area and is influenced by the City of Visalia's planning efforts. However, the project falls outside of the Urban Development Boundary and Urban Growth Boundary but is subject to strong city and county planning and their growth management policies.

Conclusion

Proposed land uses and zoning in the project vicinity reveal continuation of the City of Visalia's trend of development following a concentric circle pattern outward from the geographic center of the city. Considering the project type, project location, and the fact that new access points will not be added by the proposed project, it would be speculative to determine the nature of future land uses near the project area. It is reasonably foreseeable that certain portions of agricultural land near the project site could be converted to urban uses. However, it is not reasonably foreseeable that the project would significantly influence this growth because of the strong city and county growth management mechanisms that ensure conversion of agricultural land and development in the project area are in accordance with the goals and policies of the City of Visalia and County of Tulare. Therefore, no further analysis is necessary.

No-Build Alternative

Under the No-Build Alternative, there would be no improvements to the interchange and there would be no impact on growth in the project area.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures for growth are proposed.

2.1.5 Relocations and Real Property Acquisition

Regulatory Setting

The Caltrans Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act), and Title 49 Code of Federal Regulations Part 24. The purpose of the Relocation Assistance Program is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. See Appendix B for a summary of the Relocation Assistance Program.

All relocation services and benefits are administered without regard to race, color, national origin, persons with disabilities, religion, age, or sex. See Appendix C for a copy of the Caltrans Title VI policy statement.

Affected Environment

Right-of-way would need to be acquired at each quadrant of the interchange. Faria's Ranch Market sits north of Avenue 280 and east of State Route 99. The In & Out Food Mart/Shell gas station property is south of Avenue 280 and east of State Route 99. South of Avenue 280 and east of State Route 99 are three residential properties fronting on Drive 88. West of State Route 99 and south of Avenue 280 is the Oliver Concrete Construction industrial property, the Esteves Dairy, and three residential properties. The remaining properties adjacent to the project area are agricultural lands and three irrigation ditches: Evans Ditch east of State Route 99 and south of Avenue 280; South Fork of the Persian Ditch; and Middle Fork of the Persian Ditch east of State Route 99 and north of Avenue 280. The Mill Creek culvert is just south of the Middle Fork of the Persian Ditch. A billboard sign at the middle Fork of the Persian Ditch would be removed as needed to improve Drive 85.

Environmental Consequences

For purposes of this analysis, property acquisitions have been identified wherever the proposed right-of-way, as shown in Table 2.7 and Table 2.8, encompasses all or a portion of an adjacent property. Alternative 4 and preferred Alternative 5 would require the acquisition of industrial, residential, commercial, and agricultural land. The three irrigation ditches, a culvert, and a railroad line within the project limits will require temporary construction easements to extend the culverts/headwalls as needed to realign the Drive 85/Drive 88 frontage roads and to construct the Mid-valley bridge over the Union Pacific Railroad tracks.

Alternative 4

Alternative 4 would acquire 14.935 acres of right-of-way from 21 parcels in addition to four temporary construction easements as shown in Table 2.7.

Table 2.7 Alternative 4 (Proposed Right-of-Way Acquisition)

APN	Total Lot Area (acre)	Affected Area (acre)	Land Use
119-021-034	33.89	0.152	Agricultural
119-021-036	41.16	1.689	Commercial
119-021-006	72.35	2.440	Agricultural
119-010-007	33.93	1.177	Agricultural
119-010-052	79.65	0.443	Agricultural
119-110-015	45.34	1.847	Agricultural
119-010-016	40.11	1.169	Agricultural
119-110-017	40.37	0.839	Agricultural
119-120-002	3.23	0.225	Residential
119-120-010	31.32	0.116	Agricultural
119-120-005	15.31	0.083	Agricultural
119-120-003	2.14	0.030	Commercial
119-120-004	1.81	0.023	Residential
119-120-011	42.59	0.114	Agricultural
119-120-012	9.62	0.106	Agricultural
119-110-009	0.85	0.850	Commercial
119-110-010	1.15	1.150	Commercial
119-010-008	13.25	0.690	Industrial
119-010-021	429.29	1.210	Miscellaneous
119-010-048	1.00	0.175	Residential
119-010-063	49.61	0.320	Agricultural
119-010-067	3.34	0.060	Temporary Construction Easement Middle Fork Persian Ditch
119-010-067	3.34	0.003	Temporary Construction Easement South Fork Persian Ditch
119-010-052	79.65	0.060	Temporary Construction Easement Mill Creek culvert south of the Middle Fork Persian Ditch
119-212-036	10.86	0.084	Temporary Construction Easement Evans Ditch
Totals	1,002.17	14.935	

Source: Caltrans Right-of-Way Data Sheet 2017

In addition to acquiring right-of-way from agricultural land, Alternative 4 would also acquire right-of-way from three residential and three commercial properties. Four temporary construction easements would also be required. One billboard would be removed. The acquisitions and easements are detailed below:

- Faria's Ranch Market (119-021-036)—Full acquisition of this development that is east of State Route 99 and north of Avenue 280 would be required.
- In & Out Food Mart/Shell gas station (119-110-009/119-110-010)—Full acquisition of this development between Drive 88 and the State Route 99 northbound off-ramp to Avenue 280 would be required.
- Private Residence (119-120-002)—This residence is at 27598 Highway 99. The proposed improvement of the interchange would require realignment of Drive 88 at this location to transition to Avenue 280. To accommodate this realignment, it would be necessary to acquire 0.090 acre of the property along Drive 88.
- Dodson Brothers Roofing (119-120-003)—This industrial property is at 27448 Highway 99. Proposed improvement of the interchange would require realignment of Drive 88 at this location to transition to Avenue 280. To accommodate this realignment, it would be necessary to acquire 0.030 acre of the property along Drive 88.
- Residential Property (119-120-004)—This residence is at 27446 Highway 99. The proposed improvement of the interchange would require realignment of Drive 88 at this location to transition to Avenue 280. To accommodate this realignment, it would be necessary to acquire 0.023 acre of the property along Drive 88.
- Oliver Concrete Construction (119-010-008)—This industrial property is at 8347 Avenue 280. The proposed improvement of the interchange would require widening Avenue 280 at this location to transition to the Mid-Valley Overhead Bridge. To accommodate this widening, it would be necessary to acquire 0.690 acre along Avenue 280.
- Private Residence (119-010-048)—This residence is at 7908 Avenue 280. The proposed improvement of the interchange would require widening Avenue 280 at this location to transition to the Mid-Valley Overhead Bridge. To accommodate this widening, it would be necessary to acquire 0.175 acre along Avenue 280.
- Evans Ditch (119-212-036)—This irrigation ditch intersects Drive 88 east of State Route 99 and south of Avenue 280. The proposed improvement of the interchange would require realignment of Drive 88 to transition to Avenue 280. To accommodate this realignment, it would be necessary to acquire a 0.084-acre temporary construction easement.
- Middle Fork of the Persian Ditch (119-010-067)—This irrigation ditch intersects Drive 85 east of State Route 99 and north of Avenue 280. The proposed improvement of the interchange would require realignment of Drive 85 to transition from Avenue 280. To accommodate this realignment, it would be

necessary to acquire a 0.060-acre temporary construction easement. One billboard would also be removed.

- South Fork of the Persian Ditch (119-010-067)—This irrigation ditch intersects Drive 85 east of State Route 99 and north of Avenue 280. The proposed improvement of the interchange would require realignment of Drive 85 to transition from Avenue 280. To accommodate this realignment, it would be necessary to acquire a 0.003-acre temporary construction easement.
- Mill Creek Culvert south of the Middle Fork of the Persian Ditch (119-010-052)—This culvert and headwall are just south of the Middle Fork Persian Ditch. The proposed improvement of the interchange would require realignment of Drive 85 to transition from Avenue 280. To accommodate this realignment, it would be necessary to acquire a 0.060-acre temporary construction easement.

Alternative 5

Alternative 5 will acquire 9.174 acres of right-of-way from 18 parcels in addition to six temporary construction easements, as shown in Table 2.8.

Table 2.8 Preferred Alternative 5 (Proposed Right-of-Way Acquisition)

APN	Total Lot Area (acre)	Affected Area (acre)	Land Use
119-021-036	41.16	1.180	Commercial
119-010-066	72.35	1.395	Agricultural
119-021-037	33.93	1.894	Agricultural
119-010-052	79.65	0.545	Agricultural
119-120-002	3.23	0.280	Residential
119-120-010	31.32	0.116	Agricultural
119-120-005	15.31	0.083	Agricultural
119-120-003	2.14	0.030	Commercial
119-120-004	1.81	0.023	Residential
119-120-011	42.59	0.114	Agricultural
119-120-012	9.62	0.061	Agricultural
119-110-010	1.15	0.333	Commercial
119-010-008	13.25	1.468	Industrial
119-010-021	429.29	0.942	Miscellaneous
119-010-048	1.00	0.096	Residential
119-010-049	1.00	0.092	Residential
119-010-062	78.97	0.129	Agricultural
119-010-063	49.61	0.393	Agricultural
119-010-067	3.34	0.013	Temporary Construction Easement Middle Fork Persian Ditch
119-010-067	3.34	0.012	Temporary Construction Easement South Fork Persian Ditch
119-010-052	79.65	0.060	Temporary Construction Easement Mill Creek Culvert
119-212-036	13.65	0.018	Temporary Construction Easement Evans Ditch (At Northbound off-ramp)
119-212-036	13.65	0.090	Temporary Construction Easement Evans Ditch (At Sequoia Gateway Dr.)
N/A	N/A	0.500	Temporary Construction Easement (UPRR at Avenue 280)
Totals	1021.01	9.867	

Source: Right-of-Way Data Sheets 2019

In addition to acquiring right-of-way from agricultural land, preferred Alternative 5 would also acquire right-of-way from four residential and three commercial properties. Six temporary construction easements will also be required. The acquisitions and easements are detailed below:

- In & Out Food Mart/Shell gas station (119-110-009)—This commercial property is between Drive 88 and the State Route 99 northbound off-ramp to Avenue 280. The proposed improvement of the interchange would require realignment of the State Route 99 northbound off-ramp to Avenue 280. The project design was modified to avoid the need to acquire any right-of-way from this parcel.
- In & Out Food Mart/Shell gas station (119-110-010)—This commercial property is between Drive 88 and the State Route 99 northbound off-ramp to Avenue 280. The proposed improvement of the interchange would require realignment of the State Route 99 northbound off-ramp to Avenue 280. To accommodate this realignment, it will be necessary to acquire 0.333 acre of the property along the State Route 99 northbound off-ramp.
- Faria's Ranch Market (119-021-036)—This commercial property is on the north side of Avenue 280, east of State Route 99. The proposed improvement of the interchange would require the realignment of the Drive 88 frontage road. To accommodate this realignment, it will be necessary to acquire 1.180 acres of right-of-way from this property.
- Private Residence (119-120-002)—This residence is at 27598 Highway 99. Proposed improvement of the interchange would require realignment of Drive 88 at this location to transition to Avenue 280. To accommodate this realignment, it will be necessary to acquire 0.280 acre of the property along Drive 88.
- Dodson Brothers Roofing (119-120-003)—This industrial property is at 27448 Highway 99. The proposed improvement of the interchange would require realignment of Drive 88 at this location to transition to Avenue 280. To accommodate this realignment, it will be necessary to acquire 0.030 acre of the property along Drive 88.
- Residential Property (119-120-004)—This residence is at 27446 Highway 99. The proposed improvement of the interchange would require realignment of Drive 88 at this location to transition to Avenue 280. To accommodate this realignment, it will be necessary to acquire 0.023 acre of the property along Drive 88.
- Oliver Concrete Construction (119-010-008)—This industrial property is at 8347 Avenue 280. The proposed improvement of the interchange would require widening Avenue 280 at this location to transition to the Mid-Valley Overhead Bridge. To accommodate this widening, it will be necessary to acquire 1.468 acre along Avenue 280.
- Private Residence (119-010-048)—This residence is at 7908 Avenue 280. The proposed improvement of the interchange would require widening Avenue 280 at this location to transition to the Mid-Valley Overhead Bridge. To accommodate this widening, it will be necessary to acquire 0.096 acre along the avenue.

- Private Residence (119-010-049)—This residence is at 8219 Avenue 280. The proposed improvement of the interchange would require widening Avenue 280 at this location to transition to the Mid-Valley Overhead Bridge. To accommodate this widening, it will be necessary to acquire 0.092 acre along the avenue.
- Evans Ditch (119-212-036)—This irrigation ditch intersects Drive 88 east of State Route 99 and south of Avenue 280. The proposed improvement of the interchange will require realignment of Drive 88 to transition to Avenue 280 and widening the State Route 99 off ramp. To accommodate the Drive 85 realignment, it will be necessary to acquire a 0.018-acre temporary construction easement at the planned Sequoia Gateway Drive and a 0.090-acre temporary construction easement at the northbound State Route 99 off-ramp.
- Middle Fork Persian Ditch (119-010-067)—This irrigation ditch intersects Drive 85 east of State Route 99 and north of Avenue 280. The proposed improvement of the interchange would require realignment of Drive 85 to transition from Avenue 280. To accommodate this realignment, it will be necessary to acquire a 0.013-acre temporary construction easement. One billboard would be removed.
- South Fork Persian Ditch (119-010-067)—This irrigation ditch intersects Drive 85 east of State Route 99 and north of Avenue 280. The proposed improvement of the interchange would require realignment of Drive 85 to transition from Avenue 280. To accommodate this realignment, it will be necessary to acquire a 0.012-acre temporary construction easement.
- Mill Creek Culvert south of the Middle Fork Persian Ditch (119-010-052)—This box culvert and headwall are located just south of the Middle Fork Persian Ditch. The proposed improvement of the interchange would require realignment of Drive 85 to transition from Avenue 280. To accommodate this realignment, it will be necessary to acquire a 0.060-acre temporary construction easement.
- Union Pacific Railroad (No APN)—A 0.500-acre temporary construction easement will be required from the Union Pacific Railroad for the construction of the Mid-Valley overcrossing bridge at Avenue 280.

Alternative 1 (No-Build)

Under the No-Build Alternative, no acquisition of property or need for long-term or temporary construction easements would occur.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans would acquire needed property in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. Acquisitions for construction easements are temporary, and the land would be returned to the adjacent property owner after project completion.

- The billboard at the Middle Fork of the Persian Ditch will be removed. The City of Visalia would be compensated for the in-place value of the sign.

2.1.6 Utilities and Emergency Services

Affected Environment

Various utilities—AT&T overhead telephone lines and Southern California Edison (SCE) overhead electric lines— run throughout the project area and would need to be relocated or modified to construct the project. The utilities run along Caldwell Avenue and along the Drive 85 and Drive 88 frontage roads.

The project would also affect Evans Ditch, the Middle and South Forks of the Persian Ditch, and the Mill Creek culvert. These utilities would need to be modified for the project to realign the Drive 85 and Drive 88 frontage roads.

Environmental Consequences

Utilities

Overhead power and communications utilities within the project area would have to be relocated. The affected utilities would vary depending on the alternative.

Alternative 4 would affect the following utilities:

- Existing AT&T overhead telephone line, below the existing 66 kv overhead SCE electric line, along the north side of Caldwell Avenue. There are 12 poles approximately 25 feet high.
- Existing AT&T overhead telephone line, below the existing 12 kv overhead SCE electric line, along the Drive 85 frontage road. There are 4 poles approximately 25 feet high.
- Existing SCE 12 kv overhead electric line along the Drive 88 frontage road. There are 3 poles approximately 25 feet high.
- Existing AT&T overhead telephone line along the south side of Caldwell Avenue. There are 4 poles approximately 25 feet high.

Preferred Alternative 5 would affect the following utilities:

- Existing AT&T overhead telephone line, below the existing 66 kv overhead SCE electric line, along the north side of Caldwell Avenue. There are 8 poles approximately 25 feet high.
- Existing AT&T overhead telephone line, below the existing 12 kv overhead SCE electric line, along the Drive 85 frontage road. There are 4 poles approximately 25 feet high.
- Existing SCE 12 kv overhead electric line along the Drive 88 frontage road. There is 1 pole approximately 25 feet high.
- Existing AT&T overhead telephone line along the south side of Caldwell Avenue. There are 4 poles approximately 25 feet high.
- Existing SCE 12 kv overhead electric line along the south side of Caldwell Avenue. There is 1 pole approximately 25 feet high.

Three irrigation ditches and one standalone drainage culvert would also be modified as needed for the realignment of the Drive 85 and Drive 88 frontage roads. Evans Ditch, in the southeast quadrant of the interchange, would be modified for the project. Alternative 4 would construct a new crossing over Evans Ditch as needed to relocate Drive 85. A reinforced box culvert approximately 84 feet long with an approximate size of 5 feet by 2 feet would be constructed. Preferred Alternative 5 will extend Evans Ditch under the proposed northbound off-ramp with a reinforced box culvert approximately 42 feet long. Alternative 5 would also extend Evans Ditch that runs under existing Drive 85 to include proposed Drive 85 with a reinforced box culvert approximately 63 additional feet with a size of approximately 5 feet by 2 feet.

The South Fork and Middle Fork of the Persian Ditch are in the northeast quadrant of the interchange. Also, the Mill Creek culvert is just south of the Middle Fork. At both forks and the Mill Creek culvert, Alternative 4 and preferred Alternative 5 would extend the existing concrete culverts approximately 22 feet. The headwalls would also be relocated as needed to extend the culverts. Under Alternative 4 and preferred Alternative 5, modification of the Middle Fork would require removal of oak tree(s) and one billboard sign.

Emergency Services

Emergency services provided by the Tulare County Fire Department, Tulare County Sheriff's Department, and the California Highway Patrol would not be impacted by the project. The nearest Tulare County Fire Station is the Goshen Fire Station (Fire Station #7) at 30901 Road 67 in Goshen, about 4 miles north of the project site just east of State Route 99. Law enforcement service is provided in the area by the Tulare County Sheriff's Department and the California Highway Patrol.

The project would benefit emergency services by improving traffic operations and traffic safety at the interchange. Any road closures at the interchange will be temporary during construction. A detour will be provided if needed.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures would prevent temporary impacts to utilities and emergency services:

Utilities

- Utilities will be relocated to accommodate construction of the project. All utility relocation work (SCE and AT&T) will be done by the utility companies. Utility users will be informed of the date and time in advance of any service disruptions.
- All construction work on the irrigation ditches and culverts will be coordinated with the irrigation companies. All work will be performed when the ditches and culverts are dry.

Emergency Services

- A traffic management plan will be developed to minimize delays and maximize safety during construction. The traffic management plan may include, but is not limited to, the following:

    1. Release of information through brochures and mailers, press releases, and notices from the Caltrans public information office.
    2. Use of fixed and portable changeable message signs.
    3. Incident management through the Construction Zone Enhancement Enforcement Program and the transportation management plan.

2.1.7 Traffic and Transportation/Pedestrian and Bicycle Facilities

Regulatory Setting

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

In July 1999, the U.S. Department of Transportation (USDOT) issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the U.S. Department of Transportation regulations (49 Code of Federal Regulations 27) implementing Section 504 of the Rehabilitation Act (29 U.S. Code 794). The Federal Highway Administration has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the Americans with Disabilities Act requirements to federal-aid projects, including Transportation Enhancement Activities.

Affected Environment

A Traffic Operational Analysis study was completed for this project on October 3, 2017, and a Supplemental Traffic Operational Analysis was prepared on August 3, 2018. An Intersection Control Evaluation study was prepared on June 22, 2018.

Traffic and Transportation

State Route 99 is an important corridor through the San Joaquin and Sacramento valleys, providing connections to several metropolitan and urban areas. State Route 99 is part of the National Highway System and is functionally classified as a principal arterial and adopted freeway throughout its length. This route is also part of the National Network for larger trucks allowed by the Surface Transportation

Assistance Act of 1982 (STAA). Truck volumes account for approximately 18 percent of the average daily traffic count within the project area.

State Route 99 was constructed during the 1950s and 1960s as part of the Interregional Road System. The State Route 99/Caldwell Avenue interchange was constructed in 1959.

Within the proposed project limits, State Route 99 is a north-south six-lane divided rural freeway. Widening the freeway from four to six lanes in the vicinity of the interchange (post miles 35.2 to 37.3) was completed in August 2017. This section of freeway, in flat terrain, has typically 10-foot outside shoulders and 10-foot inside shoulders.

Caldwell Avenue (Avenue 280) is an east-west two-lane road serving the cities of Visalia, Farmersville and Exeter. Tulare County is currently widening Avenue 280 to four lanes from just east of the Caldwell interchange eastward to just past Akers Road (Road 100).

The existing configuration of the Caldwell Avenue (Avenue 280) interchange is a compact diamond on the west side of the freeway and a single quadrant cloverleaf on the east side. On the northbound side, two hook ramps are connected to Drive 88. Drive 88 also serves as a frontage road connecting the ramps to Avenue 280. Another frontage road, Drive 85, is on the north side of Caldwell Avenue opposite Drive 88 on the south side, to form a four-legged intersection.

The Union Pacific Railroad tracks run parallel to the state right-of-way just west of the freeway.

The Traffic Operational Analysis study prepared for this project assumed that the construction year of the build alternatives would be 2023 and that the design year would be 2043. The design year is the year for which a roadway is designed, normally 20 years after planned completion, taking into consideration projected volumes of traffic. The forecast traffic volumes for the planned construction year (2023) and the design year (2043) came from the Tulare County Association of Governments travel demand forecast model. The baseline year for study of the existing traffic conditions is 2015.

The operations of roadways are described with the term “level of service” (LOS). LOS is a quantitative and qualitative description of traffic flow based on such factors as speed, travel time, delay, and freedom to maneuver. Six levels are defined, ranging from LOS A (the best operating conditions) to LOS F (the worst operating conditions). LOS E represents “at-capacity” operations when volumes exceed capacity; stop-and-go conditions result and operations are designated as LOS F.

Average traffic volume per year on a segment of roadway can be measured by dividing the total traffic for one year by 365 days to obtain the “average annual daily traffic” (AADT) count. On State Route 99 within the project limits in 2015, the AADT was 55,000. Traffic projections indicate that volumes will increase to 66,500

in 2023. The freeway mainline will operate at LOS C based on an evening (PM) peak hour volume of 3,290 vehicles per hour for the six-lane facility in 2023.

Existing and future predicted AADT at the on- and off-ramps are shown in Table 2.9.

Table 2.9 Existing and Future Average Annual Daily Traffic on Ramps (No-Build Alternative)

Ramp	2015 (existing)	2023	2043
Northbound 99 Off-ramp to Caldwell Avenue	2,200	6,000	8,300
Northbound 99 On-ramp from Caldwell Avenue	2,400	7,000	8,800
Southbound 99 Off-ramp to Caldwell Avenue	2,100	7,000	8,800
Southbound 99 On-ramp from Caldwell Avenue	2,200	6,000	8,300

Source: Caltrans Traffic Operations Division

Present truck volumes within the project limits constitute approximately 18 percent of the AADT count.

With the existing interchange configuration, traffic conditions at the Caldwell Avenue intersections at the northbound and southbound ramps and at Drive 85 would all deteriorate to LOS F prior to 2043 as shown in Table 2.10 below.

Table 2.10 Existing and Future Level of Service at Intersections (No-Build Alternative)

Intersection	Peak Hour	2015 (existing)	2023	2043
Caldwell Avenue/Northbound Ramps	AM	C	F	F
	PM	D	F	F
Caldwell Avenue/Southbound Ramps	AM	D	F	F
	PM	D	F	F
Northbound Ramps/Drive 85	AM	B	C	F
	PM	B	E	F

Source: Traffic Operational Analysis, October 2017

The merge and diverge traffic analysis of the ramps indicates that all ramps will deteriorate to LOS F prior to 2043 as shown in Table 2.11.

Table 2.11 Existing and Future Level of Service at Ramps (No-Build Alternative)

Location	Peak Hour	2015 (existing)	2023	2043
Northbound 99 Off-ramp	AM	C	D	F
	PM	D	E	F
Northbound 99 On-ramp	AM	C	C	F
	PM	C	E	F
Southbound 99 Off-ramp	AM	C	D	F
	PM	C	D	F
Southbound 99 On-ramp	AM	C	C	F
	PM	C	D	F

Source: Traffic Operational Analysis, October 2017

Pedestrian Facilities

The Tulare County Avenue 280 Widening Project, Segment 1, under construction now, will construct sidewalks from Aspen Street to about 2,250 feet east of the Drive 85/Drive 88 intersection. Currently there are no sidewalks along Avenue 280 within the interchange project limits. The interchange project would extend the sidewalks from the west end of Tulare County Avenue 280 Widening Project to the west end of the interchange project limits.

Bicycle Facilities

The *2010 Tulare County Regional Bicycle Transportation Plan* proposes a bike route on Caldwell Avenue at the interchange. No bicycle lanes exist on Avenue 280 within or near the proposed project area. The Tulare County Avenue 280 Widening Project, Segment 1 is installing bicycle lanes on Avenue 280 from Aspen Street to about 2,250 feet east of the Drive 85/Drive 88 intersection. The interchange project would extend the bicycle lanes from the west end of Tulare County Avenue 280 Widening Project to the west end of the interchange project limits. Bike lanes would be constructed on the north and south sides of Avenue 280.

Environmental Consequences

Traffic and Transportation

Table 2.12 shows the existing and future traffic conditions at the three intersections for both build alternatives for 2015 (existing conditions), 2023 (the year construction completed) and 2043 (future conditions). The Caldwell Avenue/Southbound Ramps intersection, Caldwell Avenue/Northbound Ramps intersection, and Northbound Ramps/Drive 85 intersection would all operate at LOS D or better in 2043. Caltrans District 6 Transportation Planning has established level of service D as the minimum acceptable level of service for this section of State Route 99. The No-Build Alternative results in LOS F in 2043 (future conditions) at all intersection locations.

Table 2.12 Existing and Future Level of Service at Intersections

Alternative	Intersection	Peak Hour	2015 (existing)	2023	2043
No-Build Alternative	Caldwell Avenue/Southbound Ramps	AM	D	F	F
		PM	D	F	F
	Caldwell Avenue/Northbound Ramps	AM	C	F	F
		PM	D	F	F
	Northbound Ramps/Drive 85 and 88	AM	B	C	F
		PM	B	E	F
Alternative 4	Caldwell Avenue/Southbound Ramps (signal in 2023 and 2043)	AM	D	C	C
		PM	D	C	D
	Caldwell Avenue/Northbound Ramps (signal in 2023 and 2043)	AM	C	B	B
		PM	D	B	C
	Northbound Ramps/Drive 85 and 88 (signal in 2023 and 2043)	AM	B	D	D
		PM	B	D	D
Alternative 5 (preferred)	Caldwell Avenue/Southbound Ramps (roundabout in 2023 and 2043)	AM	D	B	B
		PM	D	B	C
	Caldwell Avenue/Northbound Ramps (roundabout in 2023 and 2043)	AM	C	A	A
		PM	D	A	B
	Northbound Ramps/Drive 85 and 88 (signal in 2023 and 2043)	AM	B	D	D
		PM	B	D	D

Source: Traffic Operational Analysis, October 2017 and Supplemental Traffic Operational Analysis, August 3, 2018

Table 2.13 shows the existing and future traffic conditions at the ramps for both build alternatives for 2015 (existing conditions), 2023 (the year construction completed) and 2043 (future conditions). All ramps would operate at LOS D or better in 2043. Caltrans District 6 Transportation Planning has established LOS D as the minimum acceptable level of service for this section of State Route 99. The No-Build Alternative results in LOS F in 2043 (future conditions) at all ramp locations.

Table 2.13 Existing and Future Level of Service at Ramps

Alternative	Location	Peak Hour	2015 (existing)	2023	2043
No-Build Alternative	Northbound 99 Off-ramp	AM	C	D	F
		PM	D	E	F
	Northbound 99 On-ramp	AM	C	C	F
		PM	C	D	F
	Southbound 99 Off-ramp	AM	C	D	F
		PM	C	D	F
	Southbound 99 On-ramp	AM	C	C	F
		PM	C	D	F
Alternative 4	Northbound 99 Off-ramp	AM	C	A	A
		PM	D	A	B
	Northbound 99 On-ramp (loop ramp)	AM	C	B	B
		PM	C	B	B
	Northbound 99 On-ramp (slip ramp)	AM	C	B	C
		PM	C	B	C
	Southbound 99 Off-ramp	AM	C	B	C
		PM	C	C	D
	Southbound 99 On-ramp	AM	C	B	B
		PM	C	B	B
Alternative 5 (preferred)	Northbound 99 Off-ramp	AM	C	A	B
		PM	D	A	B
	Northbound 99 On-ramp	AM	C	B	D
		PM	C	C	D
	Southbound 99 Off-ramp	AM	C	C	D
		PM	C	C	D
	Southbound 99 On-ramp	AM	C	B	D
		PM	C	C	D

Source: Traffic Operational Analysis, October 2017 and Supplemental Traffic Operational Analysis, August 3, 2018

Construction

The project would affect traffic during construction. Each of the build alternatives would have a slightly different impact on traffic.

Alternative 4

This alternative has six lanes and three signalized intersections with dual left-turn lanes along (Caldwell Avenue) Avenue 280. The work on the Caldwell Avenue (Avenue 280) corridor is anticipated to be staged during construction. Local traffic would still be able to cross State Route 99 on Avenue 280. Due to the profile raising on both bridge approaches, proposed shoring with the use of sheet piles is anticipated to be used in the early stages of construction to provide continued use of Avenue 280. During ramp reconstruction, the ramps would be closed intermittently

and the project would provide a one-lane opening as the need arose. Alternate ramp closures, if needed, could be done using off-site detours. The Tagus interchange (OC 46-194), 2.5 miles south of the Caldwell Avenue interchange, would be an alternate route. The State Routes 99/198 interchange, about 2.3 miles north of the Caldwell Avenue interchange, would be another possible alternate route. Frontage road realignment/reconstruction can be done using on-site detours.

Preferred Alternative 5

This alternative has four lanes in the vicinity of the two ramp intersection roundabouts, including both bridge structures. Four lanes with dual eastbound left-turn lanes and a single westbound left-turn lane will be constructed at the signalized intersection at Avenue 280/Drive 85/Drive 88. Work on the Avenue 280 corridor is anticipated to be staged during construction. Traffic will be able to cross over State Route 99 on Avenue 280 during the early stages of construction. Raising the profile on both bridge approaches would require shoring with the use of sheet piles in the early stages of construction. However, due to a narrower lane configuration between roundabouts, during the middle stages of construction, a partial interchange closure may be required to lower a cast-in-place pre-stressed box girder structure into place.

As with Alternative 4, during ramp reconstruction, the ramps would be closed intermittently and the project would provide a one-lane opening as the need arose. Full closure of State Route 99 or the ramps, if needed, could be done using off-site detours. The Tagus interchange (OC 46-194), 2.5 miles north of the Caldwell Avenue interchange, would be an alternate route. The State Routes 99/198 interchange, about 2.3 miles south of the Caldwell Avenue interchange, would be another possible alternate route. Frontage road realignment/reconstruction can be done by providing on-site detours.

Pedestrian Facilities

Currently, no sidewalks are in the project area. Both build alternatives would provide sidewalks throughout the limits of the project.

Bicycle Facilities

Currently, no bicycle facilities occur in the project area. Based on the proposed improvements within the vicinity of the interchange, both build alternatives would construct bicycle lanes on Avenue 280 within the project limits.

Avoidance, Minimization, and/or Mitigation Measures

A traffic management plan will be developed to minimize delays and maximize safety for motorists. The traffic management plan may include, but is not limited to, the following:

- Release of information through brochures and mailers, press releases, and advertisements managed by the public information office.
- Use of fixed and portable changeable message signs.

- Incident management through the Construction Zone Enhancement Enforcement Program and the transportation management center.
- Use of one-way traffic control.
- Use of detour(s) during construction.

2.1.8 Visual/Aesthetics

Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and aesthetically (emphasis added) and culturally pleasing surroundings (42 U.S. Code 4331[b][2]). To further emphasize this point, the Federal Highway Administration, in its implementation of NEPA (23 U.S. Code 109[h]), directs that final decisions on projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

The California Environmental Quality Act (CEQA) establishes that it is the policy of the state to take all action necessary to provide the people of the state "with … enjoyment of aesthetic, natural, scenic and historic environmental qualities" (California Public Resources Code Section 21001[b]).

Affected Environment

A Visual Impact Assessment (Minor Level) was completed for this project in November 2018. The visual impact assessment was prepared in accordance with the guidelines in the Federal Highway Administration's *Visual Impact Assessment for Highway Projects* (FHWA 2015).

Visual Setting

The project is on State Route 99 in the San Joaquin Valley area of California's Central Valley. State Route 99 is not listed as a State Scenic Highway. Topography along the project corridor is mostly flat, lending itself to expansive views of the Sierra Nevada Mountain range to the east and various coastal ranges to the west. The nearest visible mountains are about 20 miles away, and the farthest visible mountains are about 40 miles away. Varying atmospheric conditions can reduce or enhance the views of the mountains.

Land uses in the project corridor are mostly agricultural with limited rural residential, industrial and commercial development. The local visual character of the project corridor and its vicinity are wide open agricultural lands. The project site serves as an interchange along State Route 99 for highway users in the City of Visalia and surrounding rural areas.

Landcover in the project corridor is mostly agricultural crops, with a few buildings and mature eucalyptus (*Eucalyptus lobulus*) trees. One notable element is a line of mature oak trees along the embankment of the Middle Fork of the Persian Ditch near

the north end of the project corridor. The oak trees are visible from State Route 99 as they extend east toward the City of Visalia Municipal Airport. Overall, the limited diversity of landcover does little to enhance the views.

Existing Visual Resources

Visual resources of the project setting are defined and identified by assessing visual character and visual quality of the visual resources that compose the project corridor before and after construction of the proposed project. These resources are detailed in the following subsections.

The existing landscape setting in the larger vicinity of the project has the following formal characteristics:

- Topography of the surrounding landforms is flat with strong horizontal continuity, which forms a distinct landscape. Vertical landforms and lines are limited to sparse mature trees and a few buildings.
- Colors are dominated by agricultural fields, which are typically green throughout the spring and summer, and brown to dark brown through the fall and winter when the fields are fallow.
- The predominant texture is that of low-lying crops with variances in the heights of the tree species nearby.
- The agricultural fields are expansive, and their scale is large compared to the project corridor.

Visual quality is evaluated by identifying the vividness, intactness, and unity present in the study area, defined as follows:

- Vividness is the extent to which the landscape is memorable and associated with distinctive, contrasting, and diverse visual elements.
- Intactness is the integrity of visual features in the landscape and the extent to which the existing landscape is free from non-typical visual intrusions.
- Unity is the extent to which all visual elements combine to form a coherent, harmonious visual pattern.

The existing landscape in the project corridor lacks highway plantings, including trees and shrubs. The lack of vegetation results in a mainly brown, dry interchange that visually contrasts with the green agricultural fields. The existing median barrier on State Route 99 is not high enough to block the views of oncoming traffic. This dominant view of the six-lane highway is more expected in an urban area. This composition results in a visually incompatible, lackluster urban highway in a rural, agricultural environment. Overall, the visual quality in the project corridor lacks notable visible quality that is coherent, memorable, or intact.

Viewer Groups

There are two major types of viewer groups for roadway projects: highway neighbors and highway users. Each viewer group has its own particular level of viewer exposure and viewer sensitivity. These differences account for the distinct and predictable visual concerns for each group, which help to predict the group's responses to visual changes.

The project corridor has very few highway neighbors with views to the road. Also, the views to the road are screened by earthen berms for the raised ramps that connect to the highway. The commercial facilities near the southeast quadrant of the interchange may be partially or entirely acquired for right-of-way as needed for the project. These parcels may go unused and end up dry and brown. However, since the current views to the highway are not memorable, the sensitivity of the viewers to these new views is not out of the ordinary.

Highway users are not expected to be highly sensitive to the identified visual resource changes resulting from the project. Interchange improvements would be an expected element by highway users, and the average response of this viewer group would be low.

Environmental Consequences

No-Build Alternative

Under the No-Build Alternative, the interchange would not be improved and the project site would remain unaltered. Therefore, there would not be a change to visual quality.

Alternative 4

Changes to visual character by the Alternative 4 would be: the addition of a new northbound slip ramp; Drive 88/Drive 85 frontage roads' realignment slightly east of their current locations; and, three signalized intersections that would be installed along Avenue 280 at the two modified on- and off-ramp intersections and Drive 85/Drive 88 frontage roads intersection. Removal of existing trees within the project footprint would also occur. This would further increase the urban visual feel in the area.

Alternative 5

Changes to visual character by preferred Alternative 5 would be very similar in scale to Alternative 4 except for the installation of two roundabouts as opposed to signalized intersections, at both highway ramp intersections. The Drive 85/Drive 88 frontage road intersection at Avenue 280 would receive a signalized intersection like Alternative 4. The signalized intersection under Alternative 5 would be slightly farther east than the location under Alternative 4. Trees would also be removed. The roundabouts constructed under this alternative give the effect of providing visual relief to the continuous line of asphalt pavement that is typical in a roadway. Roundabouts give the opportunity to introduce a new texture in the center of the roundabout that interrupts the continual flat line of the roadway.

Temporary Construction Impacts

Temporary construction impacts under both build alternatives would be similar. Project construction activities would use construction materials and equipment at the project where they are not normally part of the visual setting. In addition, nighttime construction activity would require the use of lighting equipment that would alter the character of the existing nighttime environment. Temporary visual impacts during construction would mostly affect highway neighbors and, to a lesser degree, would provide a temporary visual distraction for highway users.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans District 6 Landscape Architecture will develop a replanting plan for the interchange to replace trees removed for the project and to help visually blend the improved interchange with the surrounding landscape.

2.2 Physical Environment

2.2.1 Hydrology and Floodplain

Regulatory Setting

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

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

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

Affected Environment

A Location Hydraulics Study and Floodplain Evaluation Report Summary were completed for the project in May 2018. Most of the proposed project is within the 500-year floodplain. The terrain in the project area is generally flat, sloping slightly in a westerly-southwesterly direction.

For this evaluation, the Flood Insurance Rate Map (FIRM) was consulted, the FIRM hydraulic calculations were reviewed, and a field survey was performed. FIRM 06107C09171E, with an effective date of June 16, 2009, designates the project

location as being within the limits of three floodplain zones. The area west of State Route 99 is in Zone A (No Base Flood Elevations Determined). The area east of State Route 99 is in both Zone AE (Base Flood Elevations Determined) and Zone X (Areas of 0.2 percent [500-year] annual chance flood; areas of 1 percent annual chance flood average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1 percent annual chance flood). See the Flood Insurance Rate Map in Appendix E.

Zones A and AE are Areas of Special Flood Hazard in the project area. The Special Flood Hazard Area is the area subject to flooding by the 1 percent annual chance flood. The 1 percent annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1 percent chance of being equaled or exceeded in any given year.

Environmental Consequences

The project would not impact the existing surface water elevation because the proposed work would match the existing surface water elevations. The project does not constitute a significant floodplain encroachment as defined in Section 650.105q of Code of Federal Regulations 23 and would not significantly impact the 100-year floodplain.

Avoidance, Minimization, and/or Mitigation Measures

There are no avoidance, minimization and/or mitigation measures for hydrology or floodplain.

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 complies 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 permit to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge will comply with other provisions of the act.

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

This is most frequently required in tandem with a Section 404 permit request (see below).

- Section 402 establishes the National Pollutant Discharge Elimination System, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCBs) 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 material into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers.

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

The U.S. Army Corps of Engineers issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental 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 Regional or Nationwide Permit may be permitted under one of the U.S. Army Corps of Engineers' Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the U.S. Army Corps of Engineers' decision to approve is based on compliance with U.S. Environmental Protection Agency's (U.S. EPA) Section 404 (b)(1) Guidelines (40 Code of Federal Regulations Part 230), and whether the permit approval is in the public interest.

The Section 404(b)(1) Guidelines were developed by the U.S. EPA in conjunction with the U.S. Army Corps of Engineers, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative that would have less adverse effects. The guidelines state that the U.S. Army Corps of Engineers may not issue a permit if there is a least environmentally damaging practicable alternative (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 Code of Federal Regulations 320.4. A discussion of the least

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

environmentally damaging practicable alternative determination, if any, for the document is included in the Wetlands and Other Waters section.

State Requirements: Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the Clean Water Act and regulates discharges to waters of the state. Waters of the state include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Also, it prohibits discharges of "waste" as defined, and this definition is broader than the Clean Water Act definition of "pollutant." Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (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 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 Water Quality Control Boards designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect those uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use.

In addition, the State Water Resources Control Board identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with Clean Water Act Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-point source controls (National Pollutant Discharge Elimination System permits or Waste Discharge Requirements), the Clean Water Act requires the establishment of Total Maximum Daily Loads (TMDLs), which specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

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

National Pollutant Discharge Elimination System (NPDES) Program

Municipal Separate Storm Sewer Systems (MS4)

Section 402(p) of the Clean Water Act requires the issuance of National Pollutant Discharge Elimination System permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (MS4s). An MS4 is defined as "any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water." The State Water Resources Control Board has identified Caltrans as an owner/operator of an MS4 under federal regulations. The Caltrans MS4 permit covers all Caltrans 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 Caltrans MS4 Permit, Order No. 2012-0011-DWQ (adopted on September 19, 2012 and effective on July 1, 2013), as amended by Order No. 2014-0006-EXEC (effective January 17, 2014), Order No. 2014-0077-DWQ (effective May 20, 2014) and Order No. 2015-0036-EXEC (conformed and effective April 7, 2015) has three basic requirements:

1. Caltrans must comply with the requirements of the Construction General Permit (see below);
2. Caltrans must implement a year-round program in all parts of the state to effectively control storm water and non-storm water discharges; and
3. Caltrans 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, Caltrans 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 Caltrans for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The Statewide Storm Water Management Plan describes the minimum procedures and practices Caltrans uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of best management practices.

The proposed project will be programmed to follow the guidelines and procedures outlined in the latest Statewide Storm Water Management Plan to address storm water runoff.

Construction General Permit

The Construction General Permit, Order No. 2009-0009-DWQ (adopted on September 2, 2009 and effective on July 1, 2010), as amended by Order No. 2010-0014-DWQ (effective February 14, 2011) and Order No. 2012-0006-DWQ (effective on July 17, 2012) regulates storm water discharges from construction sites that result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the Regional Water Quality Control Board. Operators of regulated construction sites are required to develop Storm Water Pollution Prevention Plans (SWPPPs); implement sediment, erosion, and pollution prevention control measures; and obtain coverage under the Construction General Permit.

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

Section 401 Permitting

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

In some cases, the Regional Water Quality Control Board may have specific concerns with discharges associated with a project. As a result, the Regional Water Quality Control Board may issue a set of requirements known as Waste Discharge Requirements under the State Water Code (Porter-Cologne Act) that define

activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. Waste Discharge Requirements can be issued to address both permanent and temporary discharges of a project.

Affected Environment

A water compliance study was prepared for the project on June 4, 2018. The study used computerized mapping, Digital Highway Interactive Photography Program (DHIHP), and a computerized Water Quality Planning tool to determine any potential impacts to water quality. The project sits within the jurisdiction of Region 5 of the Regional Water Quality Control Board in the Hydrological sub unit 558.10.

Storm water drains off both sides of the existing freeway and infiltrates into the surrounding soils and drainage basins at the interchange. The surrounding area is mostly agricultural with limited commercial, industrial and residential development. Irrigation water flows in Evans Ditch and the South Fork and Middle Fork of the Persian Ditch, which flow into Mill Creek on the west side of State Route 99, north of Avenue 280 and the State Routes 99/198 separation. The Mill Creek culvert, just south of the Middle Fork of the Persian Ditch, also conveys storm water to the west side of State Route 99.

Environmental Consequences

Section 303 of the Clean Water Act requires states to identify surface waters that have been impaired. Surface waters that have been identified as impaired would be assigned a Total Maximum Daily Load for constituents of concern. Alternative 4 would construct a new crossing over Evans Ditch as needed to relocate Drive 85 in the southeast quadrant of the interchange. A reinforced box culvert approximately 84 feet long with an approximate size of 5 feet by 2 feet would be constructed. Preferred Alternative 5 would extend Evans Ditch under the proposed northbound off-ramp with a reinforced box culvert approximately 42 feet long. Preferred Alternative 5 would also extend Evans Ditch that runs under existing Drive 85 to include proposed Drive 85 with a reinforced box culvert approximately 63 additional feet with a size of approximately 5 feet by 2 feet.

The project would also modify the South and Middle Forks of the Persian Ditch in the northeast quadrant of the interchange. At the South Fork, the project would extend the existing 42-inch reinforced concrete pipe (RCP) approximately 22 feet. The headwall would also be relocated as needed to extend the pipe. At the Middle Fork, the project would extend the culvert approximately 26 feet including the headwall. Extending the culvert and headwall would require the removal of two oak trees, road signage and a billboard. The Mill Creek reinforced concrete pipe (RCP) culvert and headwall would also be extended approximately 26 feet as needed to realign Drive 85.

Each ditch conveys irrigation water, and none is listed as an impaired water body with pollutants of concern. No long-term water quality impairments are expected.

Additional storm water runoff, due to the increase of impervious surfaces, would be handled by expanding and/or constructing new basins at the interchange.

Avoidance, Minimization, and/or Mitigation Measures

Temporary Construction Measures

Standard temporary construction site and permanent design pollution prevention and permanent storm water treatment best management practices will be used during and after project construction to control potential discharges of pollutants to surface water. Best management practices will be designed to control general gross pollutants and sedimentation/siltation, depending on location.

Storm Water Best Management Practices

A National Pollutant Discharge Elimination System Storm Water Permit is required for the project along with any subsequent permit in effect at the time of construction. The contractor must comply with the requirements of the General National Pollutant Discharge Elimination System Permit for Construction Activities. The contractor will use best management practices as specified in the Caltrans Storm Water Management Plan.

Storm Water Pollution Prevention Plan

The contractor will be required to develop an acceptable Storm Water Pollution Prevention Plan. The plan will contain best management practices that have demonstrated effectiveness in reducing storm water pollution. The plan will address all construction-related activities, equipment, and materials with the potential to affect water quality. All construction site best management practices will follow the latest edition of the Storm Water Quality Handbooks and Construction Site Best Management Practices Manual to control and minimize the impacts of construction-related pollutants. The Storm Water Pollution Prevention Plan will include best management practices to control pollutants, sediment from erosion, storm water runoff, and other construction-related impacts. In addition, the Storm Water Pollution Prevention Plan will include the use of specific storm water effluent-monitoring requirements based on the project's risk level to ensure that the best management practices are effective in preventing the degradation of any water quality standards. A Notice of Termination will be submitted to the Regional Water Quality Control Board upon completion of construction and site stabilization. A project will be considered complete when the criteria for final stabilization in the Construction General Permit are met.

2.2.3 Paleontology

Regulatory Setting

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils. A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized projects. Overall, 23 U.S. Code 1.9(a) requires that the use of federal-aid funds must be in conformity with all federal and

state laws. For paleontology specifically, 23 U.S. Code 305 authorizes the appropriation and use of federal highway funds for paleontological salvage as necessary by the highway department of any state, in compliance with 16 U.S. Code 431-433 and state law. Under California law, paleontological resources are protected by the California Environmental Quality Act (CEQA).

Affected Environment

A Paleontological Identification Report was prepared for the project on April 11, 2016. The project sits within the Great Valley geomorphic province. The surface geology of the project is Quaternary - alluvium, undifferentiated (includes Modesto Formation). The 2000 California State University, Fresno, Department of Geology Paleontological Sensitivity Mapping Project database identifies the surface geology with respect to the closest post mile and state route, which in this case is State Route 198, post miles 0 to 21.6. The database identifies the surface geology as "low" sensitivity for paleontological resources. However, since the database was developed in 2000, numerous scientifically important fossils have been recovered from the Modesto Formation throughout the Central San Joaquin Valley, including discoveries on Caltrans projects in Fresno and Merced counties. Following these discoveries, the Modesto Formation is now classified as "high" sensitivity for paleontological resources.

Environmental Consequences

Fossil discovery in the Modesto Formation has generally occurred at depths below 5 feet from original ground surface. Depending on the scope of earth work, paleontological resources could be impacted if the depth and extent of excavation exceed 5 feet. The depth of excavation, however, is not anticipated to exceed 5 feet.

Avoidance, Minimization, and/or Mitigation Measures

As of now, it is not anticipated that excavation will reach a depth of 5 feet, but if the depth and extent of excavation exceed 5 feet, a Paleontological Evaluation Report (PER) will need to be prepared. Depending on the findings from the PER, a preliminary Paleontological Mitigation Plan (pPMP) and cost estimate may also need to be prepared.

2.2.4 Hazardous Waste and Materials

Regulatory Setting

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

The main federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 and the Resource Conservation and Recovery Act of 1976. The purpose of CERCLA, often referred to as "Superfund," is to identify and clean up abandoned contaminated

sites so that public health and welfare are not compromised. The Resource Conservation and Recovery Act provides for "cradle to grave" regulation of hazardous waste generated by operating entities. Other federal laws include the following:

- Community Environmental Response Facilitation Act (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 12088, Federal Compliance with Pollution Control Standards, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the California Health and Safety Code and is also authorized by the federal government to implement the Resource Conservation and Recovery Act in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and cleanup of contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

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

Affected Environment

A hazardous waste evaluation was conducted for the project in March 2018. The evaluation included a site visit to the project area, which is mostly rural. The area evaluated encompassed each of the build alternatives. In addition, five Cal/EPA Data Resources, commonly referred to as the Cortese List, were reviewed:

- EnviroStor database: List of Hazardous Waste and Substances sites, Department of Toxic Substances Control (DTSC)
- Geotracker database: List of Leaking Underground Storage Tank sites, State Water Resources Control Board
- Sites Identified with Waste Constituents above Hazardous Waste Levels Outside the Waste Management Unit, State Water Resources Control Board
- List of active Cease and Desist Orders and Cleanup and Abatement Orders, State Water Resources Control Board
- List of hazardous waste facilities subject to corrective action, DTSC

Also reviewed were the Solid Waste Information System (SWIS) database, Department of Resources Recycling and Recovery (CalRecycle) and the Environmental Protection Agency's (EPA's) EnviroFacts database of environmental information regarding activities affecting air, water or land.

One facility was listed on Geotracker within the project boundaries. It is an existing permitted gas station—the Shell Gas Station/In & Out Market at the southeast quadrant on the interchange (27908 Highway 99, APN:119-10-009). There are no reports of leaks, releases, or spills on file for this facility. Alternative 4 would require a full take of the property. Preferred Alternative 5 has been redesigned to avoid the property. No other sites were listed in the databases.

Oliver Concrete Construction is at the southwest quadrant of the interchange (8347 Avenue 280, APN:110-010-008). During the site visit, a wood shed, an abandoned water tank, two large plastic aboveground storage (fertilizer) tanks, gravel piles, and a large feed bin were observed within or immediately adjacent to the proposed right-of-way take area. There are no known hazardous waste issues on this property, and it is not listed in any of the hazardous waste resource databases that were reviewed.

Dodson Brothers Roofing is about three-quarters of a mile south of the interchange on the east side of Drive 85 (27448 Drive 85, APN:119-120-003). It has a propane tank and a small fuel tank right next to the proposed partial right-of-way take area. The build alternatives would impact this property. There are no known hazardous waste issues on this property, and it is not listed in any of the hazardous waste resource databases that were reviewed.

The Faria Ranch Market/Nursery sits on the north side of Caldwell Avenue, about a quarter of a mile east of the interchange (8606 W. Caldwell Avenue, APN:119-021-036). Alternative 4 would result in a full take of the market. Preferred Alternative 5 would require only a partial right-of-way acquisition for the Drive 85 realignment. There are no known hazardous waste issues on this property.

Aerially Deposited Lead

In 2011, an aerially deposited lead (ADL) study was conducted along State Route 99 from post miles 35.3 to 41.3 (Tulare to Goshen 6-Lane Project) by Geocon Consultants. The aerially deposited lead study covered most of the project area and

determined that lead concentrations, except for the southbound ramps at Caldwell Avenue, are below the hazardous waste regulatory thresholds.

Aerially deposited lead levels at the southbound on- and off-ramps at Caldwell Avenue, from the surface to a depth of 0.5 foot, exceeded the hazardous waste regulatory threshold as well as the regulatory screening levels for residential and commercial land use, and construction worker exposure. Aerially deposited lead levels did not exceed the screening levels for industrial land use.

Asbestos-Containing Material and Lead-Based Paint

Various structures within the project area, including bridges and box culverts, could contain asbestos-containing materials and/or lead-based paint due to the age of the structures. A Preliminary Site Investigation (PSI) will be required for these structures prior to demolition or modification. Yellow and/or white pavement stripe/paint could contain elevated concentrations of lead.

Environmental Consequences

A Shell Gas Station/In-&-Out market is located at the southeast quadrant of the interchange (27908 Highway 99, APN:119-10-009) and will be impacted by the project. Alternative 4 would result in a full take of the property. Alternative 5 was redesigned to avoid the property.

Oliver Concrete Construction is at the southwest quadrant of the interchange (8347 Avenue 280, APN:110-010-008) and would be impacted by the project. Both build Alternatives, Alternative 4 and Alternative 5, would require a partial take of the property. There are no known hazardous waste issues at this property.

Dodson Brothers Roofing is about three-quarters of a mile south of the interchange on the east side of Drive 85 (27448 Drive 85, APN:119-120-003). The project would require a partial take of the property. There are no known hazardous waste issues at this property.

The Faria Ranch Market/Nursery sits on a 41.16-acre parcel on the north side of Caldwell Avenue, about a quarter of a mile east of the interchange (8606 W. Caldwell Avenue, APN:119-021-036). Alternative 4 would result in a full take of the market/nursery business. The full take would total approximately 1.7 acres of the 41.16-acre parcel. Preferred Alternative 5 would result in a partial take of the property for road construction, totaling approximately 1.18 acres. There are no known hazardous waste issues at this property.

Aerially Deposited Lead

Aerially deposited lead (ADL) from the historical use of leaded gasoline exists along roadways throughout California. There is the likely presence of soils with elevated concentrations of lead as a result of aerially deposited lead on the state highway system right-of-way within the limits of the project alternatives. Soil determined to contain lead concentrations exceeding stipulated thresholds must be managed under the July 1, 2016 ADL Agreement between Caltrans and the California Department of

Toxic Substances Control. The ADL Agreement allows such soils to be safely reused within the project limits as long as all requirements of the ADL Agreement are met.

Aerially deposited lead levels in soils at the State Route 99 southbound ramps at Caldwell Avenue exceed hazardous waste thresholds. These areas would be impacted by the project. Construction activities involving ground disturbance could expose workers and/or the public to lead. If excess soils exceed aerially deposited lead thresholds, soils would be hauled off-site to a hazardous waste disposal site.

Asbestos-Containing Material and Lead-Based Paint

Demolition and/or renovation would impact the Avenue 280 Overcrossing (#46-0195), Midvalley Overhead (#46C-0053), and/or concrete box culverts. Due to the age of these structures, lead-based paint and/or asbestos-containing materials may have been used during their construction. Any work on these structures could expose workers and/or the public to hazardous materials and would require the preparation of a Preliminary Site Investigation. Asbestos-containing materials and lead-based paint wastes exceeding regulatory thresholds would be disposed of at an approved landfill. The presence of lead-based paint or asbestos-containing materials would not impact the scope or schedule of the project.

Avoidance, Minimization, and/or Mitigation Measures

- Any excess soil at the State Route 99 southbound ramps needing to be hauled off-site will be considered a hazardous waste requiring disposal at a Class I landfill. This soil could be used on-site under a minimum of 1 foot of clean soil should the ADL Agreement be used. Standard Special Provisions (SSPs) will be prepared to address proper handling and disposal of such material, and worker/public safety and would be included in the construction contract.
- Structures within the project area such as bridges and box culverts could contain asbestos-containing materials and/or lead-based paint. A Preliminary Site Investigation (PSI) will be conducted for these structures to identify any potentially hazardous waste. Standard Special Provisions (SSPs) will be prepared to address any hazardous materials/wastes identified in the PSI and included in the construction contract.

2.2.5 Air Quality

Regulatory Setting

The Federal Clean Air Act, as amended, is the main federal law that governs air quality. The California Clean Air Act is its companion state law. These laws, and related regulations by the U.S. Environmental Protection Agency (U.S. EPA) and the California Air Resources Board, set standards for the concentration of pollutants in the air.

At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been

established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM)—which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM_{10}) and particles of 2.5 micrometers and smaller ($PM_{2.5}$)—and sulfur dioxide (SO_2). In addition, national and state standards exist for lead (PB), and state standards exist for visibility-reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The national and state standards are set at levels that protect public health with a margin of safety and are subject to periodic review and revision. Both federal and state regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act (NEPA). In addition to this environmental analysis, a parallel "Conformity" requirement under the Federal Clean Air Act also applies.

Conformity

The conformity requirement is based on Federal Clean Air Act Section 176(c), which prohibits the U.S. Department of Transportation (USDOT) and other federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to State Implementation Plan (SIP) for attaining the NAAQS. "Transportation Conformity" applies to highway and transit projects and takes place on two levels: the regional (or planning and programming) level and the project level. The proposed project must conform at both levels to be approved.

Conformity requirements apply only in nonattainment and "maintenance" (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. U.S. EPA regulations at 40 Code of Federal Regulations 93 govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for NAAQS and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and in some areas (although not in California), sulfur dioxide (SO_2). California has nonattainment or maintenance areas for all of these transportation-related "criteria pollutants" except SO_2, and also has a nonattainment area for lead (Pb); however, lead is not currently required by the Federal Clean Air Act to be covered in transportation conformity analysis.

Regional conformity is based on emission analysis of Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all transportation projects planned for a region over a period of at least 20 years (for the Regional Transportation Plan) and 4 years (for the Federal Transportation Improvement Program). Regional Transportation Plan and Federal Transportation Improvement Program conformity uses travel demand and emission models to

determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the Federal Clean Air Act and the State Implementation Plan are met.

If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), Federal Highway Administration, and Federal Transit Administration (FTA) make the determinations that the Regional Transportation Plan and Federal Transportation Improvement Program are in conformity with the State Implementation Plan for achieving the goals of the Federal Clean Air Act. Otherwise, the projects in the Regional Transportation Plan and/or Federal Transportation Improvement Program must be modified until conformity is attained. If the design concept and scope and the "open-to-traffic" schedule of a proposed transportation project are the same as described in the Regional Transportation Plan and Federal Transportation Improvement Program, then the proposed project meets regional conformity requirements for purposes of project-level analysis.

Project-level conformity is achieved by demonstrating that the project comes from a conforming Regional Transportation Plan and Transportation Improvement Program; the project has a design concept and scope[3] that has not changed significantly from those in the Regional Transportation Plan and Transportation Improvement Program; project analyses have used the latest planning assumptions and EPA-approved emissions models; and in particulate matter areas, the project complies with any control measures in the State Implementation Plan. Furthermore, additional analyses (known as hot-spot analyses) may be required for projects located in CO and particulate matter nonattainment or maintenance areas to examine localized air quality impacts.

Affected Environment

An Air Quality Study Report was prepared for the project in August 2018. It provides a discussion of the proposed project, the physical setting of the project area, and the regulatory framework for air quality. It also provides data on existing air quality, evaluates potential air quality impacts associated with the proposed project, and identifies measures recommended for potential impacts. The information below comes from the report.

Climate and topography can affect air quality. The most important influence on the weather pattern of the San Joaquin Valley is the semi-permanent subtropical high-pressure cell known as the "Pacific High." During summer, the Pacific High is positioned off the coast of northern California, diverting ocean-driven storms to the north, so summer months are virtually rainless. During winter, the Pacific High moves south, allowing storms to pass through the San Joaquin Valley. Almost all the precipitation expected during a given year occurs from December through April.

[3] "Design concept" means the type of facility that is proposed, such as a freeway or arterial highway. "Design scope" refers to those aspects of the project that would clearly affect capacity and thus any regional emissions analysis, such as the number of lanes and the length of the project.

During summer, the predominant surface winds are out of the northwest. Beginning in early fall, down-valley winds become progressively more predominant as winter approaches. Wind speeds are generally highest during the spring and lightest in fall and winter. During the summer, the average high temperatures are nearly 100 degrees Fahrenheit. Relative humidity during the summer is quite low, causing large diurnal temperature variations. Low temperatures during the summer often drop into the upper 60s.

In winter, the average high temperatures reach into the mid-50s, and the average low temperatures drop to the mid-30s. The valley is subject to extensive fog in the winter. Heavy fog occurs on an average of 20 days per year, with December and January having the most frequent fog.

The geography is generally flat in the proposed project location. Because of lower rainfall and warmer temperatures, Tulare County's climate is classified as Mediterranean. The rainy season is October through April.

The project is in an area that is in attainment-maintenance for federal PM_{10} and in non-attainment for the federal $PM_{2.5}$ standard. The project is in non-attainment for the state standards. A conformity analysis for this project as "Not a Project of Air Quality Concern" was conducted and submitted to the San Joaquin Valley Council of Governments' Directors' Association Interagency Consultation Group (IAC) on May 3, 2018. The Interagency Consultation Partners concurred on May 3, 2018 that this is not a project of air quality concern. This was also noted in the public hearing notice for the project.

Tulare County is in attainment status for both the state and federal carbon monoxide ambient air standards, therefore an analysis is not needed.

Attainment statuses for state and federal ambient air standards are shown in Table 2.14. The state and federal ambient air quality standards are shown in Table 2.15.

Table 2.14 State and Federal Attainment Status

Pollutant	State Attainment Status	Federal Attainment Status
Ozone (O_3)	Non-Attainment	Non-Attainment
Respirable Particulate Matter (PM_{10})	Non-Attainment	Attainment-Maintenance
Fine Particulate Matter ($PM_{2.5}$)	Non-Attainment	Non-Attainment
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO_2)	Non-Applicable	Non-Applicable
Sulfur Dioxide (SO_2)	Non-Applicable	Non-Applicable

Source: U.S. EPA website, ARB website http://www.arb.ca.gov/research/aaqs/aaqs2.pdf

Table 2.15 State and Federal Ambient Air Quality Standards

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page ...

For more information please call ARB-PIO at (916) 322-2990

California Air Resources Board (5/4/16)

Environmental Consequences

Regional Conformity

A regional conformity analysis covering the San Joaquin Valley Air Basin for ozone, $PM_{2.5}$, and PM_{10} was carried out. It included this project and all reasonably foreseeable and financially constrained regionally significant projects for at least 20 years from the date that the analysis was started. The analysis used the latest planning assumptions, and the most recent emission models and appropriate analysis methods, as determined by Interagency Consultation on June 1, 2018. Based on this analysis, the region will be in conformity with the State Implementation Plan, including this project, based on conformity test(s) and analysis procedures, as described in 40 Code of Federal Regulations 93.109(l). The design concept and scope of the proposed project is consistent with the project design concept and scope used in the regional conformity analysis. A Transportation Control Measures Timely Implementation evaluation was reviewed and concurred with by Interagency Consultation on June 1, 2018.

The proposed project is listed in the 2018 financially constrained Regional Transportation Plan (Pg. B-73, Table A-13), which was found to conform by the Tulare County Association of Governments on August 20, 2018. The Federal Highway Administration and Federal Transit Administration made a regional conformity determination finding on December 17, 2018. The Tulare County Association of Governments 2018 Regional Transportation Improvement Program was determined to conform by the Federal Highway Administration and Federal Transit Administration on December 17, 2018. The design concept and scope of the proposed project is consistent with the project description in the 2018 Regional Transportation Plan and 2018 Transportation Improvement Program, as amended. Caltrans received Federal Highway Administration's project-level conformity determination, dated April 27, 2019, stating "FHWA finds that the Caldwell Interchange Project conforms with the state implementation plan (SIP) in accordance with 40 CFR Part 93." (see Appendix G).

This project does not meet the criteria of an exempt project from regional conformity under 40 Code of Federal Regulations 93.126. Also, this project does not meet the criteria for a "Project of Air Quality Concern" and does not meet the conformity rule that defines projects requiring a $PM_{2.5}$ or PM_{10} hot-spot analysis.

The closest ambient air monitor (shown in Figure 2-7) to the project location is in downtown Visalia at 310 North Church Street, about 5 miles northeast of the project location. This is typically upwind from the project location. The area around the interchange is commercial or farmland, so there are no sensitive receptors nearby. Data from this monitor was not included in the air quality study due to its upwind location.

Figure 2-7 Location of Ambient Air Monitor Relative to Project Location

Project-Level Conformity

Particulate Matter (PM_{10} and $PM_{2.5}$)

A conformity analysis for this project as "Not a Project of Air Quality Concern" was conducted and submitted to the San Joaquin Valley Council of Governments' Directors' Association Interagency Consultation Group (IAC) on May 3, 2018. The Interagency Consultation Partners concurred on May 3, 2018 that this is "Not a Project of Air Quality Concern."

PM_{10} is particulate matter 10 micrometers or less in diameter. $PM_{2.5}$ is particulate matter 2.5 micrometers or less in diameter. Table 2.16 shows the estimated tons per year emissions of the existing (2015) situation, and the 2043 horizon year for the No-Build Alternative and the two build alternatives for both $PM_{2.5}$ and PM_{10}.

Table 2.16 $PM_{2.5}$ and PM_{10} Operational Emissions Tons per Year

Year/Alternative	$PM_{2.5}$	PM_{10}
Existing/Baseline 2015	26.32	54.23
20-Year Horizon/Design-Year 2043—No-Build Alternative	76.68	188.62
20-Year Horizon/Design-Year 2043—Alternative 4	75.08	187.65
20-Year Horizon/Design-Year 2043—Alternative 5 (Preferred)	75.16	187.73

Source: Caltrans Central Region Environmental Engineering Branch, June 2018

The PM_{10} and $PM_{2.5}$ emissions for the No-Build Alternative and build alternatives in the horizon year (2043) increase when compared to the baseline (2015) emissions. This should be expected as local growth will cause an increase in local traffic over time regardless of whether the project is built.

The traffic Level of Service (LOS) is worse for the 2043 horizon year no-build scenario when compared to the two horizon year build alternatives. The two build alternatives would help alleviate congestion at the interchange and improve Level of Service when compared to the No-Build Alternative, as shown in Table 2.17. In addition, improving traffic flow will help decrease PM_{10} and $PM_{2.5}$ for the build alternatives (2043) in comparison to the No-Build Alternative (2043), as shown in Table 2.17. Therefore, the project would not cause or worsen any $PM_{2.5}$ and PM_{10} air quality violations since the Level of Service would improve in the 2043 horizon year with either build alternative.

Table 2.17 Level of Service (LOS)

Location	LOS AM/PM		
	2015	2023	2043
No-Build Alternative			
Caldwell at SB Ramps	D/D	F/F	F/F
Caldwell at NB Ramps	C/D	F/F	F/F
NB Ramps at Drive 88	B/B	C/E	F/F
NB 99 Off-Ramp	C/D	D/E	F/F
NB 99 On-Ramp	C/C	C/D	F/F
SB 99 Off-Ramp	C/C	D/D	F/F
SB 99 On-Ramp	C/C	C/D	F/F
Alternative 4			
NB 99 Off-Ramp (2-lanes)	N/A	A/A	A/B
NB 99 Loop On-Ramp	N/A	B/B	B/B
NB 99 Dir On-Ramp	N/A	B/B	C/C
SB 99 Off-Ramp (1 lane with provisions for 2 lanes)	N/A	B/C	C/D
SB 99 On-Ramp	N/A	B/B	B/B
Alternative 5 (Preferred)			
Caldwell at SB Ramps	N/A	B/B	B/C
Caldwell at NB Ramps	N/A	A/A	A/B
NB Ramps at Drive 85 and Drive 88	N/A	B/C	B/F

Source: Caltrans District 6 Traffic Operations, Ocotber 2017

Carbon Monoxide (CO)

Tulare County is in attainment status for both the state and federal carbon monoxide (CO) ambient air standards, so a CO analysis was not performed.

Carbon Dioxide (CO_2)

With data based on use of the 2017 Air Resources Board EMFAC (Emissions FACtor) model, Table 2.18 shows the estimated emissions. The vehicle miles traveled (VMT) total is the same for the No-Build Alternative and Alternative 5. These two vehicle miles traveled totals are slightly lower than the vehicle miles traveled total for Alternative 4. The amount of estimated CO_2 emissions for horizon year 2043 is greatest for Alternative 1 (No-Build Alternative), compared to the two build alternatives. CO_2 emissions will generally increase as Level of Service degrades and vehicle congestion increases. As discussed above, Level of Service would worsen for the no-build scenario (2043) when compared to the build alternatives (2043) and cause CO_2 emissions to increase more rapidly for the No-Build Alternative.

Table 2.18 Carbon Dioxide (CO_2) Operational Metric Tons per Year

Alternative	CO_2 Emissions	Annual Vehicle Miles Traveled[1]	Tons CO_2/VMT
Existing/Baseline 2015	56,622	1,460,000	0.038
Open to Traffic [2023]			
Alternative 1 No-Build	137,747	4,745,000	0.030
Alternative 4 (signals)	148,674	4,799,750	0.026
Alternative 5 (Preferred) (roundabouts)	137,747	4,745,000	0.031
20-Year Horizon/Design-Year [2043]			
Alternative 1 No-Build	186,091	6,186,750	0.029
Alternative 4 (signals)	162,912	6,232,375	0.026
Alternative 5 (Preferred) roundabouts)	164,237	6,186,750	0.027

Source: Caltrans Central Region Environmental Engineering Branch, EMFAC 2017. [1] VMT = annual average daily traffic x project length x 365 days.

In horizon year 2043, the no-build and build CO_2 emissions are greater than the estimated emissions for the baseline condition. The increase in daily traffic over time will cause the annual metric tons of CO_2 emissions for future no-build/build situation to be greater than the baseline. Between 2015 and 2043, local population and commercial growth will result in increased average annual daily traffic (AADT) counts as shown in Tables 2.19 and 2.20, which will cause CO_2 increases over time in the area. This increase will occur with or without the project.

However, if the tons per vehicle miles traveled is calculated, the amount of emissions per mile decreases over the baseline of 2015 for both alternatives in 2043 (future conditions).

Table 2.19 Annual Average Daily Traffic (No-Build Alternative and Preferred Alternative 5)

Location	Existing-2015	2023	2043
SB 99	23,800	33,600	52,900
SB Off-Ramp to Ave 280	1,800	7,000	8,800
SB 99	22,000	26,600	44,100
SB On-Ramp from Ave 280	2,000	6,000	8,300
SB 99	24,000	32,600	52,400
NB 99	25,800	34,900	54,800
NB On-Ramp from Ave 280	2,000	7,000	8,500
NB 99	23,800	27,900	46,300
NB Off-Ramp to Ave 280	2,200	6,000	8,300
NB 99	26,000	33,900	54,600

Source: Caltrans Central Region Transportation Planning, May 2016

Table 2.20 Annual Average Daily Traffic (Alternative 4)

Location	Existing-2015	2023	2043
SB-99	23,800	33,600	52,900
SB Off-Ramp to Ave 280	1,800	7,000	8,800
SB-99	22,000	26,600	44,100
SB On-Ramp from Ave 280	2,000	6,000	8,300
SB-99	24,000	32,600	52,400
NB 99	27,800	35,200	55,050
NB Slip On-Ramp from WB Ave 280	2,000	6,500	7,400
NB 99	25,800	28,700	47,650
NB Loop On-Ramp from EB Ave 280	2,200	800	1,350
NB 99	23,800	27,900	46,300
NB Off-Ramp to Ave 280	2,200	6,000	8,300
NB 99	26,000	33,900	54,600

Source: Caltrans Central Region Transportation Planning, May 2016

Aerially Deposited Lead (ADL)

In 2011, an aerially deposited lead (ADL) study was conducted along State Route 99 from post miles 35.3 to 41.3 (Tulare to Goshen 6-Lane Project) by Geocon Consultants. The study covered most of the project area and determined that lead concentrations, except for the southbound ramps at Caldwell Avenue, are below the hazardous waste regulatory thresholds.

Aerially deposited lead levels at the southbound on- and off-ramps at Caldwell Avenue, from the surface to a depth of 0.5 foot, exceeded the hazardous waste regulatory threshold as well as the regulatory screening levels for residential and commercial land use, and construction worker exposure. Aerially deposited lead levels did not exceed the screening levels for industrial land use. Any excess soil at the State Route 99 southbound ramps needing to be hauled off-site would be considered a hazardous waste requiring disposal at a Class I landfill. This soil could be used on-site under a minimum of 1 foot of clean soil.

Asbestos-Containing Material and Lead-Based Paint

Various structures within the project area, including bridges and box culverts, could contain asbestos-containing materials and/or lead-based paint due to the age of the structures. A Preliminary Site Investigation would be required for these structures prior to demolition or modification. Yellow and/or white pavement stripe/paint could contain elevated concentrations of lead. Standard Special Provisions (SSPs) will be included in the construction package to address specific disposal and handling requirements.

Mobile Source Air Toxics

These pollutants are a subset of the 188 air toxics defined in the Clean Air Act and are now federally regulated under 40 Code of Federal Regulations 1502.22 by the U.S. Environmental Protection Agency. Mobile source air toxics are 21 compounds emitted from highway vehicles and off-road equipment. The nine priority mobile source toxics are acrolein, acetaldehyde, benzene, butadiene, diesel particulate matter, ethylbenzene, formaldehyde, naphthalene and polycyclic aromatic hydrocarbons (PAH). There are no existing ambient air standards for the nine priority toxics. Currently, available technical tools do not enable predicting project-specific health impacts, so only a qualitative analysis is conducted.

Depending on the specific project circumstances, the Federal Highway Administration has identified three levels of analysis for mobile source air toxics (MSAT). This project falls into Level 2—Qualitative analysis for projects with low potential mobile source air toxics effects.

There are no sensitive land uses within 500 feet of the proposed project for either build alternative. For each build alternative, the amount of mobile source air toxics emitted would be proportional to the vehicle miles traveled (VMT) = (annual average daily traffic x miles length of project x 365 days), if other variables such as fleet mix are the same for each alternative. The vehicle miles traveled estimated for each of the build alternatives would be slightly higher than that for the No-Build Alternative because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. This increase in vehicle miles traveled would lead to higher mobile source air toxics emissions at the improved interchange, along with a corresponding decrease in mobile source air toxics emissions along the parallel routes.

The emissions increase is offset somewhat by lower mobile source air toxics emission rates due to increased speeds. According to the Environmental Protection Agency's (EPA) MOVES2014 model, as well as the EMFAC (Emissions FACtors) model used in California, emissions of all the priority mobile source air toxics decrease as the vehicle speed increases. Because the estimated vehicle miles traveled under each of the alternatives are nearly the same, it is expected there will be no appreciable difference in overall mobile source air toxics emissions among the various alternatives.

Regardless of the alternative chosen, emissions would likely be lower than present levels in the design year because of EPA's national control programs that are projected to reduce annual mobile source air toxics emissions by over 90 percent between 2010 and 2050 (Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents, Federal Highway Administration, October 12, 2016). Local conditions may differ from these national projections in terms of fleet mix and turnover, vehicle miles traveled growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for vehicle miles traveled growth) that mobile source air toxics emissions in the study area are likely to be lower in the future in nearly all cases.

Construction (Short-Term Impacts)

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

Site preparation and roadway construction typically involves clearing, cut-and-fill activities, grading, removing or improving existing roadways, building bridges, and paving roadway surfaces. Construction-related effects on air quality from most highway projects are greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils to and from the site. These activities could temporarily generate enough PM_{10}, $PM_{2.5}$, and small amounts of CO, SO_2, NOx, and VOCs to be of concern. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site could deposit mud on local streets, which could be an added source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Construction activities for large development projects are estimated by the U.S. Environmental Protection Agency (U.S. EPA) to add 1.2 tons of fugitive dust per acre of soil disturbed per month of activity. If water or other soil stabilizers are used to control dust, the emissions can be reduced by up to 50 percent. Caltrans Standard Specifications (Section 14) on dust minimization require use of water or dust palliative compounds and would reduce potential fugitive dust emissions during construction.

In addition to dust-related PM_{10} emissions, heavy-duty trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NOx, VOCs and some soot particulate (PM_{10} and $PM_{2.5}$) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site. There are no sensitive land uses within 500 feet of the proposed project for either build alternative.

SO_2 is generated by oxidation during combustion of organic sulfur compounds contained in diesel fuel. Under California law and Air Resources Board regulations, off-road diesel fuel used in California must meet the same sulfur and other standards as on-road diesel fuel (not more than 15 ppm sulfur), so SO_2-related issues due to diesel exhaust would be minimal.

Some phases of construction, particularly asphalt paving, may result in short-term odors in the immediate area of each paving site(s). Such odors quickly disperse to below detectable levels as distance from the site(s) increases.

Most of the construction impacts to air quality are short term in duration and, therefore, will not result in long-term adverse conditions. Implementation of the following standardized measures, some of which may also be required for other purposes such as storm water pollution control, would reduce any air quality impacts resulting from construction activities:

- The construction contractor must comply with the Caltrans Standard Specifications in Section 14.
    - Section 14 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.
    - Section 14 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are described in Section 18.
- Water or dust palliative will be applied to the site and equipment as often as necessary to control fugitive dust emissions. Fugitive emissions generally must

meet a "no visible dust" criterion either at the point of emissions or at the right-of-way line, depending on local regulations.

- Soil binder will be spread on any unpaved roads used for construction purposes, and on all project construction parking areas.
- Trucks will be washed as they leave the right-of-way as necessary to control fugitive dust emissions.
- Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low sulfur fuel as required by California Code of Regulations Title 17, Section 93114.
- A dust control plan will be developed documenting sprinkling, temporary paving, speed limits, and timely revegetation of disturbed slopes as needed to minimize construction impacts to existing communities.
- Equipment and materials storage sites will be located as far away from residential and park uses as practicable. Construction areas will be kept clean and orderly.
- ESA (Environmentally Sensitive Area)-like areas or their equivalent will be established near sensitive air receptors. Within these areas, construction activities involving the extended idling of diesel equipment or vehicles will be prohibited, to the extent feasible.
- Track-out reduction measures, such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic, will be used.
- All transported loads of soils and wet materials will be covered before transport, or adequate freeboard (space from the top of the material to the top of the truck) will be provided to minimize emission of dust (particulate matter) during transportation.
- Dust and mud that are deposited on paved public roads due to construction activity and traffic will be promptly and regularly removed to decrease particulate matter.
- To the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.
- Mulch will be installed or vegetation planted as soon as practical after grading to reduce windblown particulate in the area.

Construction Conformity

Construction activities would not last for more than 5 years, so construction-related emissions do not need to be included in regional and project-level conformity analysis (40 Code of Federal Regulations 93.123(c)(5)).

Avoidance, Minimization, and/or Mitigation Measures

- Standard Special Provisions (SSPs) will be included in the construction package to address specific disposal and handling requirements for any aerially deposited lead contaminated soil, asbestos-containing material, or lead-based paint.
- Caltrans Standard Specifications, Section 14-9.02 "Air Pollution Control" and Section 10-5 "Dust Control," will require the contractor to comply with the air pollution control rules, ordinances, and regulations and statutes. This will apply to work performed under the contract, including those regulations provided in Government Code §11017 and will reduce and control emission impacts during construction. In addition, this project may also be subject to the San Joaquin Valley Unified Air Pollution Control District's Rule 9510/Indirect Source review rule.

Climate Change

Neither the U.S. Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration has issued explicit guidance or methods to conduct project-level greenhouse gas analysis. The Federal Highway Administration emphasizes concepts of resilience and sustainability in highway planning, project development, design, operations, and maintenance. Because there have been requirements set forth in California legislation and executive orders on climate change, the issue is addressed in the California Environmental Quality Act (CEQA) chapter of this document. The CEQA analysis may be used to inform the National Environmental Policy Act (NEPA) determination for the project.

2.2.6 Noise

Regulatory Setting

The 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 NEPA and CEQA.

California Environmental Quality Act

CEQA 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 CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The rest of this section will focus on the NEPA/23 Code of Federal Regulations Part 772 (23 CFR 772) noise analysis. Please see Chapter 3 of this document for further information on noise analysis under CEQA.

National Environmental Policy Act and 23 CFR 772

For highway transportation projects with Federal Highway Administration involvement (and Caltrans, as assigned), the Federal-Aid Highway Act of 1970 and

its implementing regulations (23 Code of Federal Regulations 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria (NAC) that are used to determine when a noise impact will occur. The noise abatement criteria differ depending on the type of land use under analysis. For example, the noise abatement criterion for residences (67 dBA) is lower than the noise abatement criterion for commercial areas (72 dBA). Table 2.21 shows the noise abatement criteria used in the NEPA/23 CFR 772 analysis.

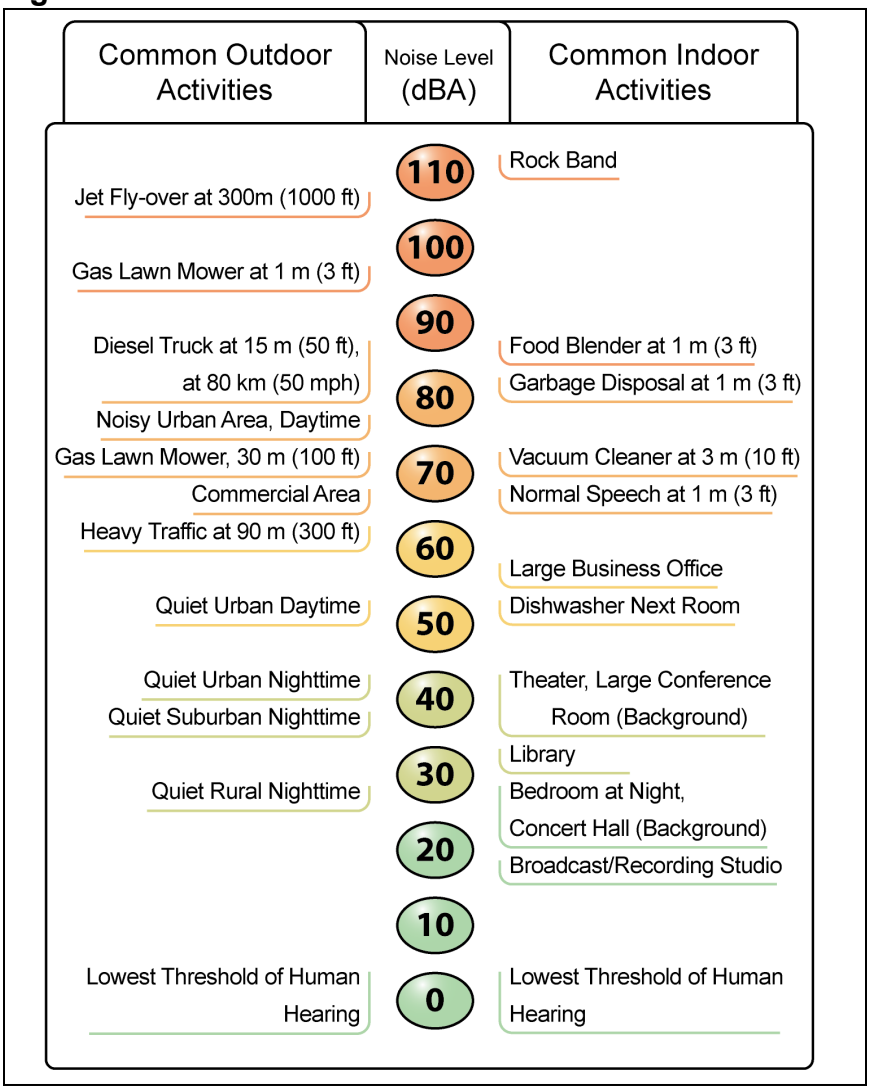
Table 2.21 Noise Abatement Criteria

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.
B[1]	67 (Exterior)	Residential.
C[1]	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 NAC—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 NAC—reporting only	Undeveloped lands that are not permitted.

1 Includes undeveloped lands permitted for this activity category.

Figure 2-8 shows the noise levels of common activities to enable readers to compare the actual and predicted highway noise levels discussed in this section with common activities.

Figure 2-8 Noise Levels of Common Activities



According to the Caltrans *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, May 2011*, a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12 dBA 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 dBA of the noise abatement criteria.

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

plans and specifications. This document discusses noise abatement measures that will likely be incorporated in the project.

The Caltrans *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 5 dBA reduction for all impacted receptors in the future noise levels must be achieved for an abatement to be considered feasible. Other considerations include topography, access requirements, other noise sources, and safety considerations.

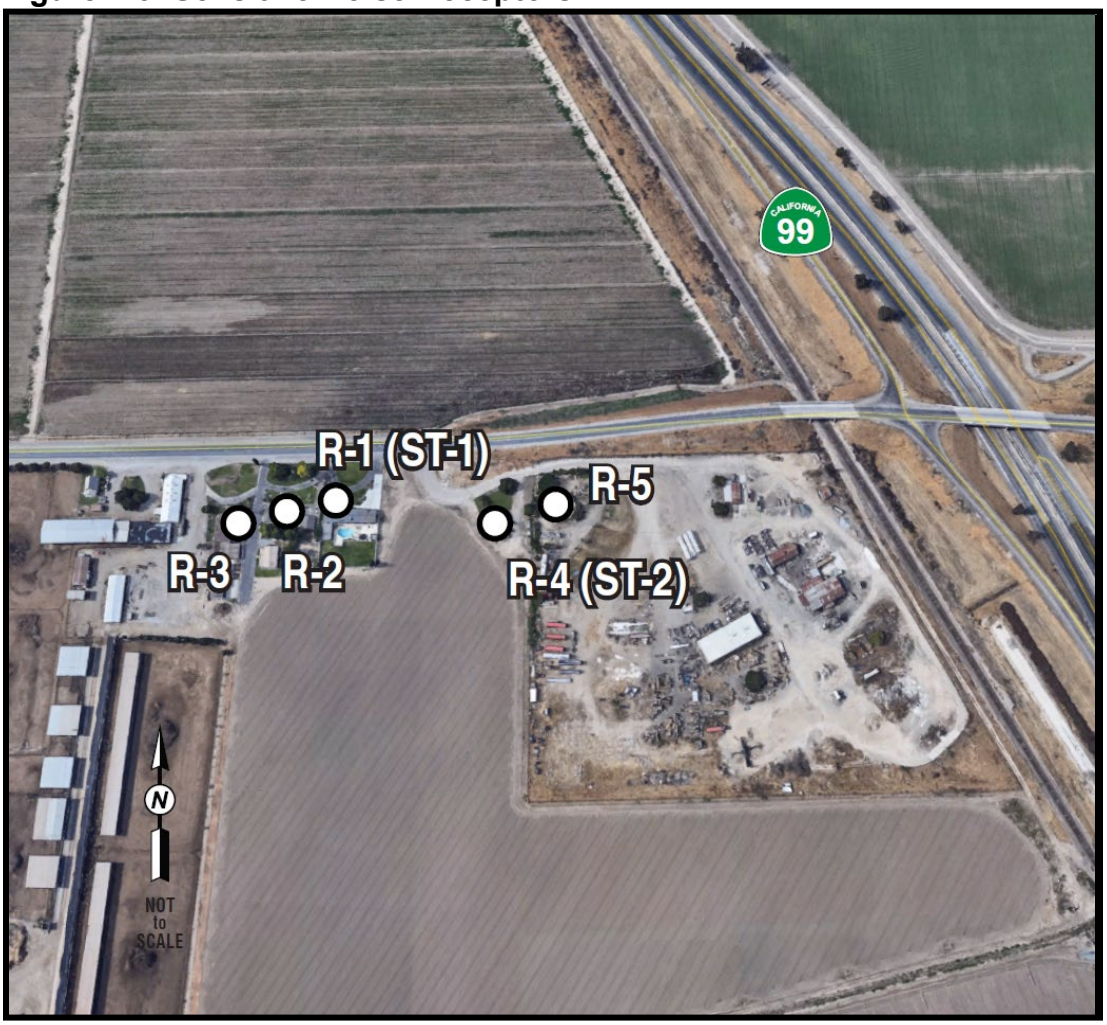
Also, a noise reduction of at least 7 dBA must be achieved at one or more benefited receptors for an abatement measure to be considered reasonable. The reasonableness determination is basically a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include: residents' acceptance and the cost per benefited residence.

Affected Environment

A Noise Study Report was completed in May 2018 for the project area. The report concluded that land uses near the project area were a mix of agricultural, commercial, industrial and residential zones, with sparse development and scattered residences. The residential zones within the project area were identified as the most sensitive noise receptors compared to the remaining commercial, industrial, and agricultural areas.

Figure 2-9 shows the location of five residences along Caldwell Avenue west of State Route 99 that were selected for noise measurement locations. The residences along Caldwell Avenue west of State Route 99 are the closest to the project area and represent similar sites in the area for the purposes of noise impacts.

Figure 2-9 Sensitive Noise Receptors



Environmental Consequences

Traffic Noise

As defined by 23 Code of Federal Regulations 772, the proposed project is considered a Type 1 project due to both build alternatives proposing changes to the vertical alignment of the existing Avenue 280 Overcrossing (Bridge No.46-0195). Each alternative proposed in a Type 1 project requires analysis of the potential noise impacts it may cause to the surrounding environment. This analysis includes: the identification of potential noise receptors in the project area, the determination of existing traffic noise levels and predicted traffic noise levels, and the examination and evaluation of noise abatement measures as required.

The California Environmental Quality Act (CEQA) contains general guidelines to evaluate the significance of impacts of environmental noise attributable to a proposed project. The CEQA guidelines state that a project will normally have a significant impact on the environment if it results in any of the following applicable conditions:

- 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.
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, will the project expose people residing or working in the project area to excessive noise levels.
- For a project within the vicinity of a private airstrip, will the project expose people residing or working in the project area to excessive noise levels.

In addition, the project is considered to result in a significant traffic noise impact if it results in a substantial increase in noise as defined in the Caltrans *Traffic Noise Analysis Protocol* (a 12-dB increase between existing and design year plus-project conditions).

Caltrans conducted a site visit on May 9, 2018 to identify representative noise sensitive receptor locations, choose noise measurement sites, and gather data for predicting future traffic noise impacts. Short-term noise measurements were also conducted during the same time to evaluate existing background noise levels in the vicinity of the project area.

Two sites were selected to serve as acoustical representatives of all the noise sensitive locations in the project area. Noise measurements conducted at these sites were adjusted to peak-hour noise levels. Peak-hour noise levels were used to provide the worst-case scenario as a baseline for predicted noise impacts. These two short-term noise measurement sites are labeled ST-1 and ST-2 in Figure 2-9. These two locations, in addition to three other noise sensitive receptors, were used for predicting future noise impacts. These sites are labeled R-1, R-2, R-3, R-4, and R-5 in Figure 2-9.

Noise measurements were conducted according to the guidelines outlined in the Federal Highway Administration's "Measuring of Highway Related Noise," and the Caltrans Technical Noise Supplement (TeNS). The Federal Highway Administration Traffic Noise Model (TNM) 2.5 was used for noise computations to establish the current noise levels and predict future noise levels.

Table 2.22 shows that the project's existing or future traffic noise levels would not exceed or approach the noise abatement criterion for Activity Category B (67 dBA),

or cause a 12-dBA increase between the existing and design year plus-project conditions.

Table 2.22 Short-Term Noise Measurements and Modeling Results

Receptor # and Location	Existing Noise Level (dBA)	Predicted Noise Level without Project (dBA)	Predicted Noise Level with Project Alt. 4 (dBA)	Predicted Noise Level with Project Alt. 5 (dBA)	Noise Impact Requiring Abatement Consideration
ST-1 Rural/Residential	57.8	59.0	64.1	64.1	NO
ST-2 Rural/Residential	59.3	60.5	64.0	64.0	NO
R-1 Rural/Residential	57.8	59.0	64.1	64.1	NO
R-2 Rural/Residential	56.4	59.0	63.2	63.2	NO
R-3 Rural/Residential	54.3	59.0	61.2	61.2	NO
R-4 Rural/Residential	59.3	60.5	64.0	64.0	NO
R-5 Rural/Residential	59.5	60.5	64.2	64.2	NO

Source: Caltrans Noise Study Report, May 2018

Construction Noise

Table 2.23 summarizes noise levels produced by construction equipment that is commonly used on roadway construction projects. Noise levels caused by construction activities at the proposed project site will be intermittent and the intensity will vary. During the construction period, some of the noise sensitive receptors that are close to the project site may experience temporary noise and vibration impacts.

Table 2.23 Construction Equipment Noise Levels

Equipment	Maximum Noise Level (dBA at 50 feet)
Front End Loader	79
Dump Truck	76
Backhoe	78
Compactor	83
Paver	77
Concrete Mixer Truck	79

Avoidance, Minimization, and/or Noise Abatement Measures

There are no avoidance, minimization or abatement measures required for traffic noise. The following measures will be implemented to avoid, minimize and abate construction noise and vibration impacts:

- Ensure that all equipment has noise abatement features such as mufflers and engine enclosures.
- Engine vibration isolators should be intact and operational.
- All construction equipment should be inspected at periodic intervals to ensure proper maintenance and presence of noise abatement devices.
- Use construction methods and equipment that will provide the lowest levels of noise and vibration impacts.
- Turn off idling equipment.
- Use and relocate temporary noise barriers, as needed, to protect sensitive noise receptors against excessive noise from construction activities, such as noise barriers made from heavy plywood or moveable insulated sound blankets.

The following administrative measures should be implemented to avoid or minimize potential noise or vibration impacts to noise sensitive receptors:

- Construction activities should be in compliance with all applicable local noise ordinances.
- Implement a project area noise and/or vibration monitoring plan as needed to limit potential impacts.
- Limit construction activities to daytime hours to the extent possible; nighttime construction activities must be properly permitted.
- General noise and vibration levels should remain uniform; avoid impulsive noises.
- Maintain good public relations with the community to minimize objections to unavoidable construction impacts.
- Provide frequent updates on all construction activities.

2.3 Biological Environment

2.3.1 Wetlands and Other Waters

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly known as the Clean Water Act (33 U.S. Code 1344), is the main law regulating wetlands and surface waters. One purpose of the Clean Water Act is to regulate the discharge

of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high water mark, in the absence of adjacent wetlands. When adjacent wetlands are present, Clean Water Act jurisdiction extends beyond the ordinary high water mark to the limits of the adjacent wetlands. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used that includes the presence of: hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act.

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

The U.S. Army Corps of Engineers issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental 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 Regional or Nationwide Permit may be permitted under one of U.S. Army Corps of Engineers' Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the U.S. Army Corps of Engineers' decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (40 Code of Federal Regulations 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines were developed by the U.S. EPA in conjunction with the U.S. Army Corps of Engineers and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative that will have less adverse effects. The guidelines state that the U.S. Army Corps of Engineers may not issue a permit if there is a "least environmentally damaging practicable alternative" (LEDPA) to the proposed discharge that will have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

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

practicable measures to minimize harm. A Wetlands Only Practicable Alternative Finding must be made.

At the state level, wetlands and waters are regulated mainly by the State Water Resources Control Board, the Regional Water Quality Control Boards and the California Department of Fish and Wildlife. In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify California Department of Fish and Wildlife before beginning construction. If the California Department of Fish and Wildlife determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. California Department of Fish and Wildlife jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the U.S. Army Corps of Engineers may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the California Department of Fish and Wildlife.

The Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements and may be required even when the discharge is already permitted or exempt under the Clean Water Act. In compliance with Section 401 of the Clean Water Act, the Regional Water Quality Control Boards issue water quality certifications for activities that may result in a discharge to waters of the U.S. This is frequently required in tandem with a Section 404 permit request. See the Water Quality section for more details.

Affected Environment

A Natural Environment Study (Minimal Impact) was prepared for the project on September 10, 2018.

The project area is mostly agricultural with limited commercial, industrial and residential development. Evans Ditch, the South Fork of the Persian Ditch, and the Middle Fork of the Persian Ditch are within the project area as shown on the alternative layouts (Figures 1-4 and 1-5). They convey irrigation water. These waters originate at the Kaweah River, flowing westerly through the project area. They fall under the jurisdiction of the U.S. Army Corps of Engineers, requiring a Section 404 Clean Water Act permit. Each ditch would be reconstructed as needed to realign the Drive 85 and Drive 88 frontage roads. Construction at these waterways would fall under the jurisdiction of the Regional Water Quality Control Board and would require a 401 Water Quality Certification permit.

Evans Ditch is in the southeast quadrant of the interchange. It conveys water under State Route 99 to the west and continues through agricultural lands, ending in an overflow reservoir. Based on the ordinary high water mark, permanent impacts to

Evans Ditch would total 0.12 acre. A temporary construction easement would create a 0.073-acre temporary impact.

The South and Middle Forks of the Persian Ditch and the Mill Creek culvert are in the northeast quadrant of the interchange. They convey water under State Route 99 into Mill Creek just west of the highway. The ditches and culvert connect to naturally occurring waters and, in addition to falling under the jurisdiction of the U.S. Army Corps of Engineers and Regional Water Quality Control Board, also fall under the jurisdiction of the California Department of Fish and Wildlife. Therefore, a 1600 streambed alteration agreement would also be required for these waterways.

Permanent impacts to the South and Middle Forks of the Persian Ditch would total 0.05 acre and 0.03 acre, respectively. Temporary impacts from temporary construction easements would total 0.003 acre and 0.060 acre, respectively. Permanent impacts to the Mill Creek culvert would total 0.03 acre, and the temporary impact would total 0.060 acre for the temporary construction easement. There are no other wetlands or waters within the project area.

Environmental Consequences

Evans Ditch, the South and Middle Forks of the Persian Ditch, and the Mill Creek reinforced concrete pipe (RCP) culvert would be modified as needed to realign the Drive 85 and Drive 88 frontage roads. Alternative 4 would construct a new Drive 88 crossing over Evans Ditch with a reinforced box culvert approximately 84 feet long with an approximate size of 5 feet by 2 feet. Preferred Alternative 5 would extend Evans Ditch under the proposed northbound off-ramp with a reinforced box culvert approximately 42 feet long. Alternative 5 would also extend Evans Ditch that runs under existing Drive 85 to include proposed Drive 85 with a reinforced box culvert approximately 63 additional feet with a size of approximately 5 feet by 2 feet.

Alternative 4 and preferred Alternative 5 would also modify the South Fork and Middle Fork of the Persian Ditch by extending the existing concrete culverts approximately 22 feet. The headwalls would also be relocated as needed to extend the culverts. Changes to the Middle Fork of the Persian Ditch would also require the removal of approximately two oak trees and a billboard sign.

Alternative 4 and preferred Alternative 5 would also modify the Mill Creek culvert just south of the Middle Fork of the Persian Ditch. The concrete culvert would be modified by being extended approximately 26 feet. The headwall would also be relocated as needed to extend the pipe.

No other wetlands or waters would be impacted by the project.

Avoidance, Minimization, and/or Mitigation Measures

- Construction at Evans Ditch, the South and Middle Forks of the Persian Ditch, and the Mill Creek culvert will occur during the non-irrigation season when there is no water present.

- A 1600 Streambed Alteration Agreement (permit) will be obtained from the California Department of Fish and Wildlife for work at the Middle and South Forks of the Persian Ditch, and at the Mill Creek culvert.
- A Clean Water Act Section 401 Water Quality Certification (permit) will be obtained from the California Regional Water Quality Control Board for work at Evans Ditch, the Middle and South Forks of the Persian Ditch, and at the Mill Creek culvert.
- A 404 Nationwide Permit from the U.S. Army Corps of Engineers will be obtained for work at Evans Ditch and the Middle and South Forks of the Persian Ditch. A Wetland Delineation was prepared for these waters.

2.3.2 Plant Species

Regulatory Setting

The U.S. Fish and Wildlife Service and California Department of Fish and Wildlife have regulatory responsibility for the protection of special-status plant species. Special-status species are selected for protection because they are rare and/or subject to population and habitat declines. "Special status" is a general term for species that are provided varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). See the Threatened and Endangered Species Section 2.3.3 in this document for detailed information about these species.

This section of the document discusses all other special-status plant species, including California Department of Fish and Wildlife species of special concern, U.S. Fish and Wildlife Service candidate species, and California Native Plant Society rare and endangered plants.

The regulatory requirements for Federal Endangered Species Act can be found at 16 U.S. Code Section 1531, et seq. See also 50 Code of Federal Regulations Part 402. The regulatory requirements for the California Endangered Species Act can be found at California Fish and Game Code, Section 2050, et seq. Caltrans projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Sections 1900-1913, and the California Environmental Quality Act (CEQA), found at California Public Resources Code, Sections 21000-21177.

Affected Environment

A Natural Environment Study (Minimal Impact) was prepared for the project on September 10, 2018.

The project area is highly disturbed with mostly agricultural lands and limited commercial, industrial and residential uses. Roadside vegetation is ruderal due to native vegetation being heavily modified or completely removed by disturbance from previous construction activities and agricultural activities in the area. The

project area contains moderate amounts of vegetation including eucalyptus trees (*Eucalyptus globulus*) and oak trees (*Quercus lobota*).

An official species list of threatened and endangered species that may occur in the project area and/or may be affected by the project was obtained from the U.S. Fish and Wildlife Service (see Appendix F). In addition, a database search for special-status species occurring within the Goshen, Visalia, Paige and Tulare U.S. Geological Survey 7.5-minute quadrangles was performed through the California Department of Fish and Wildlife Rarefind 5 internet application (California Natural Diversity Database 2018, see Appendix F) and California Native Plant Society Electronic Inventory of Rare and Endangered Plants (CNPS, see Appendix F).

Environmental Consequences

No special-status plant species, including California Department of Fish and Wildlife species of special concern, U.S. Fish and Wildlife Service candidate species, and California Native Plant Society rare and endangered plants, have the potential to occur in the project area. There were no listed plant species found during the project field surveys. Vegetation, including eucalyptus trees (*Eucalyptus globulus*) and oak trees (*Quercus lobota*), would be removed during construction of the project. Approximately 6 to 8 eucalyptus trees and 2 oak trees would be removed with both Alternative 4 and Alternative 5.

Avoidance, Minimization, and/or Mitigation Measures

- A revegetation plan will be implemented to replace the trees that will be removed during construction.
- Preconstruction surveys will be performed to confirm that special-status plant species are not present in the project area.
- Removal of any oak trees (habitat) will require mitigation including replanting on-site, replanting along the same watershed, and/or replanting at an off-site location. Replanting of oak trees will be at a 10:1 ratio.

2.3.3 Threatened and Endangered Species

The main federal law protecting threatened and endangered species is the Federal Endangered Species Act: 16 U.S. Code Section 1531, et seq. See also 50 Code of Federal Regulations Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (and Caltrans, as assigned), are required to consult with the U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (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 or a Letter of Concurrence. Section 3 of Federal Endangered Species Act defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act, California Fish and Game Code Section 2050, et seq. The California Endangered Species Act emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats.

The California Department of Fish and Wildlife is the agency responsible for implementing the California Endangered Species Act. Section 2080 of the California Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California Endangered Species Act allows for take incidental to otherwise lawful development projects; for these actions, an incidental take permit is issued by the California Department of Fish and Wildlife.

For species listed under both the Federal Endangered Species Act and the California Endangered Species Act requiring a Biological Opinion under Section 7 of Federal Endangered Species Act, the California Department of Fish and Wildlife may also authorize impacts to California Endangered Species Act species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

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

Affected Environment

A Natural Environment Study (Minimal Impact) was prepared for the project on September 10, 2013. The project area is highly disturbed with mostly agricultural lands and limited commercial, industrial and residential uses.

San Joaquin Kit Fox

The San Joaquin kit fox is listed as a state and federal endangered species. Its historic range included most of the San Joaquin Valley from San Joaquin County southward to southern Kern County. Kit foxes are present, but generally less abundant, in highly modified landscapes such as agricultural row crops, irrigated pastures, orchards, and vineyards.

A survey of the project area yielded no observations of San Joaquin kit fox or dens. In addition, spotlighting surveys for a separate project took place just north of the study area and west of the city of Visalia in 2017 and yielded no observations of San Joaquin kit foxes. The two nearest California Natural Diversity Database (CNDDB) occurrences of the San Joaquin kit fox range from 5 to 10 miles away and are dated 1973-1975. No suitable denning habitat was observed, and no small mammals were detected, nor were any burrows. Suitable prey base does not occur in the area. The project area is mostly agricultural, and the habitat is considered low quality and marginal due to the absence of prey.

Swainson's Hawk

The Swainson's hawk is listed as a state threatened species. It forages in grasslands, agricultural fields, and livestock pastures. These hawks usually roost and nest in large trees. Breeding occurs from late March into late August.

A California Natural Diversity Database query resulted in several recent sightings of the Swainson's hawk in areas surrounding the project. Sightings ranged from 1.6 to 5.5 miles away, with one nest 2.55 miles north of the area in 2017. No historical nest trees are present within the study area.

Site surveys were done by Caltrans and consultant biologists on December 15, 2017, April 6 and 24, 2018, and May 1, 2018. During each visit, no Swainson's hawk observations were made and no nests were found.

Environmental Consequences

San Joaquin Kit Fox

Because San Joaquin kit foxes are unlikely to occur within the project area, they would not be impacted. There is no denning habitat for the species within the area, and general wildlife surveys did not detect dens or suitable prey base; therefore, the area is not likely to support the species. No direct, indirect, or future impacts to San Joaquin kit foxes are expected to occur from the proposed project. Based on these observations, the California Natural Diversity Database occurrences, and recent spotlighting data, San Joaquin kit foxes are unlikely to occur in the project area.

Swainson's Hawk

The project area contains suitable nest trees for Swainson's hawks, but no hawk observations were made and no nests were observed. If a Swainson's hawk were to enter the project area, any noise or disturbance from construction would have no greater impact to a Swainson's hawk than the current disturbances from State Route 99, the adjacent train tracks, and the foot and vehicle traffic from the commercial and agricultural activities in the area. Therefore, no impacts to Swainson's hawks are anticipated with the implementation of avoidance and minimization measures.

Table 2.24 shows the Federal Endangered Species Act determinations for the species included in the U.S. Fish and Wildlife special-status species queries performed for

the project. Of these, none were found to have a high potential to occur on-site or be impacted by the project.

Table 2.24 Summary of Federal Endangered Species Act Impacts and Determinations

Species	Status(1)	Possible in Which Habitat Type	Species Impacts Expected After AMMs(2)?	FESA Determination
Fresno kangaroo rat	FE	Alkali desert scrub, alkali sinks, and herbaceous habitat with scattered shrubs in southwestern San Joaquin Valley at elevations up to 1,800 feet. Prefer nearly flat terrain and sandy loam soils for burrow excavation.	No, no active burrows were found on-site, and no species occurrences exist near project location.	*No effect.*
San Joaquin kit fox	FE	Alkali sink, valley grassland, and open woodlands, in valleys and adjacent gentle foothills with suitable prey base.	No, no dens were observed, and suitable prey base does not occur.	*No effect.*
Tipton kangaroo rat	FE	Arid-land communities on alluvial fan and floodplain soils having level or nearly level topography along the valley floor of the Tulare Basin.	No, no active burrows were found on-site, and no species occurrences exist near project location.	*No effect.*
Blunt-nosed leopard lizard	FE	Semiarid grasslands, alkali flats, low foothills, canyon floors, large washes, and arroyos, usually on sandy, gravelly, or loamy substrate, sometimes on hardpan.	No, no habitat on-site, and no recorded occurrences within 10 miles.	*No effect.*
Giant garter snake	FT	Agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes and low-gradient streams.	No, no riparian habitat occurs in action area, and project area is outside of this species' range.	*No effect.*
California red-legged frog	FT	Ponds, perennial pools, slow-moving streams, and adjacent riparian areas. Can be found in livestock watering impoundments.	No, habitat features do not exist within or near the project area. No ponds, perennial pools or slow-moving streams occur.	*No effect.*
California tiger salamander	FT	Partly shaded, shallow streams and riffles with a rocky substrate.	No, habitat features do not exist within or near the project area. No streams or riffles occur.	*No effect.*
Delta smelt	FT	Spawns in freshwater, but lives in the mixing zone of fresh and saline water in the Sacramento and San Joaquin estuaries of the San Francisco Bay.	No, project area is outside of this species' range. Measurable downstream effects not expected from this project.	*No effect.*
Vernal pool fairy shrimp	FT	Vernal pool complexes apart of undulating landscapes, where soil mounds are interspersed with basins, swales, and drainages	No, no vernal pool habitat on-site.	*No effect.*
Vernal pool tadpole shrimp	FE	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	No, no vernal pool habitat on-site.	*No effect.*
Western yellow-billed cuckoo	FT	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	No riparian habitat or suitable perching/nesting trees (willow, cottonwood) present in action area.	*No effect.*

(1) Species Status Key: FE = Federal Endangered; FT = Federal Threatened
(2) AMMs = Avoidance and Minimization Measures

Avoidance, Minimization, and/or Mitigation Measures

San Joaquin Kit Fox

Caltrans and the contractor will implement the following measures from the "Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance" (USFWS 2011):

- Preconstruction/pre-activity surveys will be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity that could impact the San Joaquin kit fox. If San Joaquin kit foxes are detected on the project site, consultation with the California Department of Fish and Wildlife will occur to discuss how to avoid a take or the potential need for an Incidental Take Permit (ITP).
- Prior to any ground disturbance, the contractor, all employees of the contractor, subcontractors, and subcontractors' employees will attend an employee education program by a Caltrans or other approved biologist. The program will consist of a brief presentation on San Joaquin kit fox biology, legislative protection, and measures to avoid impacts to the species during project implementation.

Swainson's Hawk

The following measures will be implemented to minimize the potential impacts to the Swainson's hawk:

- If construction takes place during the nesting season (February 1 through September 30), preconstruction surveys will be performed no more than 10 days prior to any ground-disturbing activities. The preconstruction surveys will follow the methodology developed by the Swainson's Hawk Technical Advisory Committee.
- If nesting Swainson's hawks are observed in the project area, the nest site will be designated an Environmentally Sensitive Area (ESA), with a buffer zone of 600 feet, until the young have fledged the nest. If a 600-foot buffer is not feasible, an Incidental Take Permit will be necessary for project implementation.
- A biologist will monitor any active nests during construction activities. If continuous monitoring of nests is not feasible, a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors will be implemented. The no-disturbance buffers will remain in place until the breeding season has ended or the birds have fledged the nest.
- A special provision for the Migratory Bird Treaty Act will be included to ensure that no potential nesting migratory birds are affected during construction activities.

- Surveys by a qualified biologist will include establishment of a behavioral baseline for all identified nests. Nests will be monitored during construction to detect any behavioral changes due to construction activities. If behavioral changes occur, consultation with the California Department of Fish and Wildlife will be required to determine if any additional avoidance and minimization measures are necessary.
- Removal of any trees within the project area should be done outside of the nesting season; however, if a tree within the project area needs to be removed during the nesting season, a qualified biologist will inspect the tree prior to removal to ensure that no nests are present.

2.3.4 Invasive Species

Regulatory Setting

On February 3, 1999, President William J. Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration guidance issued August 10, 1999 directs the use of the State's invasive species list, maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

Affected Environment

A Natural Environment Study (Minimal Impact) was prepared for the project on September 10, 2018.

The project area is highly disturbed, with mostly agricultural lands and limited commercial, industrial and residential uses. Two non-native species—ripgut brome (*Bromus diandrus*) and wild mustard (*Sinapis arvensis*)—were identified in the action area and were identified as invasive by the California Invasive Plant Council (CIPC).

Environmental Consequences

No species on the California list of invasive species are used by Caltrans for erosion control or landscaping. All equipment and materials would be inspected for the presence of invasive species. Due to the limited number of invasive species in the project area, no impacts are anticipated with the implementation of avoidance and minimization measures.

Avoidance, Minimization, and/or Mitigation Measures

In compliance with the executive order on invasive species (Executive Order 13112) and guidance from the Federal Highway Administration, the landscaping and erosion control included in the project will not use species listed as invasive. In areas of

particular sensitivity, extra precautions will be taken if invasive species are found in or next to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

To prevent the introduction and spread of invasive species, Caltrans has issued policy guidelines that provide a framework for addressing roadside vegetation management issues for construction activities and maintenance programs. The Caltrans invasive species policy guidelines, Standard Special Provisions, and best management practices will minimize the potential that this project will introduce, transport, or spread invasive species to and/or from the project site.

Chapter 3 CEQA Evaluation

3.1 Determining Significance under CEQA

The proposed project is a joint project by Caltrans and the Federal Highway Administration and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The Federal Highway Administration's responsibility for environmental review, consultation, and any other actions required by applicable federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S. Code Section 327 (23 USC 327) and the Memorandum of Understanding dated December 23, 2016 and executed by the Federal Highway Administration and Caltrans. Caltrans is the lead agency under NEPA and CEQA.

One of the main differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an Environmental Impact Statement, or a lower level of documentation, will be required. NEPA requires that an Environmental Impact Statement be prepared when the proposed federal action (project) as a whole has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an Environmental Impact Statement, it is the magnitude of the impact that is evaluated, and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an Environmental Impact Report must be prepared. Each and every significant effect on the environment must be disclosed in the Environmental Impact Report and mitigated if feasible. In addition, the CEQA Guidelines list a number of "mandatory findings of significance," which also require the preparation of an Environmental Impact Report. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

3.2 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the project will indicate that there are no impacts to a particular resource. A NO IMPACT answer in the last column reflects this determination. 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.

Project features, which can include both design elements of the project and standardized measures that are applied to all or most Caltrans projects such as best management practices and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 2 in order to provide you with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

AESTHETICS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

CEQA Significance Determinations for Aesthetics

a) No Impact

The proposed project build alternatives will not have a substantial adverse impact on a scenic vista. The project area does not include any scenic vistas. *(Visual Impact Assessment, June 20, 2018)*

b) No Impact

The project is not located within a state scenic highway. *(Visual Impact Assessment, June 20, 2018)*

c) Less Than Significant Impact

The existing interchange will be reconstructed at its current location. Aesthetic treatments including landscaping will be incorporated into the project to enhance the visual character of the site and surrounding area above its current condition. Approximately 2 oak trees will be removed at the Middle Fork of the Persian Ditch as needed to realign Drive 88. *(Visual Impact Assessment-Minor Level, November 1, 2018)*

d) No Impact

No impacts from light or glare will affect daytime or nighttime views in the area. Lighting will be replaced or added as required by Caltrans standard plans for safety. The project will have no impact on the creation of a new source of light or glare. *(Visual Impact Assessment, June 20, 2018)*

AGRICULTURE AND FOREST RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.				
Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

CEQA Significance Determinations for Agriculture and Forest Resources

a) Less Than Significant Impact

There is no Farmland of Statewide Importance in the project area. Although the project will convert Prime and Unique Farmland to non-agricultural use, the acreages that will be converted under Alternative 4 and preferred Alternative 5 represent only between 0.000039 to 0.000045 percent of the total farmland in Tulare County. Therefore, the impact to farmland will be less than significant.

b) No Impact

The project will not conflict with existing zoning for agricultural use or a Williamson Act contract. The existing zoning and Williamson Act contracts will remain in place with Alternative 4 and preferred Alternative 5.

c) No Impact

There are no forests or timberlands in the project area.

d) No Impact

There are no forests or timberlands in the project area.

e) Less Than Significant Impact

The purpose of the project is to reconstruct the interchange to improve traffic operations and safety. Although improvements to the interchange could result in a demand to convert farmland to non-agricultural uses, the potential impact will be less than significant because the project area is outside both the urban development boundary and urban growth boundary as identified in the City of Visalia 2014 General Plan. There is no forest land in the project area.

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

CEQA Significance Determinations for Air Quality

a) No Impact

The project will have no impact on any air quality plans. The project is included in the Tulare County Association of Governments (TCAG) Regional Transportation Plan and the Federal Transportation Improvement Program.

b) No Impact

The project will not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Interagency consultation occurred on May 3, 2018. The interagency partners concurred that the project is "Not a Project of Air Quality Concern."

c) Less Than Significant Impact

The project will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment. The region is in non-attainment under the state ambient air quality standards for PM_{10} and $PM_{2.5}$. A conformity analysis for this project as "Not a Project of Air Quality Concern" was conducted and submitted to the San Joaquin Valley Council of Governments' Directors' Association Interagency Consultation Group (IAC) on May 3, 2018. The

Interagency Consultation Partners concurred on May 3, 2018 that this is "Not a Project of Air Quality Concern."

d) No Impact

The project will not expose sensitive receptors to substantial pollutant concentrations. The area is mostly rural agricultural with limited commercial, industrial and residential development. There are no sensitive receptors in the project area.

e) No Impact

The project will not create objectionable odors affecting a substantial number of people. The project will improve the existing interchange, and there are few people in the vicinity.

BIOLOGICAL RESOURCES

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

CEQA Significance Determinations for Biological Resources

a) Less Than Significant Impact

The project will not have a substantial adverse effect on biological resources. Biological surveys did not identify any critical habitat or any listed species. Additional studies will be conducted prior to construction.
(Natural Environment Study - Minimal Impact, September 10, 2018)

b) No Impact

There is no riparian habitat or other sensitive natural community within the project area. *(Natural Environment Study - Minimal Impact, September 10, 2018)*

c) No Impact

There are no federally protected wetlands in the project area. *(Natural Environment Study - Minimal Impact, September 10, 2018)*

d) No Impact

There are no native resident or migratory fish or wildlife species in the project area, and there are no wildlife corridors or native wildlife nursery sites in the project area. The project lies outside of National Marine Fisheries Service (NMFS) jurisdiction. A query for a National Marine Fisheries Service list was sent, but no results were returned. Since the query resulted in no findings, a species list could not be generated. *(Natural Environment Study - Minimal Impact, September 10, 2018)*

e) Less Than Significant Impact with Mitigation Incorporated

A project landscape plan will include replacement planting of eucalyptus trees and oak trees. The eucalyptus trees will be replaced at a minimum ratio of 1:1, and the oak trees will be replaced at a ratio of 10:1 based on their size.

f) No Impact

There are no adopted habitat conservation plans, natural community conservation plans, or other approved local, regional, or state habitat conservation plans that encompass the project area. *(Natural Environment Study - Minimal Impact, September 10, 2018)*

CULTURAL RESOURCES

CEQA Significance Determinations for Cultural Resources

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 dedicated cemeteries?	☐	☐	☐	☒

a) No Impact

Caltrans Professional Qualified Staff (PQS) determined there are "No Historic Resources Present" within the Area of Potential Effect (APE), and therefore, pursuant to Section 106, determined a finding of "No Historic Properties Affected" as appropriate for this undertaking. There are no Section 4(f) resource types within the project vicinity. *(Historical Property Survey Report, April 2018)*

b) No Impact

No archeological resources are known to exist within the project area. *(Archaeological Survey Report, April 2018)*

c) No Impact

There will be no impact to a paleontological resource or site if excavation does not exceed 5 feet in depth. The maximum depth of excavation will not exceed 1 foot for each of the build alternatives. *(Paleontological Identification Report, April 11, 2016)*

d) No Impact

There are no identified human remains within the project limits. Native American consultation was conducted, and the Tule River Tribe indicated it has no knowledge of culturally sensitive items or sites within the project area. *(Archaeological Survey Report, April 5, 2018 and Tule River Tribe email, March 26, 2018)*

GEOLOGY AND SOILS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☒
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

CEQA Significance Determinations for Geology and Soils

a) No Impact

A District Preliminary Geotechnical Report was prepared for the project on March 9, 2018. The project will not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving any of the following in sub-items i, ii, iii, and iv below.

i) No Impact

There are no known zoned faults within 10 miles of the bridge site. Therefore, the potential for surface rupture from known faults within the project limits is considered low. The site is not located within an Earthquake Fault Zone as designated by the California Geologic Survey. There is no known risk of rupture of a known earthquake fault based on any evidence of a known fault.

ii) No Impact

The nearest fault to the site is the Great Valley 14 Kettleman Hills fault zone located about 36.4 miles southwest of the project site. Therefore, strong seismic ground shaking is not anticipated at the project location.

iii) No Impact

Based on the depth to groundwater and the potential ground motion, seismic-related ground failure including liquefaction is not likely to occur at the project site.

iv) No Impact

There is no risk of landslides associated with the project. The project site topography is generally flat with no hills.

b) No Impact

The project will not result in substantial soil erosion or the loss of topsoil. The topography within the project area is generally flat with no hills. A Caltrans District Landscape Architect will be consulted regarding erosion control measures in the project design.

c) No Impact

The project site is not located in a geologic unit or area with soil that is unstable or that will become unstable because of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. The topography within the project area is generally flat with no hills, not lending itself to any risk of landslides. Based on the depth to groundwater and the potential ground motion, there is a low risk of seismic-related ground failure including liquefaction at the project site.

d) No Impact

The project location is within the Great Valley province of California. The area is composed of alluvium soils that are not considered expansive and therefore will not create substantial risks to life or property.

e) No Impact

Soil permeability is a consideration for projects that require septic system installation. Because the proposed project will not involve the installation of a septic tank or alternative wastewater disposal system, no impacts will occur.

GREENHOUSE GAS EMISSIONS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Caltrans has used the best available information based to the extent possible on scientific and factual information, to describe, calculate, or estimate the amount of greenhouse gas emissions that may occur related to this project. The analysis included in the climate change section of this document provides the public and decision-makers as much information about the project as possible. It is Caltrans' determination that in the absence of statewide-adopted thresholds or GHG emissions limits, it is too speculative to make a significance determination regarding an individual project's direct and indirect impacts with respect to global climate change. Caltrans remains committed to implementing measures to reduce the potential effects of the project. These measures are outlined in the climate change section that follows the CEQA checklist and related discussions.			
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				

HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

CEQA Significance Determinations for Hazards and Hazardous Materials

a) Less Than Significant

Any hazardous materials found at the project site will be disposed of at an approved disposal facility or handled on-site as directed by the contract special provisions.

b) No Impact

The project will not create a significant hazard to the public or the environment from any reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. There are no known hazardous materials in the project area.

c) No Impact

The project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste. There are no existing or planned schools within one-quarter mile of the project site.

d) No Impact

The project is not on any list of hazardous material sites.

e) No Impact

The project sits within 2 miles of the Visalia Municipal Airport. There will be no safety hazard for people residing or working in the project area because the project will only modify the existing interchange to improve traffic operations and safety.

f) No Impact

The project is not within the vicinity of a private airstrip.

g) No Impact

The project will not impair the implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. The project will improve traffic operations at the interchange, which will benefit emergency services.

h) No Impact

There are no wildlands within the project area. The area is mostly rural and developed with agricultural uses.

HYDROLOGY AND WATER QUALITY

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow	☐	☐	☐	☒

CEQA Significance Determinations for Hydrology and Water Quality

a) No Impact

The project will not violate any water quality standards or waste discharge requirements. To ensure the protection of water quality, a 401 and 402 permit from the California Regional Water Quality Control Board, 404 permit from the U.S. Army Corps of Engineers, and 1600 permit from the California Department of Fish and Wildlife will be obtained. In addition, a Storm Water Pollution Prevention Plan will be prepared for the project.

b) No Impact

The project will not impact groundwater supplies. No water is being drawn from the ground for the project.

c) No Impact

Improving the existing interchange will not alter the existing drainage pattern of the site or area in a manner that would result in substantial erosion or siltation on- or off-site. Erosion control measures will be incorporated into the design of the project. There are no streams or rivers in the project area.

d) No Impact

Improving the existing interchange will not alter the existing drainage pattern of the site or area or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. Additional storm drain basins will be constructed at the interchange to handle the additional storm water runoff from the project. There are no streams or rivers in the project area.

e) Less than Significant Impact

The project will not create or contribute runoff water that will exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Additional storm drain basins are planned within the project to handle all runoff from the project.

f) No Impact

The project will not substantially degrade water quality. Caltrans standard specifications will be implemented to ensure the protection of water quality during construction. A notice of intent (NOI) will be filed with the Regional Water Quality Control Board 30 days prior to the start of construction, and a Notice of Termination will be filed with the Regional Water Quality Control Board upon completion of construction and site stabilization. A Storm Water Pollution Prevention Plan (SWPPP) will also be prepared for the project.

g) No Impact

No housing is proposed with the project.

h) No Impact

The project will not place structures within a 100-year flood hazard that would impede or redirect flood flows.

i) No Impact

The project will not cause flooding and therefore will not expose people or structures to a significant risk of loss, injury or death involving flood waters. There are no levees or dams in the project area.

j) No Impact

The project will not cause inundation by seiche, tsunami, or mudflow. The project location, climate and topography do not contribute to these types of events.

LAND USE AND PLANNING

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

CEQA Significance Determinations for Land Use and Planning

a) No Impact

The project will not divide any established communities. The project area is rural agricultural, and there are no established communities in the vicinity.

b) Less than Significant Impact

The project does not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project. Both build alternatives are consistent with and identified in the City of Visalia General Plan (2014) and the 2018 Tulare County Association of Governments Regional Transportation Plan (RTP).

c) No Impact

There are no habitat conservation or natural community conservation plans within or near the project area.

MINERAL RESOURCES

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

CEQA Significance Determinations for Mineral Resources

a) No Impact

The project area is mapped by the Department of Conservation as an area where available geologic information indicates that little likelihood exists for the presence of significant mineral resources. Therefore, the project will not 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) No Impact

The project will not result in the loss of availability of a locally important mineral resource. There are no mineral resource sites in the vicinity of the project that are delineated in the Tulare County General Plan, any specific plan or other land use plans.

NOISE

Would the project result in:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

CEQA Significance Determinations for Noise

a) No Impact

The project Noise Study Report found that future noise levels generated from the project will not exceed established thresholds of significance. *(Noise Study Report, May 2018)*

b) Less Than Significant Impact

Administrative and equipment noise control measures will be implemented to avoid or minimize potential groundborne vibration or noise levels. Any increase in vibration and noise will be temporary during construction. *(Noise Study Report, May 2018)*

c) No Impact

The project will not create a substantial permanent increase in ambient noise levels in the area. Existing and predicted noise levels in the project area are below the noise abatement thresholds for the purposes of CEQA. *(Noise Study Report, May 2018)*

d) Less Than Significant Impact

Temporary or periodic increases in ambient noise levels will occur during construction. Ambient noise levels will be avoided or minimized with both administrative and equipment specific noise control measures. *(Noise Study Report, May 2018)*

e) No Impact

The Visalia Municipal Airport is about 1 mile north of project. The project will only modify the existing interchange and therefore will not expose people residing or working in the project area to excessive noise levels.

f) No Impact

There are no private airstrips within the vicinity of the project.

POPULATION AND HOUSING

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

CEQA Significance Determinations for Population and Housing

a) No Impact

The project will not induce substantial population growth because it is not proposing new homes or businesses and will not extend any roads or infrastructure. The project proposes only to modify the existing interchange to improve traffic operations and safety.

b) No Impact

The project will not result in the displacement of any existing housing necessitating the construction of replacement housing elsewhere.

c) No Impact

The project will not displace any people necessitating the construction of replacement housing elsewhere.

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:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

CEQA Significance Determinations for Public Services

The project will not 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 public services.

Fire protection) Less Than Significant Impact

The nearest Tulare County Fire Station is the Goshen Fire Station (Fire Station #7) at 30901 Road 67 in Goshen, about 4 miles north of the project site just east of State Route 99. The project will improve traffic operations and traffic safety at the interchange and will not have any impact on fire service in the area. Any road closures at the interchange will be temporary during construction. A detour will be provided if needed.

Police protection) Less Than Significant Impact

Law enforcement service is provided in the area by the Tulare County Sheriff's Department and the California Highway Patrol. The project will improve traffic operations and traffic safety at the interchange. There will be no impact to police protection. Staged construction will be used to keep the interchange open during construction. Any road closures at the interchange will be brief and temporary. A detour will be provided if needed.

Schools) No Impact

The project site lies within the Visalia Unified School District boundaries. The nearest school is the Charter Alternatives Academy at 6832 Avenue 280, 2 miles west of the interchange. The project will improve traffic operations and traffic safety at the interchange. There will be no impact to schools. Staged construction will be used to keep the interchange open during construction. Any road closures at the interchange will be brief and temporary. A detour will be provided if needed.

Parks) No Impact

There are no parks in the immediate vicinity of the project. The nearest park is Sunset Park about 1.8 miles east of the project. There will be no impacts to parks. There are no 4(f) resources in the project area.

Other public facilities) No Impact

There will be no impacts to other public facilities resulting from improving traffic operations and traffic safety at the interchange.

RECREATION

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

CEQA Significance Determinations for Recreation

a) No Impact

The project will improve traffic operations and traffic safety at the interchange. It will not increase the use of existing neighborhood and regional parks or other recreational facilities so that substantial physical deterioration of these facilities would occur or be accelerated. There will be no impact to any parks or recreational facilities.

b) No Impact

The project will modify the existing interchange to improve traffic operations and traffic safety. There are no recreational facilities in the immediate vicinity of the project, and the project does not include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

TRANSPORTATION/TRAFFIC

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

CEQA Significance Determinations for Transportation/Traffic

a) Less Than Significant Impact

The project will not conflict with any plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system. The project will improve traffic operations and safety at the interchange. It will also improve pedestrian mobility by constructing sidewalks and bike lanes on Avenue 280 within the project limits. Transit infrastructure could be added in the project limits if development occurs in the future. Temporary circulation system impacts will occur only during construction.

b) No Impact

The project will not conflict with an applicable congestion management program. The project will improve the level of service at the interchange including at ramp and intersection locations.

c) No Impact

Reconstructing the interchange will have no impact on air traffic. It will not increase air traffic, change traffic patterns, or impact air traffic safety.

d) No Impact

The project will not substantially increase hazards due to a design feature. The project will meet current highway and local road design standards. Reconstructing the interchange will improve traffic safety.

e) No Impact

The project will not result in inadequate emergency access in the vicinity. Reconstructing the interchange will improve traffic operations and safety in the area.

f) No Impact

There are currently no bicycle, pedestrian, or transit facilities within the limits of the project. The project will construct sidewalks and bike lanes on Avenue 280 within the project limits and provide the opportunity for transit facilities in the future if warranted by development in the area. These facilities will increase safety for pedestrians, bicyclists and future transit users in the future.

TRIBAL CULTURAL RESOURCES

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

CEQA Significance Determinations for Tribal Cultural Resources

a) No Impacts

No historical resources were identified within the project limits. *(Historical Property Survey Report, April 2018)*

b) No Impacts

Consultation with parties who may know of tribal cultural resources located near or within the project limits was initiated in March 2018. The parties involved in the consultation process did not express concern about or identify any tribal cultural resources within the project limits. *(Historical Property Survey Report, April 2018)*

UTILITIES AND SERVICE SYSTEMS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

CEQA Significance Determinations for Utilities and Service Systems

a) No Impact

This project does not involve any wastewater.

b) No Impact

The project will not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities.

c) Less Than Significant Impact

The project will result in additional impervious surface area that will increase storm water runoff. New storm drain facilities, 1 foot deep, will be constructed at the interchange to handle the additional runoff. Construction of the new basins will not cause significant environmental effects.

d) No Impact

This project will not need a water supply.

e) No Impact

This project will not generate any wastewater.

f) No Impact

This project will not generate any solid waste.

g) No Impact

This project will not generate any solid waste.

MANDATORY FINDINGS OF SIGNIFICANCE

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

CEQA Significance Determinations for Mandatory Findings of Significance

a) No Impact

The project does not 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. The Natural Environment Study (Minimal Impact) dated September 10, 2018, concluded the following: no federal or state threatened or endangered species will be impacted by the project; there are no jurisdictional aquatic resources within the project limits; no federal or state listed plant species have the potential to occur in the project area; and no special-status animal species were observed on-site during biological surveys for the project and previous surveys in the area.

b) No Impact

The project does not have impacts that will be individually limited, but cumulatively considerable. The purpose of the project is to improve traffic operations and traffic safety at the existing interchange and therefore there will be no cumulative impacts.

c) No Impact

The project will not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly. The project area is mostly rural with limited commercial, industrial and residential uses. The proposed modifications to the interchange will not substantially impact any human beings.

3.3 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (also referred to as 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 led to increased efforts devoted to greenhouse gas emissions reduction and climate change research and policy. These efforts are concerned mostly 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 (1, 1, 1, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of greenhouse gas emissions is electricity generation, followed by transportation.[4] 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) are the largest contributors of greenhouse gas emissions.[5] The dominant greenhouse gas emitted is CO_2, mostly from fossil fuel combustion.

Two terms are typically used when discussing how we address the impacts of climate change: "greenhouse gas mitigation" and "adaptation." "Greenhouse gas mitigation" covers the activities and policies aimed at reducing greenhouse gas emissions to reduce or "mitigate" the impacts of climate change. "Adaptation," on the other hand, is concerned with planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).

Regulatory Setting

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

Federal

To date, no national standards have been established for nationwide mobile-source greenhouse gas reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and greenhouse gas emissions reduction at the project level.

[4] https://www.epa.gov/ghgemissions/us-greenhouse-gas-inventory-report-1990-2014
[5] https://www.arb.ca.gov/cc/inventory/data/data.htm

The National Environmental Policy Act (NEPA) (42 U.S. Code Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

The Federal Highway Administration recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. The Federal Highway Administration therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices.[6] This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—"the triple bottom line of sustainability."[7] Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life. Addressing these factors up front in the planning process will assist in decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project-level decision-making.

Various efforts have been made at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects.

The Energy Policy Act of 1992 (EPACT92, 102nd Congress H.R.776.ENR): With this act, Congress set goals, created mandates, and amended utility laws to increase clean energy use and improve overall energy efficiency in the United States. EPACT92 consists of 27 titles detailing various measures designed to lessen the nation's dependence on imported energy, provide incentives for clean and renewable energy, and promote energy conservation in buildings. Title III of EPACT92 addresses alternative fuels. It gave the U.S. Department of Energy administrative power to regulate the minimum number of light-duty alternative fuel vehicles required in certain federal fleets beginning in fiscal year 1993. The main goal of the program is to cut petroleum use in the United States by 2.5 billion gallons per year by 2020.

Energy Policy Act of 2005 (109th Congress H.R.6 (2005–2006): This act sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) Indian energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

Energy Policy and Conservation Act of 1975 (42 USC Section 6201) and Corporate Average Fuel Standards: This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy

[6] https://www.fhwa.dot.gov/environment/sustainability/resilience/
[7] https://www.sustainablehighways.dot.gov/overview.aspx

standards is determined through the Corporate Average Fuel Economy (CAFE) program on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States.

The U.S. EPA's authority to regulate greenhouse gas emissions stems from the U.S. Supreme Court decision in Massachusetts v. EPA (2007). The Supreme Court ruled that greenhouse gases meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the court's ruling, the U.S. EPA 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 EPA's assessment of the scientific evidence that form the basis for EPA's regulatory actions.

The U.S. EPA in conjunction with the National Highway Traffic Safety Administration (NHTSA) issued the first of a series of greenhouse gas emission standards for new cars and light-duty vehicles in April 2010[8] and significantly increased the fuel economy of all new passenger cars and light trucks sold in the United States. The standards required these vehicles to meet an average fuel economy of 34.1 miles per gallon by 2016. In August 2012, the federal government adopted the second rule that increases fuel economy for the fleet of passenger cars, light-duty trucks, and medium-duty passenger vehicles for model years 2017 and beyond to average fuel economy of 54.5 miles per gallon by 2025. Because the National Highway Traffic Safety Administration cannot set standards beyond model year 2021 due to statutory obligations and the rules' long timeframe, a mid-term evaluation is included in the rule. The Mid-Term Evaluation is the overarching process by which the National Highway Traffic Safety Administration, EPA, and Air Resources Board will decide on the Corporate Average Fuel Economy (CAFE) and greenhouse gas emissions standard stringency for model years 2022–2025. The National Highway Traffic Safety Administration has not formally adopted standards for model years 2022 through 2025. However, the EPA finalized its mid-term review in January 2017, affirming that the target fleet average of at least 54.5 miles per gallon by 2025 was appropriate. In March 2017, President Donald Trump ordered the EPA to reopen the review and reconsider the mileage target.[9]

The National Highway Traffic Safety Administration and EPA issued a Final Rule for "Phase 2" for medium- and heavy-duty vehicles to improve fuel efficiency and cut carbon pollution in October 2016. The agencies estimate that the standards will save up to 2 billion barrels of oil and reduce CO_2 emissions by up to 1.1 billion metric tons over the lifetimes of model year 2018–2027 vehicles.

[8] https://one.nhtsa.gov/Laws-&-Regulations/CAFE-%E2%80%93-Fuel-Economy

State

With the passage of legislation including State Senate and Assembly bills and executive orders, California has been innovative and proactive in addressing greenhouse gas emissions and climate change.

Assembly Bill 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 S-3-05 (June 1, 2005): The goal of this order is to reduce California's greenhouse gas emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill 32 in 2006 and SB 32 in 2016.

Assembly Bill 32 (AB 32), Chapter 488, 2006: Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 greenhouse gas emissions reduction goals as outlined in Executive Order S-3-05, while further mandating that the Air Resources Board create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." The Legislature also intended that the statewide greenhouse gas emissions limit continue in existence and be used to maintain and continue reductions in emissions of greenhouse gases beyond 2020 (Health and Safety Code Section 38551(b)). The law requires the Air Resources Board to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective greenhouse gas reductions.

Executive Order S-01-07 (January 18, 2007): This order set forth the low carbon fuel standard (LCFS) for California. Under this order, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. The Air Resources Board re-adopted the LCFS regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 greenhouse gas reduction goals.

Senate Bill 97 (SB 97), Chapter 185, 2007, Greenhouse Gas Emissions: This bill requires 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 Air Resources Board to set regional emissions reduction targets for 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 how it will achieve the emissions target for its region.

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

Executive Order B-16-12 (March 2012): This order required state entities under the direction of the governor, including the Air Resources Board, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

Executive Order B-30-15 (April 2015): This order established an interim statewide greenhouse gas emission reduction target of 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of greenhouse gas emissions to implement measures, pursuant to statutory authority, to achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reductions targets. It also directs the Air Resources Board to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO2e). Finally, it requires the Natural Resources Agency to update the state's climate adaptation strategy, Safeguarding California, every 3 years, and to ensure that its provisions are fully implemented.

Senate Bill 32 (SB 32), Chapter 249, 2016: This bill codifies the greenhouse gas reduction targets established in Executive Order B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

Environmental Setting

In 2006, the Legislature passed the California Global Warming Solutions Act of 2006 (AB 32), which created a comprehensive, multi-year program to reduce greenhouse gas emissions in California. AB 32 required the Air Resources Board to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing greenhouse gas emissions to 1990 levels by 2020. The Scoping Plan was first approved by the Air Resources Board in 2008 and must be updated every 5 years. The second updated plan, California's 2017 Climate Change Scoping Plan, adopted on December 14, 2017, reflects the 2030 target established in Executive Order B-30-15 and SB 32.

The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce greenhouse gas emissions. As part of its supporting documentation for the updated Scoping Plan, the Air Resources Board released the greenhouse gas inventory for California.[10] The Air Resources Board is responsible for maintaining and updating California's Greenhouse Gas Inventory per H&SC Section 39607.4. The associated forecast/projection is an estimate of the emissions anticipated

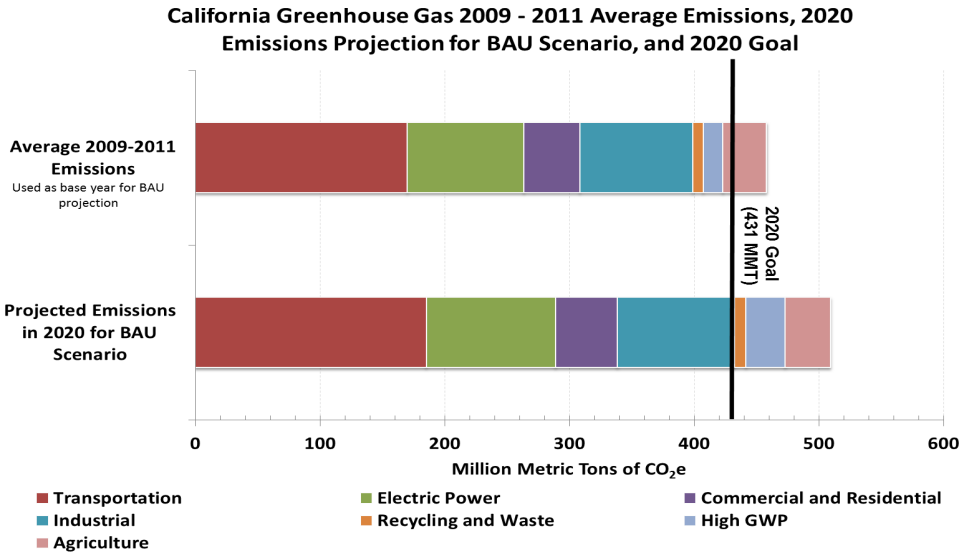
[10] 2018 Edition of the GHG Emission Inventory Released (July 2018): https://www.arb.ca.gov/cc/inventory/data/data.htm

to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented.

An emissions projection estimates future emissions based on current emissions, expected regulatory implementation, and other technological, social, economic, and behavioral patterns. The projected 2020 emissions provided in Figure 3-1 represent a business-as-usual (BAU) scenario assuming none of the Scoping Plan measures are implemented. The 2020 BAU emissions estimate assists the Air Resources Board in demonstrating progress toward meeting the 2020 goal of 431 MMTCO2e.[11] The 2018 edition of the greenhouse gas emissions inventory (released July 2018) found total California emissions of 429 $MMTCO_2e$ for 2016.

The 2020 BAU emissions projection was revisited in support of the First Update to the Scoping Plan (2014). This projection accounts for updates to the economic forecasts of fuel and energy demand as well as other factors. It also accounts for the effects of the 2008 economic recession and the projected recovery. The total emissions expected in the 2020 BAU scenario include reductions anticipated from Pavley I and the Renewable Electricity Standard (30 $MMTCO_2e$ total). With these reductions in the baseline, estimated 2020 statewide BAU emissions are 509 $MMTCO_2e$.

Figure 3-1 2020 Business as Usual (BAU) Emissions Projection 2014 Edition



Source: https://www.arb.ca.gov/cc/inventory/data/bau.htm

[11] The revised target using Global Warming Potentials (GWP) from the IPCC Fourth Assessment Report (AR4)

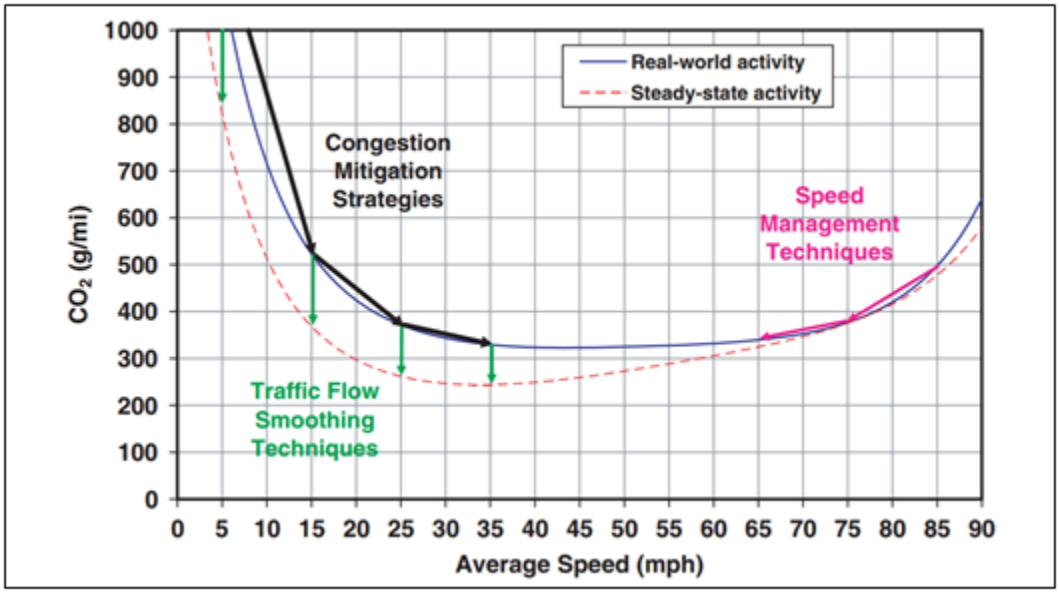
Project Analysis

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.[12] In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines Sections 15064(h)(1) and 15130). To make this determination, you must compare the incremental impacts of the project 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.

Greenhouse gas emissions for transportation projects can be divided into those produced during operations and those produced during construction. The following represents a best faith effort to describe the potential greenhouse gas emissions related to the proposed project.

Operational Emissions

Figure 3-2 Possible Use of Traffic Operation Strategies in Reducing On-Road $C0_2$ Emissions



Source: Matthew Barth and Kanok Boriboonsomsin, University of California, Riverside, May 2010 (https://www.researchgate.net/publication/46438207)

[12] 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).

Four main strategies can reduce greenhouse gas emissions from transportation sources: (1) improving the transportation system and operational efficiencies, (2) reducing travel activity), (3) transitioning to lower greenhouse gas-emitting fuels, and (4) improving vehicle technologies/efficiency. To be most effective all four strategies should be pursued concurrently.

The Federal Highway Administration supports these strategies to lessen climate change impacts, which correlate with efforts that the state of California is undertaking to reduce greenhouse gas emissions from the transportation sector.

The highest levels of 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 3-2). To the extent that a project relieves congestion by enhancing operations and improving travel times in high-congestion travel corridors, greenhouse gas emissions, particularly CO_2, may be reduced.

Both build alternatives are consistent with the City of Visalia General Plan (2014) because the City of Visalia traffic circulation plans are integrated with the County of Tulare plans under the 2014 Tulare County Association of Governments (TCAG) Regional Transportation Plan (RTP). The project does not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project. Improving the interchange is identified in the City of Visalia General Plan and the Tulare County Association of Governments Regional Transportation Plan.

The Tulare County Regional Road System is part of the Regional Transportation Plan. The Regional Road System is a network of highways and roads connecting cities and unincorporated communities providing rapid and efficient goods movement throughout the county. The Regional Road System has been included in the adopted Regional Transportation Plan since 1980. The regional road system, which connects cities or provides access through cities in the county, includes State Route 99 from the Kern County line through Tulare and Visalia to the Fresno County line.

The proposed project is partially funded and is in the 2018 Tulare County Association of Governments Regional Transportation Plan, which was found to conform by the Tulare County Association of Governments. The project was recently included in the Tulare County Association of Governments financially constrained 2017 Federal Transportation Improvement Program (FTIP) with Amendment 16 and was federally approved on April 12, 2018.

The project is listed in the Tulare County Sustainable Communities Strategy (SCS) as a regional project funded by the Tulare County 1/2 Cent Transportation Sales Tax Expenditure Plan (Measure R). It is consistent with the Sustainable Communities Strategy goals, policies and objectives in that it will provide for provide for an efficient, integrated multi-modal transportation system for the movement of people and goods that will enhance the physical, economic, and social environment in the Tulare County Region. It is also consistent with Sustainable Communities Strategy

goals for active transportation in that it will improve, enhance, and expand the region's bicycle and pedestrian systems by constructing both bike lanes and sidewalks to provide for connectivity in the area if development occurs in the future. The project will not change the existing infrastructure for transit. However, possible future bus stops, when needed, will be considered if development occurs in the area.

In the same way, the proposed project supports the Tulare County and City of Visalia Climate Action Plans (CAP), which also encourage biking and walking by integrating bike and pedestrian facilities into development projects. The Climate Action Plan also encourages the use of signal timing and roundabouts to increase intersection efficiency. Alternative 4 would construct three traffic signals that would be synchronized to maximize efficient traffic flow and minimize traffic idling and queuing at the intersections. Preferred Alternative 5 will construct two roundabouts at the ramp intersections and one signal at the Avenue 280 (Caldwell Avenue) and Drive 85/Drive 88 intersection, which will further improve the traffic flow at the interchange.

Roundabouts can reduce CO_2 emissions and fuel consumption because they reduce vehicle delay and the number and duration of accelerations and decelerations compared to other intersection types (NCHRP 2010; Handy and Boarnet 2014). The effects of roundabouts on emissions varies, as factors such as driver behavior, previous intersection design, roundabout design, and relative traffic volumes on the feeder roads all affect emissions (Handy and Boarnet 2014). [13] Nevertheless, the Transportation Research Board's *Roundabouts: An Informational Guide* (NCHRP 2010) notes that "The usual basis for selection is that a roundabout will provide better operational performance than a signal in terms of stops, delay, vehicle queues, fuel consumption, safety, and pollution emissions … provided that the roundabout is operating within its capacity." The study notes that even under heavy volumes, traffic continues to advance slowly through the roundabout, reducing the number of start/stop cycles and idling time that contribute to emissions and fuel consumption. [14]

Quantitative Analysis

CO_2 emissions were calculated for the project using the 2017 Air Resources Board EMFAC (Emissions FACtor) model. The estimated emissions for the baseline year (2015), opening year (2023), and horizon/design year (2043) are shown in Table 3.1.

[13] Handy, Susan, and M. Boarnet. 2014. *Policy Brief on the Impacts of Roundabouts on Passenger Vehicle Use and Greenhouse Gas Emissions*. University of California, Davis

[14] National Cooperative Highway Research Program (NCHRP). 2010. *Roundabouts: An Informational Guide.* Second Edition. NCHRP Report 672, Transportation Research Board, the National Academies, Washington, DC. Available: http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_672.pdf. Accessed: November 9, 2017.

Table 3.1 Carbon Dioxide Operational Metric Tons per Year

Alternative	CO_2 Emissions	Annual Vehicle Miles Traveled[1]
Existing/Baseline 2015	56,622	1,460,000
Open to Traffic [2023]		
Alternative 1-No-Build Alternative	137,747	4,745,000
Build Alternative 4 (signals)	148,674	4,799,750
Build Alternative 5 (roundabouts)	137,747	4,745,000
20-Year Horizon/Design-Year [2043]		
Alternative 1-No-Build Alternative	186,091	6,186,750
Build Alternative 4 (signals)	162,912	6,232,375
Build Alternative 5 (roundabouts)	164,237	6,186,750

Source: Caltrans Central Region Environmental Engineering Branch, EMFAC 2017.
[1]VMT = annual average daily traffic x project length x 365 days.

Both vehicle miles traveled and CO_2 emissions increase moderately in 2023 and substantially in 2043 under all alternatives compared to the 2015 baseline condition. Vehicle miles traveled are the same for the No-Build Alternative and Alternative 5 in 2023 and 2043, and slightly lower than the vehicle miles traveled for Alternative 4. Between 2015 and 2043, local population and commercial growth will result in more traffic and CO_2 increases in the area over time. This increase will occur with or without the project.

The analysis shows that CO_2 emissions for both build alternatives in opening year 2023 equal or exceed Alternative 1 (No-Build Alternative) emissions. In horizon year 2043, estimated CO_2 emissions under both build alternatives are less than emissions for Alternative 1 despite the relatively small differences in vehicle miles traveled. CO_2 emissions increase under the build alternatives and No-Build Alternative in 2023 and 2043 compared to 2015 existing conditions, as would be expected based on anticipated local growth and projected additional Annual Average Daily Traffic counts (see Section 2.2.5, Air Quality). This will occur with or without the proposed project. Level of Service would be worse under the No-Build Alternative when compared to the build alternatives in 2043; CO_2 emissions generally increase as level of Service degrades and vehicle congestion increases. Accordingly, the No-Build Alternative would result in levels of CO_2 that would exceed both build alternatives by as much as 23,000 metric tons per year. Both build alternatives would improve the Level of Service at the interchange in 2043 and result in a reduction in CO_2 emissions compared to the No-Build Alternative.

While EMFAC has a rigorous scientific foundation and has been vetted through multiple stakeholder reviews, its emission rates are based on tailpipe emission test data. The numbers are estimates of CO_2 emissions and not necessarily the actual CO_2 emissions. The model does not account for factors such as the rate of acceleration and the vehicles' aerodynamics, which influence CO_2 emissions. To account for CO_2 emissions, the Air Resources Board's greenhouse gas inventory follows the IPCC

guideline by assuming complete fuel combustion, while still using EMFAC data to calculate CH_4 and N_2O emissions. Though EMFAC is currently the best available tool for use in calculating greenhouse gas emissions, it is important to note that the CO_2 numbers provided are only useful for a comparison of alternatives.

Construction Emissions

Construction greenhouse gas emissions will result from material processing, on-site construction equipment, and 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 offset to some degree by longer intervals between maintenance and rehabilitation activities.

CO_2 emissions generated from construction equipment were estimated using the Caltrans Construction Emissions Tool. The estimated CO_2 construction emissions are 1,590 US tons per year. The estimated total will be 3,180 tons during the two-year construction window.

In an effort to reduce construction greenhouse emissions, the following measures will be implemented:

1. Caltrans will prepare a traffic management plan to most efficiently manage traffic during construction.
2. According to Caltrans' Standard Specifications, the contractor must comply with all local Air Pollution Control District (APCD) rules, ordinances, and regulations for air quality restrictions to reduce greenhouse gas emissions.
3. Provide a detour if needed to handle traffic during construction.
4. Shut off equipment when not in use or minimize idling time.
5. Maintain all construction equipment in proper working condition according to manufacturer's specifications.
6. Encourage and/or provide carpools or shuttle vans for construction worker commutes.
7. Use on-site soils if available to reduce the vehicle miles traveled for haul trucks.

CEQA Conclusion

While the project will result in a slight increase in greenhouse gas emissions during construction, it is anticipated that the project will result in a long-term reduction of operational greenhouse gas emissions under either build alternative compared with the No-Build Alternative, as shown in Table 3.1. All alternatives show an increase in

CO_2 emissions compared to the 2015 baseline as a result of planned and anticipated residential and commercial growth, which will occur with or without the project. 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

Statewide Efforts

In an effort to further the vision of California's greenhouse gas reduction targets outlined in AB 32 and SB 32, then-Governor Edmund G. Brown Jr. identified key climate change strategy pillars (concepts). See Figure 3-3.

Figure 3-3 Governor's Climate Change Pillars: 2030 Greenhouse Gas Reduction Goals

These pillars highlight the idea that several major areas of the California economy will need to reduce emissions to meet the 2030 greenhouse gas emissions target. These pillars are (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy-efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farm and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, Safeguarding California.

The transportation sector is integral to the people and economy of California. To achieve greenhouse gas emission reduction goals, it is vital that we build on our past successes in reducing criteria and toxic air pollutants from transportation and goods movement activities. Greenhouse gas emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled. One of then-Governor Brown's key pillars sets the ambitious goal of reducing today's petroleum use in cars and trucks by up to 50 percent by 2030.

Governor Brown called for support to manage natural and working lands, including forests, rangelands, farms, wetlands, and soils, so they can store carbon. These lands have the ability to remove carbon dioxide from the atmosphere through biological processes, and to then sequester carbon in above- and below-ground matter.

Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the Air Resources Board works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Executive Order B-30-15, issued in April 2015, and SB 32 (2016), set a new interim target to cut greenhouse gas emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

California Transportation Plan (CTP 2040)

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce greenhouse gas emissions. The plan defines performance-based goals, policies, and strategies to achieve our collective vision for California's future statewide, integrated, multimodal transportation system. It serves as an umbrella document for all of the other statewide transportation planning documents.

SB 391 (Liu 2009) requires the California Transportation Plan to meet California's climate change goals under AB 32. Accordingly, the CTP 2040 identifies the statewide transportation system needed to achieve maximum feasible greenhouse gas emission reductions while meeting the state's transportation needs. While Metropolitan Planning Organizations have primary responsibility for identifying land use patterns to help reduce greenhouse gas emissions, CTP 2040 identifies additional strategies in Pricing, Transportation Alternatives, Mode Shift, and Operational Efficiency.

Caltrans Strategic Management Plan

The Strategic Management Plan, released in 2015, creates a performance-based framework to preserve the environment and reduce greenhouse gas emissions, among other goals. Specific performance targets in the plan that will help to reduce greenhouse gas emissions include the following:

- Increasing percentage of non-auto mode share
- Reducing vehicle miles traveled per capita
- Reducing Caltrans' internal operational (buildings, facilities, and fuel) greenhouse gas emissions

Funding and Technical Assistance Programs

In addition to developing plans and performance targets to reduce greenhouse gas emissions, Caltrans also administers several funding and technical assistance programs that have greenhouse gas reduction benefits. These include the Bicycle Transportation Program, Safe Routes to School, Transportation Enhancement Funds, and Transit Planning Grants. A more extensive description of these programs can be found in Caltrans Activities to Address Climate Change (2013).

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

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

Project-Level Greenhouse Gas Reduction Strategies

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

1. The project is designed to reduce congestion, which will reduce greenhouse gas emissions from traffic delays and idling under the future growth scenario.
2. The project will add pedestrian and bicycle facilities to the project area to encourage use of non-motorized modes of transportation.
3. Caltrans will prepare a traffic management plan to most efficiently manage traffic during construction.
4. According to Caltrans' Standard Specifications, the contractor must comply with all local Air Pollution Control District (APCD) rules, ordinances, and regulations for air quality restrictions to reduce greenhouse gas emissions.
5. Provide a detour if needed to handle traffic during construction.
6. Shut off equipment when not in use or minimize idling time.
7. Maintain all construction equipment in proper working condition according to manufacturer's specifications.
8. Encourage and/or provide carpools or shuttle vans for construction worker commutes.

9. Use on-site soils if available to reduce the vehicle miles traveled for haul trucks.
10. A landscape plan will be developed to provide for the planting of trees that provide cooling shade and absorb CO_2.

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—or, put another way, planning and design for resilience. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their 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. These types of impacts to the transportation infrastructure may also have economic and strategic ramifications.

Federal Efforts

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the Council on Environmental Quality, 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[15], 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 provided an update on actions in key areas of federal adaptation, including: building resilience in local communities, safeguarding critical natural resources such as fresh water, and providing accessible climate information and tools to help decision-makers manage climate risks.

The federal Department of Transportation issued a U.S. DOT Policy Statement on Climate Adaptation in June 2011, committing to "integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of DOT in order to ensure that taxpayer resources are invested wisely and that transportation infrastructure, services and operations remain effective in current and future climate conditions."[16]

To further the DOT Policy Statement, on December 15, 2014, the Federal Highway Administration issued order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events*).[17] This directive established a Federal Highway Administration policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation

[15] https://obamawhitehouse.archives.gov/administration/eop/ceq/initiatives/resilience
[16] https://www.fhwa.dot.gov/environment/sustainability/resilience/
[17] https://www.fhwa.dot.gov/legsregs/directives/orders/5520.cfm

systems. The Federal Highway Administration will work to integrate consideration of these risks into its planning, operations, policies, and programs in order to promote preparedness and resilience; safeguard federal investments; and ensure the safety, reliability, and sustainability of the nation's transportation systems.

The Federal Highway Administration has developed guidance and tools for transportation planning that fosters resilience to climate effects and sustainability at the federal, state, and local levels.[18]

State Efforts

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 order set in motion several agencies and actions to address the concern of sea-level rise and directed all state agencies planning to construct projects in areas vulnerable to future sea-level rise to consider a range of sea-level rise scenarios for the years 2050 and 2100, 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, and storm surge and storm wave data.

Then-Governor Schwarzenegger also requested the National Academy of Sciences to prepare an assessment report to recommend how California should plan for future sea-level rise. The final report, Sea-Level Rise for the Coasts of California, Oregon, and Washington (Sea-Level Rise Assessment Report),[19] was released in June 2012 and included relative sea-level rise projections for the three states, taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge, and land subsidence rates, and the range of uncertainty in selected sea-level rise projections. It provided 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, and a discussion of future research needs regarding sea-level rise.

In response to Executive Order S-13-08, the California Natural Resources Agency (Resources Agency), in coordination with local, regional, state, federal, and public and private entities, developed The California Climate Adaptation Strategy (December 2009),[20] which summarized the best available science on climate change impacts to California, assessed California's vulnerability to the identified impacts, and outlined solutions that can be implemented within and across state agencies to promote resiliency. The adaptation strategy was updated and rebranded in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan).

---

[18] https://www.fhwa.dot.gov/environment/sustainability/resilience/

[19] *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.

[20] http://www.climatechange.ca.gov/adaptation/strategy/index.html

Then-Governor Jerry Brown enhanced the overall adaptation planning effort by signing Executive Order B-30-15 in April 2015, requiring state agencies to factor climate change into all planning and investment decisions. In March 2016, sector-specific Implementation Action Plans that demonstrate how state agencies are implementing Executive Order B-30-15 were added to the Safeguarding California Plan. This effort represents a multi-agency, cross-sector approach to addressing adaptation to climate change-related events statewide.

Executive Order S-13-08 also gave rise to the *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance), produced by the Coastal and Ocean Working Group of the California Climate Action Team (CO-CAT), of which Caltrans is a member. First published in 2010, the document provided "guidance for incorporating sea-level rise (SLR) projections into planning and decision making for projects in California," specifically, "information and recommendations to enhance consistency across agencies in their development of approaches to SLR."[21]

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 actively engaged in working toward identifying these risks throughout the state and will work to incorporate this information into all planning and investment decisions as directed in Executive Order B-30-15.

The proposed project is outside the coastal zone and not in an area subject to sea-level rise. Accordingly, direct impacts to transportation facilities due to projected sea-level rise are not expected.

[21] http://www.opc.ca.gov/2013/04/update-to-the-sea-level-rise-guidance-document/

Chapter 4 Comments and Coordination

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and avoidance, minimization, and/or mitigation measures and related environmental requirements. Agency and tribal consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including interagency coordination meetings, a public hearing, public notices and Project Development Team meetings. This chapter summarizes the results of Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

The draft document (Initial Study with Proposed Mitigated Negative Declaration and Environmental Assessment) was circulated for public review from December 3, 2018 to January 2, 2019. A public hearing was held on December 12, 2019. Written comments received on the draft document were collected, and they are responded to in the final environmental document. For copies of any comments received and responses to these comments, please see Appendix H.

- April 17, 2018—The Caltrans Project Development Team met with Tulare County and Tulare County Association of Governments (TCAG) staff to discuss the status, alternatives, and development constraints related to the project.
- May 15, 2018—Caltrans biologist Dena Gonzalez contacted California Department of Fish and Wildlife liaison Steven Hulbert to inquire about the jurisdiction of Evans Ditch. On May 16, 2018, Steven Hulbert replied stating that the agency will not be taking jurisdiction over Evans Ditch. Coordination with the U.S. Army Corps of Engineers and Regional Water Quality Control Board will be conducted to obtain permits and certification to work within the waterway of Evans Ditch.
- July 16, 2018—Caltrans biologist Roland Garcia contacted California Department of Fish and Wildlife liaison Steven Hulbert regarding the jurisdiction of Persian Ditch. Steven Hulbert stated that the agency will be taking jurisdiction over all forks of the Persian Ditch, thereby requiring a 1600 Streambed Alteration Agreement. In addition, coordination will need to be conducted with the California Department of Fish and Wildlife to obtain an Incidental Take Permit for the Swainson's hawk and mitigation for any valley oak tree removal within the 1600 jurisdiction area.
- July 20, 2018—Caltrans biologist Roland Garcia met with Visalia Municipal Airport superintendent Katherine Bales to access the airport parcel and conduct Diameter at Breast Height (DBH) surveys on the valley oak trees anticipated to be impacted by construction.
- August 7, 2018—California Department of Fish and Wildlife liaison Steven Hulbert was contacted by Caltrans Mitigation Specialist David Johnson regarding

oak tree mitigation and stated that the California Department of Fish and Wildlife is willing to consider the City of Visalia's mitigation fee as an option for the project. The described fee is $120 multiplied by the Diameter at Breast Height (DBH) for each tree removed.

- October 27, 29, and 31, 2018—The Value Analysis Team met to discuss project design alternatives to potentially reduce impacts and costs.
- December 12, 2018—Caltrans conducted a public hearing on December 12, 2018 at El Diamante High School in the City of Visalia. The hearing ran from 5:30 p.m. to 7:30 p.m. to discuss and answer questions regarding the reconstruction of the Caldwell interchange. Public officials and land owners from the project area attended the meeting. An opportunity to provide comments through a court reporter was also provided.
- December 17, 2018—Caltrans obtained approval of the Tulare County Association of Governments 2019 Federal Transportation Improvement Program from the U.S. Department of Transportation (Federal Highway Administration and the Federal Transit Authority).
- February 8, 2019—The Project Development Team consisting of Caltrans, Tulare County Association of Governments, Tulare County and the City of Visalia staff met to discuss and recommend a preferred alternative.
- March 8, 2019—Caltrans sent the Federal Highway Administration a request to issue a project-level conformity determination.
- April 27, 2019—Caltrans received the Federal Highway Administration's project-level conformity determination stating "FHWA finds that the Caldwell Interchange Project conforms with the state implementation plan (SIP) in accordance with 40 CFR Part 93." See Appendix G.

Chapter 5 List of Preparers

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

Jon L. Brady, Associate Environmental Planner/Architectural Historian. M.A., History, California State University, Fresno; B.A., Political Science and Anthropology; more than 30 years of experience as a consulting archaeologist and historian. Contribution: Completed the Historic Property Survey Report.

Diego Caldera, Civil Engineer, P.E. B.S., Civil Engineering, California State University, Fresno; 13 years of Hydraulics/Hydrology experience. Contribution: Location Hydraulic Study.

Rodrigo Cruz, Professional Engineer, Civil CA #57918, B.S., Civil Engineering, Araullo University, Philippines; Transportation Engineer, Range D; combined 27 years of transportation and traffic engineering experience. Contribution: Preparation of Draft Project Report, other technical reports and preliminary cross-sections and build alternative layout plan preparation and estimates.

Roland Garcia, Environmental Planner (Natural Sciences). B.S., Biology, California State University, Fresno; 8 years of biological experience. Contribution: Completed the Natural Environment Study and the Biological Assessment.

Marie (Terry) Goewert, Associate Environmental Planner (Air Quality Specialist). B.S., Foods and Nutrition, Colorado State University; 17 years of environmental compliance and 12 years of environmental planning experience. Contribution: Air Quality Study.

Joseph Llanos, Graphic Designer III. B.A., Graphic Design, California State University, Fresno; 19 years of visual design and public participation experience. Contribution: Prepared graphics for the environmental document.

Mandy Macias, Associate Environmental Planner (Arch)/Native American Coordinator. B.A., Anthropology, California State University, Fresno; more than 20 years of California archaeology experience. Contribution: Coordinated Native American outreach for the project.

Michael Mills, Professional Landscape Architect CA #4770. B.A., Landscape Architecture and Environmental Planning, Utah State University; 19 years landscape architecture experience. Contribution: Mitigation Planting Plans, specifications, estimates. Contribution: Visual Impact Assessment.

Shawn Ogletree, Engineering Geologist. B.S., Environmental Conservation of Natural Resources, Texas Tech University; B.S., Wildlife/Fisheries Management, Texas Tech University; MPH, California State University, Fresno; 13 years of environmental health, environmental technical studies

experience; 10 years of biology experience. Contribution: Completed the Paleontological Identification Report.

Richard Putler, Senior Environmental Planner. M.A., City and Regional Planning, California State University, Fresno; B.A., Political Science, University of California, Davis; 18 years of environmental planning experience. Contribution: Environmental branch senior and document review.

C. Kristina Roper, Staff Augmentation (Cultural). B.A., Anthropology, University of California, Berkeley; M.A., Cultural Resources Management, Sonoma State University. 37 years of experience performing archaeological studies and document preparation. Contribution: Archaeological Survey Report (ASR)/ Historical Property Survey Report (HPSR).

Jeff Sorensen, Associate Environmental Planner. B.A., Business Administration, California State University, Fresno; more than 35 years of land use, transportation and environmental planning experience. Contribution: Coordinated the environmental process. Prepared the Initial Study/Environmental Assessment.

Lea Spann, Engineering Geologist. B.A., Environmental Studies, University of California, Santa Barbara; over 20 years of hazardous waste/materials experience and 5 years of environmental planning experience. Contribution: Completed the Hazardous Waste Initial Site Assessment.

Jennifer H. Taylor, Environmental Office Chief. Double Bachelor of Arts in Political Studies and Organizational Sciences, Pitzer College; 30 years of experience in environmental and land use planning. Contribution: Oversight review of the environmental document.

Vladimir Timofei, Transportation Engineer. M.S., Civil Engineering, California State University, Fullerton; 17 years of environmental technical studies experience. Contribution: Completed the Noise Study Report.

Chapter 6 Distribution List

Property Owners and Organizations

Kenneth L. Puryear
3740 W. Caldwell Avenue
Visalia, CA 93277

CLC In and Out Food Mart
5743 W. Sunnyview Avenue
Visalia, CA 93291

City of Visalia
707 W. Acequia Avenue
Visalia, CA 93277

County of Tulare
2800 W. Burrel Avenue
Visalia, CA 93291

Union Pacific Railroad Company
1400 Douglas Street #1640
Omaha, NE 68179

Faria and Sons LTD Family Partnership
2771 S. Shirk Road
Visalia, CA 93277

Union Pacific Railroad Company
1416 Dodge Street
Omaha, NE 68179

Aia Malli LP
233 N. "M" Street
Tulare, CA 93274

Jasjeet S. Malli
5716 W. Buena Vista Avenue
Visalia, CA 93291

Henry P. Anderson III Revocable Trust
3740 W. Caldwell Avenue
Visalia, CA 93277

Carlos G. Padilla
1364 E. Academy Avenue
Visalia, CA 93274

Malli Enterprises LLC
110 S. Akers Street
Visalia, CA 93291

Kaweah Delta Water Conservation District
P.O. Box 1247
Visalia, CA 93279

Nachhatar Dhaliwal
9515 S. Zediker Avenue
Parlier, CA 93648

Travis Williams
Sequoia Gateway LLC
740 Via Robles
San Luis Obispo, CA 93401

Vearl W. Dodson
22645 Road 132
Tulare, CA 93274

Augustine Fernandes
7908 Avenue 280
Visalia, CA 93277

Eleazar S. Figueroa
20130 Jefferson Street
Perris, CA 92570

Michael Esteves
7908 Avenue 280
Visalia, CA 93277

Tony Esteves
7908 Avenue 280
Visalia, CA 93277

Valley Oak SPCA
ATTN: Lydia House
9800 Camp Drive
Visalia, CA 93291

Visalia Municipal Airport
ATTN: Katherine Bales
9501 W Airport Drive
Visalia, CA 93277

Tulare County Library, Farmersville Branch
623 N. Avery Avenue
Farmersville, CA 93223

Warren Gubler-Mayor
220 N. Sante Fe St.
Visalia, CA 93292

Bob Link-Vice-Mayor
220 N. Sante Fe St.
Visalia, CA 93292

Steven Nelson-Council Member
220 N. Sante Fe St.
Visalia, CA 93292

Greg Collins-Council Member
220 N. Sante Fe St.
Visalia, CA 93292

Phil Cox-Council Member
220 N. Sante Fe St.
Visalia, CA 93292

Local Agencies and Elected Officials

Persian Ditch Company
P.O. Box 366
Farmersville, CA 93223

Tulare County Library, Visalia Branch
200 W Oak Avenue
Visalia, CA 93291

Evans Ditch Company
P.O. Box 1920
Tulare, CA 93275

David Macedo-Mayor
411 East Kern Ave.
Tulare, CA 93274

Tulare County Library, Farmersville Branch
623 N. Avery Avenue
Farmersville, CA 93223

Maritsa Castellanoz-Vice-Mayor
411 East Kern Ave.
Tulare, CA 93274

Jason Britt - Administrative Officer
2800 West Burrel Avenue
Visalia, CA 93291

Scott Hatton
Central Region Water Quality Control Board
1685 E Street
Fresno, CA 93706

Mike Boudreaux-Sheriff
833 S. Akers St.
Visalia, CA 93277

American Ambulance
EMT & Paramedic Management
2017 E. Noble Avenue
Visalia, CA 93292-1520

Vicki Wingfield
Transportation Director, VUSD
5000 W. Cypress Avenue
Visalia, CA 93277

Charlie Norman
Fire Chief, Tulare County
835 S. Akers Street
Visalia, CA 93277

John Caudle
Deputy Superintendent, General Services
Tulare County Office of Education
P.O. Box 5091
Visalia, CA 93278-5091

Federal Agencies

U.S. Fish and Wildlife Service
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Natural Resources Conservation Service
3530 W. Orchard CT.
Visalia, CA 93277

U.S. Army Corps of Engineers
1325 J Street, Room 1350
Sacramento, CA 95814

Tribes

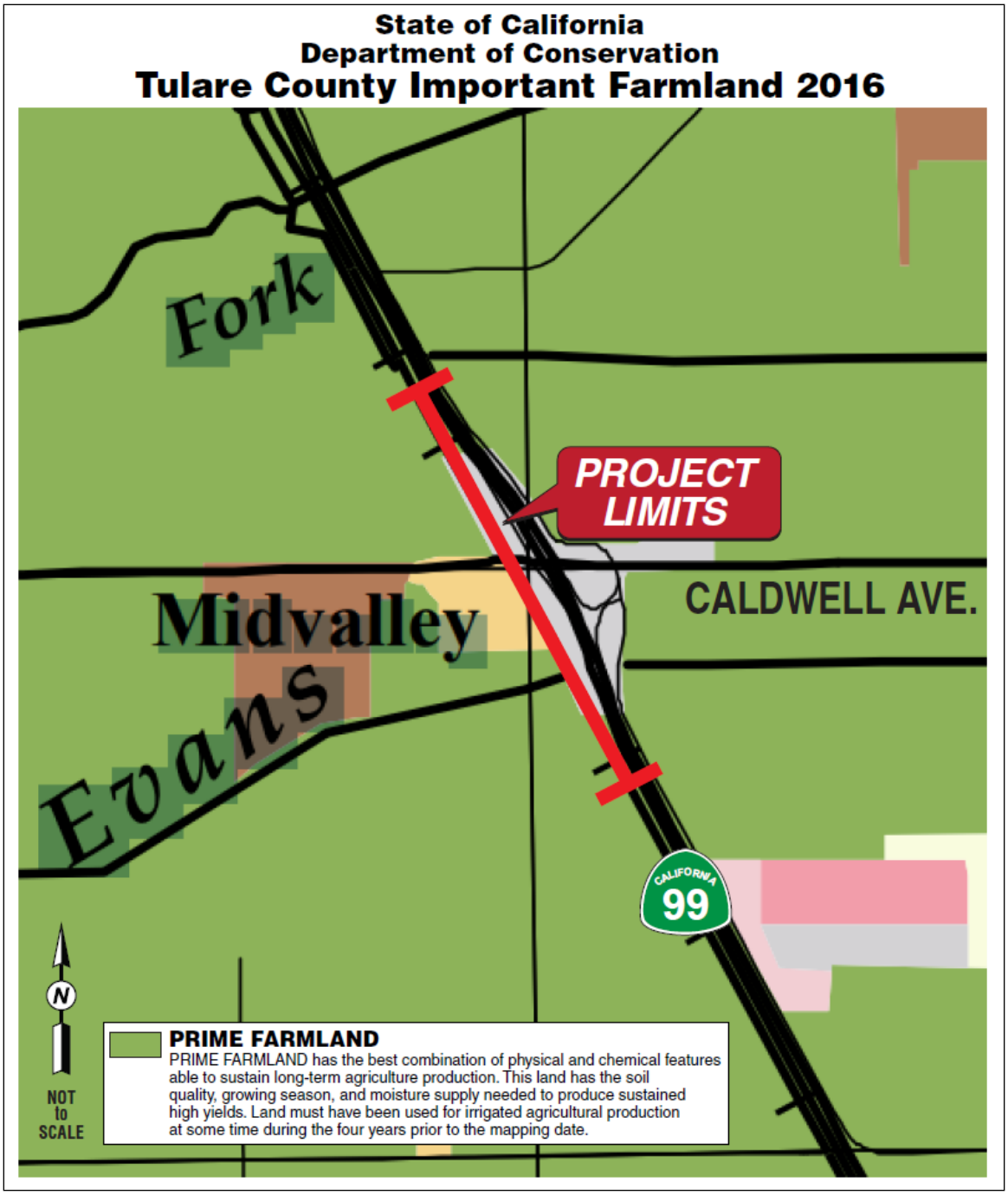
Dumna Wo-Wah Tribal Government
The Honorable Robert Ledger, Chairperson
2216 E. Hammond St.
Fresno, CA 93602

Wuksache Indian Tribe/Eshom Valley Band
The Honorable Kenneth Woodrow, Chairperson
1179 Rockhaven Court
Salinas, CA 93906

Tule River Indian Tribe
The Honorable Neil Peyron, Chairperson
P.O. Box 589
Porterville, CA 93258

Santa Rosa Rancheria
The Honorable Rueben Barrios, Chairperson
P.O. Box 8
Lemoore, CA 93245

Appendix A Farmland Map and Farmland Conservation 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 7/6/18	
Name of Project Caldwell Interchange Project		Federal Agency Involved FHWA	
Proposed Land Use Transportation		County and State Tulare County, CA. City of Visalia, CA	
PART II *(To be completed by NRCS)*		Date Request Received By NRCS 7/10/18	Person Completing Form: TG
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 [X] NO [ ]	Acres Irrigated 677,733	Average Farm Size 251 ac.
Major Crop(s) Milk, Fruits, Cattle forage, poultry, cotton, Grape	Farmable Land In Govt. Jurisdiction Acres: 1,239,000 40%	Amount of Farmland As Defined in FPPA Acres: N/A %	
Name of Land Evaluation System Used California Story System	Name of State or Local Site Assessment System NONE	Date Land Evaluation Returned by NRCS 7/13/18	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	11.6	12.6		
B. Total Acres To Be Converted Indirectly	19.11	14.46		
C. Total Acres In Site	30.71	27.06		
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	30.71	27.06		
B. Total Acres Statewide Important or Local Important Farmland	0	0		
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	.000095	.000039		
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	NA	NA		
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)	95	95		

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)	7	7		
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)	10	10		
6. Distance To Urban Support Services	(15)	5	5		
7. Size Of Present Farm Unit Compared To Average	(10)	1	1		
8. Creation Of Non-farmable Farmland	(10)	0	0		
9. Availability Of Farm Support Services	(5)	2	2		
10. On-Farm Investments	(20)	2	2		
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	62	62		
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	95	95		
Total Site Assessment *(From Part VI above or local site assessment)*	160	62	62		
TOTAL POINTS *(Total of above 2 lines)*	260	157	157		

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES [ ] NO [X]

Reason For Selection:

Name of Federal agency representative completing this form: Jason Adair Date: 10/16/18

(See instructions on reverse side)

Form AD-1006 (03-02)

Appendix B Summary of Relocation Benefits

California Department of Transportation Relocation Assistance Program

RELOCATION ASSISTANCE ADVISORY SERVICES

DECLARATION OF POLICY

"The purpose of this title is to establish a ***uniform policy for fair and equitable treatment*** of persons displaced as a result of federal and federally assisted programs in order that such persons ***shall not suffer disproportionate injuries*** as a result of programs designed for the benefit of the public as a whole."

The Fifth Amendment to the U.S. Constitution states, "No Person shall… be deprived of life, liberty, or property, without due process of law, nor shall private property be taken for public use without just compensation." The Uniform Act sets forth in statute the due process that must be followed in Real Property acquisitions involving federal funds. Supplementing the Uniform Act is the government-wide single rule for all agencies to follow, set forth in 49 Code of Federal Regulations (CFR) Part 24. Displaced individuals, families, businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and payments, as discussed below.

FAIR HOUSING

The Fair Housing Law (Title VIII of the Civil Rights Act of 1968) sets forth the policy of the United States to provide, within constitutional limitations, for fair housing. This act, and as amended, makes discriminatory practices in the purchase and rental of most residential units illegal. Whenever possible, minority persons shall be given reasonable opportunities to relocate to any available housing regardless of neighborhood, as long as the replacement dwellings are decent, safe, and sanitary and are within their financial means. This policy, however, does not require the Department to provide a person a larger payment than is necessary to enable a person to relocate to a comparable replacement dwelling.

Any persons to be displaced will be assigned to a relocation advisor, who will work closely with each displacee in order to see that all payments and benefits are fully utilized and that all regulations are observed, thereby avoiding the possibility of displacees jeopardizing or forfeiting any of their benefits or payments. At the time of the initiation of negotiations (usually the first written offer to purchase), owner-occupants are given a detailed explanation of the state's relocation services. Tenant occupants of properties to be acquired are contacted soon after the initiation of negotiations and also are given a detailed explanation of the Caltrans Relocation Assistance Program. To avoid loss of possible benefits, no individual, family, business, farm, or nonprofit organization should commit to purchase or rent a replacement property without first contacting a Department relocation advisor.

RELOCATION ASSISTANCE ADVISORY SERVICES

In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, the Department will provide relocation advisory assistance to any person, business, farm or nonprofit organization displaced as a result of the acquisition of real property for public use, so long as they are legally present in the United States. The Department will assist eligible displacees in obtaining comparable replacement housing by providing current and continuing information on the availability and prices of both houses for sale and rental units that are "decent, safe, and sanitary." Nonresidential displacees will receive information on comparable properties for lease or purchase (for business, farm, and nonprofit organization relocation services, see below).

Residential replacement dwellings will be in a location generally not less desirable than the displacement neighborhood at prices or rents within the financial ability of the individuals and families displaced, and reasonably accessible to their places of employment. Before any displacement occurs, comparable replacement dwellings will be offered to displacees that are open to all persons regardless of race, color, religion, sex, national origin, and consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance will also include the supplying of information concerning Federal and State assisted housing programs and any other known services being offered by public and private agencies in the area.

Persons who are eligible for relocation payments and who are legally occupying the property required for the project will not be asked to move without first being given at least 90 days written notice. Residential occupants eligible for relocation payment(s) will not be required to move unless at least one comparable "decent, safe, and sanitary" replacement dwelling, available on the market, is offered to them by the Department.

RESIDENTIAL RELOCATION PAYMENTS

The Relocation Assistance Program will help eligible residential occupants by paying certain costs and expenses. These costs are limited to those necessary for or incidental to the purchase or rental of a replacement dwelling and actual reasonable moving expenses to a new location within 50 miles of the displacement property. Any actual moving costs in excess of the 50 miles are the responsibility of the displacee. The Residential Relocation Assistance Program can be summarized as follows:

Moving Costs
Any displaced person, who lawfully occupied the acquired property, regardless of the length of occupancy in the property acquired, will be eligible for reimbursement of moving costs. Displacees will receive either the actual reasonable costs involved in moving themselves and personal property up to a maximum of 50 miles, or a fixed payment based on a fixed moving cost schedule. Lawful occupants who move into the displacement property after the initiation of negotiations must wait until the Department obtains control of the property in order to be eligible for relocation payments.

Purchase Differential
In addition to moving and related expense payments, fully eligible homeowners may be entitled to payments for increased costs of replacement housing.

Homeowners who have owned and occupied their property for 90 days or more prior to the date of the initiation of negotiations (usually the first written offer to purchase the property), may qualify to receive a price differential payment and may qualify to receive reimbursement for certain nonrecurring costs incidental to the purchase of the replacement property. An interest differential payment is also available if the interest rate for the loan on the replacement dwelling is higher than the loan rate on the displacement dwelling, subject to certain limitations on reimbursement based upon the replacement property interest rate.

Rent Differential
Tenants and certain owner-occupants (based on length of ownership) who have occupied the property to be acquired by the Department prior to the date of the initiation of negotiations may qualify to receive a rent differential payment. This payment is made when the Department determines that the cost to rent a comparable "decent, safe, and sanitary" replacement dwelling will be more than the present rent of the displacement dwelling. As an alternative, the tenant may qualify for a down payment benefit designed to assist in the purchase of a replacement property and the payment of certain costs incidental to the purchase, subject to certain limitations noted under the *Down Payment* section below.

To receive any relocation benefits, the displaced person must buy or rent and occupy a "decent, safe and sanitary" replacement dwelling within one year from the date the Department takes legal possession of the property, or from the date the displacee vacates the displacement property, whichever is later.

Down Payment
The down payment option has been designed to aid owner-occupants of less than 90 days and tenants in legal occupancy prior to the Department's initiation of negotiations. The one-year eligibility period in which to purchase and occupy a "decent, safe and sanitary" replacement dwelling will apply.

Last Resort Housing
Federal regulations (49 CFR 24) contain the policy and procedure for implementing the Last Resort Housing Program on Federal-aid projects. Last Resort Housing benefits are, except for the amounts of payments and the methods in making them, the same as those benefits for standard residential relocation as explained above. Last Resort Housing has been designed primarily to cover situations where a displacee cannot be relocated because of lack of available comparable replacement housing, or when the anticipated replacement housing payments exceed the limits of the standard relocation procedure, because either the displacee lacks the financial ability or other valid circumstances.

After the initiation of negotiations, the Department will within a reasonable length of time, personally contact the displacees to gather important information, including the following:

- Number of people to be displaced.
- Specific arrangements needed to accommodate any family member(s) with special needs.
- Financial ability to relocate into comparable replacement dwelling which will adequately house all members of the family.
- Preferences in area of relocation.
- Location of employment or school.

NONRESIDENTIAL RELOCATION ASSISTANCE

The Nonresidential Relocation Assistance Program provides assistance to businesses, farms and nonprofit organizations in locating suitable replacement property, and reimbursement for certain costs involved in relocation. The Relocation Advisory Assistance Program will provide current lists of properties offered for sale or rent, suitable for a particular business's specific relocation needs. The types of payments available to eligible businesses, farms, and nonprofit organizations are: searching and moving expenses, and possibly reestablishment expenses; or a fixed in lieu payment instead of any moving, searching and reestablishment expenses. The payment types can be summarized as follows:

Moving Expenses
Moving expenses may include the following actual, reasonable costs:

- The moving of inventory, machinery, equipment and similar business-related property, including: dismantling, disconnecting, crating, packing, loading, insuring, transporting, unloading, unpacking, and reconnecting of personal property. Items acquired in the right-of-way contract may not be moved under the Relocation Assistance Program. If the displacee buys an Item Pertaining to the Realty back at salvage value, the cost to move that item is borne by the displacee.
- Loss of tangible personal property provides payment for actual, direct loss of personal property that the owner is permitted not to move.
- Expenses related to searching for a new business site, up to $2,500, for reasonable expenses actually incurred.

Reestablishment Expenses
Reestablishment expenses related to the operation of the business at the new location, up to $25,000 for reasonable expenses actually incurred.

Fixed In Lieu Payment
A fixed payment in lieu of moving, searching, and reestablishment payments may be available to businesses that meet certain eligibility requirements. This payment is an amount equal to half the average annual net earnings for the last two taxable years prior to the relocation and may not be less than $1,000 nor more than $40,000.

ADDITIONAL INFORMATION

Reimbursement for moving costs and replacement housing payments are not considered income for the purpose of the Internal Revenue Code of 1954, or for the purpose of determining the extent of eligibility of a displacee for assistance under the

Social Security Act, or any other law, *except* for any federal law providing local "Section 8" Housing Programs.

Any person, business, farm or nonprofit organization that has been refused a relocation payment by the Department relocation advisor or believes that the payment(s) offered by the agency are inadequate may appeal for a special hearing of the complaint. No legal assistance is required. Information about the appeal procedure is available from the relocation advisor.

California law allows for the payment for lost goodwill that arises from the displacement for a public project. A list of ineligible expenses can be obtained from the Department's Division of Right of Way and Land Surveys. California's law and the federal regulations covering relocation assistance provide that no payment shall be duplicated by other payments being made by the displacing agency.

Appendix C Title VI Policy Statement

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-6130
FAX (916) 653-5776
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

April 2018

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

Related federal statutes and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, 1823 14th Street, MS-79, Sacramento, CA 95811. Telephone (916) 324-8379, TTY 711, email Title.VI@dot.ca.gov, or visit the website www.dot.ca.gov.

LAURIE BERMAN
Director

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Appendix D Avoidance, Minimization and/or Mitigation Summary

To be sure that all of the environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as articulated on the proposed Environmental Commitments Record [ECR] which follows) will be implemented. During project design, avoidance, minimization, and/or mitigation measures will be incorporated into the project's final plans, specifications, and cost estimates, as appropriate. All permits will be obtained prior to implementation of the project. During construction, environmental and construction/engineering staff will ensure that the commitments contained in the Environmental Commitments Record are fulfilled. Following construction and appropriate phases of project delivery, long-term mitigation maintenance and monitoring will take place, as applicable. As the following Environmental Commitments Record is a draft, some fields have not been completed, and will be filled out as each of the measures is implemented.

Note: Some measures may apply to more than one resource area. Duplicated or redundant measures have not been included in this Environmental Commitments Record.

The following describes the avoidance, minimization and/or mitigation measures that will be required for construction of the project.

Relocation and Real Property Acquisition

Caltrans will acquire needed property in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. Acquisitions for construction easements are temporary, and the land will be returned to the adjacent property owner after project completion.

- The billboard at the Middle Fork of the Persian Ditch will be removed. The City of Visalia will be compensated for the in-place value of the sign.

Utilities and Emergency Services

The following avoidance and minimization measures will prevent temporary impacts to utilities and emergency services:

Utilities

- Utilities will be relocated to accommodate construction of the project. All utility relocation work (SCE and AT&T) will be done by the utility companies. Utility users will be informed of the date and time in advance of any service disruptions.
- All construction work on the irrigation ditches and culverts will be coordinated with the irrigation companies. All work will be performed when the ditches and culverts are dry.

Emergency Services

- A traffic management plan will be developed to minimize delays and maximize safety during construction. The traffic management plan may include, but is not limited to, the following:

    1. Release of information through brochures and mailers, press releases, and notices from the Caltrans public information office.
    2. Use of fixed and portable changeable message signs.
    3. Incident management through the Construction Zone Enhancement Enforcement Program and the transportation management plan.

Traffic and Transportation

A traffic management plan including, but not limited to, the following:

- Release of information through brochures and mailers, press releases, and advertisements managed by the public information office.
- Use of fixed and portable changeable message signs.
- Incident management through the Construction Zone Enhancement Enforcement Program and the transportation management center.
- Use of one-way traffic control.
- Use of detour(s) during construction.

Visual/Aesthetics

Avoidance and Minimization Measures

- Develop a replanting plan for the interchange to replace trees removed for the project and to help visually blend the improved interchange with the surrounding landscape.

Paleontological Resources

Avoidance and Minimization Measures

- A Paleontological Evaluation Report (PER) will need to be prepared if the depth and extent of excavation exceeds 5 feet with any of the build alternatives. Depending on the findings from the PER, a preliminary Paleontological Mitigation Plan (pPMP) and cost estimate may also need to be prepared.

Air Quality

Avoidance and Minimization Measures (Construction)

- Standard Special Provisions (SSPs) will be included in the construction package to address specific disposal and handling requirements for any aerially deposited lead-contaminated soil, asbestos-containing material, or lead-based paint.
- The construction contractor must comply with Caltrans' Standard Specifications in Section 14. Section 14 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution

control district and air quality management district regulations and local ordinances.

- Section 14 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are described in Section 18.
    - Water or dust palliative will be applied to the site and equipment as often as necessary to control fugitive dust emissions. Fugitive emissions generally must meet a "no visible dust" criterion either at the point of emissions or at the right-of-way line, depending on local regulations.
    - Soil binder will be spread on any unpaved roads used for construction purposes, and on all project construction parking areas.
    - Trucks will be washed as they leave the right-of-way as necessary to control fugitive dust emissions.
    - Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low sulfur fuel as required by California Code of Regulations Title 17, Section 93114.
    - A dust control plan will be developed documenting sprinkling, temporary paving, speed limits, and timely revegetation of disturbed slopes as needed to minimize construction impacts to existing communities.
    - Equipment and materials storage sites will be located as far away from residential and park uses as practicable. Construction areas will be kept clean and orderly.
    - ESA (Environmentally Sensitive Area)-like areas or their equivalent will be established near sensitive air receptors. Within these areas, construction activities involving the extended idling of diesel equipment or vehicles will be prohibited, to the extent feasible.
    - Track-out reduction measures, such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic, will be used.
    - All transported loads of soils and wet materials will be covered before transport, or adequate freeboard (space from the top of the material to the top of the truck) will be provided to minimize emission of dust (particulate matter) during transportation.
    - Dust and mud that are deposited on paved public roads due to construction activity and traffic will be promptly and regularly removed to decrease particulate matter.
    - To the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.
    - Mulch will be installed, or vegetation planted, as soon as practical after grading to reduce windblown particulate in the area.

Construction Noise and Vibration

The following measures will be implemented to avoid, minimize and abate construction noise and vibration impacts:

- Ensure that all equipment has noise abatement features such as mufflers and engine enclosures.
- Engine vibration isolators should be intact and operational.
- All construction equipment should be inspected at periodic intervals to ensure proper maintenance and presence of noise abatement devices.
- Use construction methods and equipment that will provide the lowest levels of noise and vibration impacts.
- Turn off idling equipment.
- Use and relocate temporary noise barriers, as needed, to protect sensitive noise receptors against excessive noise from construction activities, such as noise barriers made from heavy plywood or moveable insulated sound blankets.

The following administrative measures should be implemented to avoid or minimize potential noise or vibration impacts to noise sensitive receptors:

- Construction activities should be in compliance with all applicable local noise ordinances.
- Implement a project area noise and/or vibration monitoring plan as needed to limit potential impacts.
- Limit construction activities to daytime hours to the extent possible; nighttime construction activities must be properly permitted.
- General noise and vibration levels should remain uniform; avoid impulsive noises.
- Maintain good public relations with the community to minimize objections to unavoidable construction impacts.
- Provide frequent updates on all construction activities.

Cultural Resources

- If human remains are exposed during project activities, State Health and Safety Code Section 7050.5 states that no further disturbance should occur until the county coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code 5097.98.

Water Quality and Storm Water Runoff

Temporary Construction Measures

Standard temporary construction site and permanent design pollution prevention and permanent storm water treatment best management practices will be used during and

after project construction to control potential discharges of pollutants to surface water. Best management practices will be designed to control general gross pollutants and sedimentation/siltation, depending on location.

Storm Water Best Management Practices

A National Pollutant Discharge Elimination System Storm Water Permit is required for the project along with any subsequent permit in effect at the time of construction. The contractor must comply with the requirements of the General National Pollutant Discharge Elimination System Permit for Construction Activities. The contractor will use best management practices as specified in the Caltrans Storm Water Management Plan.

Prepare and Implement a Storm Water Pollution Prevention Plan

The contractor will be required to develop an acceptable Storm Water Pollution Prevention Plan. The plan will contain best management practices that have demonstrated effectiveness in reducing storm water pollution. The plan will address all construction-related activities, equipment, and materials with the potential to affect water quality. All construction site best management practices will follow the latest edition of the Storm Water Quality Handbooks and Construction Site Best Management Practices Manual to control and minimize the impacts of construction-related pollutants.

The Storm Water Pollution Prevention Plan will include best management practices to control pollutants, sediment from erosion, storm water runoff, and other construction-related impacts. In addition, the Storm Water Pollution Prevention Plan will include the use of specific storm water effluent-monitoring requirements based on the project's risk level to ensure that the best management practices are effective in preventing the degradation of any water quality standards.

A Notice of Termination will be submitted to the Regional Water Quality Control Board upon completion of construction and site stabilization. A project will be considered complete when the criteria for final stabilization in the Construction General Permit are met.

Hazardous Waste and Materials

Avoidance and/or Minimization Measures

- Any excess soil at the State Route 99 southbound ramps needing to be hauled off-site will be considered a hazardous waste requiring disposal at a Class I landfill. This soil could be used on-site under a minimum of 1 foot of clean soil should the ADL Agreement be used. Standard Special Provisions will be prepared to address proper handling and disposal of such material and worker/public safety, and they will be included in the construction contract.
- Structures within the project area such as bridges and box culverts could contain asbestos-containing materials and/or lead-based paint. A Preliminary Site Investigation (PSI) will be conducted for these structures to identify any potential

hazardous waste. Standard Special Provisions will be prepared to address any hazardous materials/wastes identified in the Preliminary Site Investigation and included in the construction contract.

Biological Resources—Natural Communities

Wetlands and Other Waters

- Construction at Evans Ditch, the South and Middle Forks of the Persian Ditch, and the Mill Creek culvert will occur during the non-irrigation season when there is no water present.
- A 1600 Streambed Alteration Agreement (permit) will be obtained from the California Department of Fish and Wildlife for work at the Middle and South Forks of the Persian Ditch, and at the Mill Creek culvert.
- A Clean Water Act Section 401 Water Quality Certification (permit) will be obtained from the California Regional Water Quality Control Board for work at Evans Ditch, the Middle and South Forks of the Persian Ditch, and at the Mill Creek culvert.
- A 404 Nationwide Permit from the U.S. Army Corps of Engineers will be obtained for work at Evans Ditch and Middle and South Forks of the Persian Ditch. A Wetland Delineation was prepared for these waters.

Plant Species

Avoidance and Minimization Measures

- A revegetation plan will be implemented to replace the trees that will be removed during construction.
- Preconstruction surveys will be performed to confirm that special-status plant species are not present in the project area.

Mitigation Measure

- Removal of any oak trees will require mitigation, including replanting on-site, replanting along the same watershed, and/or replanting at an off-site location. Oak trees will be replaced at a 10:1 ratio based on their size.

Threatened and Endangered Species

San Joaquin Kit Fox

Caltrans and the contractor will implement the following avoidance and minimization measures from the "Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance" (USFWS 2011):

- Preconstruction/pre-activity surveys will be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity that could impact the San Joaquin kit fox. If San Joaquin kit foxes are detected on the project site, consultation with the

California Department of Fish and Wildlife will occur to discuss how to avoid a take or the potential need for an Incidental Take Permit (ITP).

- Prior to any ground disturbance, the contractor, all employees of the contractor, subcontractors, and subcontractors' employees will attend an employee education program by a Caltrans or other approved biologist. The program will consist of a brief presentation on San Joaquin kit fox biology, legislative protection, and measures to avoid impacts to the species during project implementation.

Swainson's Hawk

The following measures will be implemented to minimize the potential impacts to the Swainson's hawk:

- If construction takes place during the nesting season (February 1 through September 30), preconstruction surveys will be performed no more than 10 days prior to any ground-disturbing activities. The preconstruction surveys will follow the methodology developed by the Swainson's Hawk Technical Advisory Committee (SWHA TAC 2000).
- If nesting Swainson's hawks are observed in the project area, the nest site will be designated an Environmentally Sensitive Area (ESA), with a buffer zone of 600 feet, until the young have fledged the nest. If a 600-foot buffer is not feasible, an Incidental Take Permit will be necessary for project implementation.
- A biologist will monitor any active nests during construction activities. If continuous monitoring of nests is not feasible, a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors will be implemented. The no-disturbance buffers will remain in place until the breeding season has ended or the birds have fledged the nest.
- A Standard Special Provision will be included in the project to ensure compliance with the Migratory Bird Treaty Act.
- Surveys by a qualified biologist will include establishment of a behavioral baseline for all identified nests. Nests will be monitored during construction to detect any behavioral changes due to construction activities. If behavioral changes occur, consultation with the California Department of Fish and Wildlife will be required to determine if any additional avoidance and minimization measures are necessary.
- Removal of any trees within the project area should be done outside of the nesting season; however, if a tree within the project area needs to be removed during the nesting season, a qualified biologist will inspect the tree prior to removal to ensure that no nests are present.

Invasive Species

In compliance with the executive order on invasive species (Executive Order 13112) and guidance from the Federal Highway Administration, the landscaping and erosion control included in the project will not use species listed as invasive. In areas of

particular sensitivity, extra precautions will be taken if invasive species are found in or next to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

To prevent the introduction and spread of invasive species, Caltrans has issued policy guidelines that provide a framework for addressing roadside vegetation management issues for construction activities and maintenance programs. The Caltrans invasive species policy guidelines, Standard Special Provisions, and best management practices will minimize the potential that this project will introduce, transport, or spread invasive species to and/or from the project site.

Appendix E FEMA Flood Zone Map

Appendix F U.S. Fish and Wildlife Service Species List, CNPS Species List and CNDDB Query

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Consultation Code: 08ESMF00-2018-SLI-1681
Event Code: 08ESMF00-2019-E-02735
Project Name: Caldwell Interchange

February 05, 2019

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2018-SLI-1681

Event Code: 08ESMF00-2019-E-02735

Project Name: Caldwell Interchange

Project Type: TRANSPORTATION

Project Description: The project proposes to reconstruct the existing Caldwell Avenue interchange. The existing configuration is not expected to adequately serve projected increased growth along the Caldwell Avenue (Avenue 280) corridor which will be widened by the City of Visalia and the County of Tulare under an on-going separate project. Portions of the existing interchange do not satisfy current standards of the Highway Design Manual.
The proposed improvements include the widening of Caldwell Avenue (Avenue 280) to accommodate four through lanes at ramp intersections to match the new configuration as proposed by the local agencies. The existing ramps will be modified and ramp intersections will be signalized. Frontage roads will also be realigned to accommodate the ramp modifications.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/36.2984643279987N119.38239203251433W

Counties: Tulare, CA

Endangered Species Act Species

There is a total of 10 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Fresno Kangaroo Rat *Dipodomys nitratoides exilis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5150 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/37/office/11420.pdf	Endangered
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered
Tipton Kangaroo Rat *Dipodomys nitratoides nitratoides* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7247 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/40/office/11420.pdf	Endangered

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard *Gambelia silus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

CNPS California Native Plant Society — Inventory of Rare and Endangered Plants

Plant List

8 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3611923, 3611934 3611933 and 3611924;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Remove Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank	State Listing Status	Federal Listing Status	Habitats	Lowest Elevation	Highest Elevation	CA Endemic	Photo
Atriplex cordulata var. cordulata	heartscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G3T2			• Chenopod scrub • Meadows and seeps • Valley and foothill grassland (sandy)	0 m	560 m	yes	no photo available
Atriplex depressa	brittlescale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2			• Chenopod scrub • Meadows and seeps • Playas • Valley and foothill grassland • Vernal pools	1 m	320 m	yes	 2009 Zoya Akulova
Atriplex minuscula	lesser saltscale	Chenopodiaceae	annual herb	May-Oct	1B.1	S2	G2			• Chenopod scrub • Playas • Valley and foothill grassland	15 m	200 m	yes	 2000 Robert E. Preston, Ph.D.
Atriplex subtilis	subtle orache	Chenopodiaceae	annual herb	Jun,Aug,Sep(Oct)	1B.2	S1	G1			• Valley and foothill grassland	40 m	100 m	yes	 2010 Robert E. Preston,
Caulanthus californicus	California jewelflower	Brassicaceae	annual herb	Feb-May	1B.1	S1	G1	CE	FE	• Chenopod scrub • Pinyon and juniper woodland • Valley and foothill grassland	61 m	1000 m	yes	 2010 David A. Tharp
Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	Sep-May	2B.1	S3	G4			• Chaparral • Coastal scrub • Mojavean desert scrub • Meadows and seeps (often alkali) • Riparian scrub	0 m	1215 m		 2001 CDFA
	San	Asteraceae	annual herb	Feb-Apr	1B.1	S1	G1	CE	FT	•	90 m	800 m	yes	

Pseudobahia peirsonii	Joaquin adobe sunburst					1B.1	S1	G1	• Cismontane woodland • Valley and foothill grassland			 2008 Chris Winchell
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May		1B.2	S2	G3	• Chenopod scrub • Meadows and seeps • Valley and foothill grassland • Vernal pools	2 m	930 m	no photo available

Suggested Citation

California Native Plant Society, Rare Plant Program. 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 11 February 2019].

Search the Inventory
Simple Search
Advanced Search
Glossary

Information
About the Inventory
About the Rare Plant Program
CNPS Home Page
About CNPS
Join CNPS

Contributors
The California Database
The California Lichen Society
California Natural Diversity Database
The Jepson Flora Project
The Consortium of California Herbaria
CalPhotos

Questions and Comments
rareplants@cnps.org

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Goshen (3611934) OR Paige (3611924) OR Tulare (3611923) OR Visalia (3611933))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Agelaius tricolor tricolored blackbird	G2G3 S1S2	None Candidate Endangered	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	230 230	952 S:1	0	0	0	0	0	1	0	1	1	0	0
Andrena macswaini An andrenid bee	G2 S2	None None		270 270	7 S:1	0	0	0	0	0	1	1	0	1	0	0
Anniella pulchra northern California legless lizard	G3 S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	325 325	375 S:1	0	0	0	0	0	1	1	0	1	0	0
Atriplex cordulata var. cordulata heartscale	G3T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	285 285	66 S:1	0	0	0	0	0	1	1	0	1	0	0
Atriplex depressa brittlescale	G2 S2	None None	Rare Plant Rank - 1B.2		60 S:1	0	0	0	0	0	1	1	0	1	0	0
Atriplex minuscula lesser saltscale	G2 S2	None None	Rare Plant Rank - 1B.1	290 290	52 S:1	0	0	1	0	0	0	0	1	1	0	0
Atriplex subtilis subtle orache	G1 S1	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	285 285	24 S:1	0	0	0	0	1	0	1	0	0	1	0
Bombus crotchii Crotch bumble bee	G3G4 S1S2	None None		350 350	234 S:1	0	0	0	0	0	1	1	0	1	0	0
Branchinecta lynchi vernal pool fairy shrimp	G3 S3	Threatened None	IUCN_VU-Vulnerable	290 290	767 S:1	0	0	0	0	0	1	1	0	1	0	0
Buteo swainsoni Swainson's hawk	G5 S3	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	230 289	2469 S:20	2	7	4	0	0	7	6	14	20	0	0
Caulanthus californicus California jewelflower	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1	285 285	63 S:1	0	0	0	0	1	0	1	0	0	0	1

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Coccyzus americanus occidentalis western yellow-billed cuckoo	G5T2T3 S1	Threatened Endangered	BLM_S-Sensitive NABCI_RWL-Red Watch List USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	330 330	155 S:1	0	0	0	0	1	0	1	0	0	0	1
Emys marmorata western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	325 325	1357 S:1	0	0	0	0	0	1	1	0	1	0	0
Eumops perotis californicus western mastiff bat	G5T4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern WBWG_H-High Priority	300 300	296 S:1	0	1	0	0	0	0	0	1	1	0	0
Gambelia sila blunt-nosed leopard lizard	G1 S1	Endangered Endangered	CDFW_FP-Fully Protected IUCN_EN-Endangered	225 225	329 S:1	0	0	0	0	0	1	1	0	1	0	0
Imperata brevifolia California satintail	G4 S3	None None	Rare Plant Rank - 2B.1 SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	300 300	32 S:1	0	0	0	0	0	1	1	0	1	0	0
Lytta hoppingi Hopping's blister beetle	G1G2 S1S2	None None		325 325	5 S:1	0	0	0	0	0	1	1	0	1	0	0
Pseudobahia peirsonii San Joaquin adobe sunburst	G1 S1	Threatened Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden		51 S:1	0	0	0	0	1	0	1	0	0	0	1
Puccinellia simplex California alkali grass	G3 S2	None None	Rare Plant Rank - 1B.2		71 S:1	0	0	0	0	1	0	1	0	0	1	0
Spea hammondii western spadefoot	G3 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	290 290	516 S:1	0	1	0	0	0	0	0	1	1	0	0
Valley Sacaton Grassland Valley Sacaton Grassland	G1 S1.1	None None		260 260	9 S:1	0	0	0	1	0	0	1	0	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Vulpes macrotis mutica	G4T2	Endangered		250	1017	0	0	0	0	0	9	9	0	9	0	0
San Joaquin kit fox	S2	Threatened		340	S:9											

Appendix G FHWA Conformity Determination Letter

U.S.Department of Transportation
Federal Highway Administration

Federal Highway Administration
California Division

April 22, 2019

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001
(916) 498-5008 (fax)

In Reply Refer To:
HDA-CA

Ms. Sharri Bender Ehlert
Director
California Department of Transportation
District 6
855 M Street, Suite 200
Fresno, CA 93721

Attention: Maya Hildebrand

SUBJECT: Project Level Conformity Determination for the Caldwell Interchange Project (RTP ID CT-RTP07-011)

Dear Ms. Bender Ehlert:

On March 8, 2019, the California Department of Transportation (Caltrans) submitted to the Federal Highway Administration (FHWA) a complete request for a project level conformity determination for the Caldwell Interchange Project. The project is in an area that is designated Non-Attainment or Maintenance for Ozone and Particulate Matter (PM_{10}, $PM_{2.5}$).

The project level conformity analysis submitted by Caltrans indicates that the project-level transportation conformity requirements of 40 CFR Part 93 have been met. The project is included in the Tulare County Association of Governments' (TCAG) current Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP), as amended. The design concept and scope of the preferred alternative have not changed significantly from those assumed in the regional emissions analysis.

As required by 40 CFR 93.116 and 93.123, the localized $PM_{2.5}$ and PM_{10} analyses are included in the documentation. The analyses demonstrate that the project will not create any new violations of the standards or increase the severity or number of existing violations.

Based on the information provided, FHWA finds that the Caldwell Interchange Project conforms with the State Implementation Plan (SIP) in accordance with 40 CFR Part 93.

If you have any questions pertaining to this conformity finding, please contact Joseph Vaughn at (916) 498-5346 or by email at Joseph.Vaughn@dot.gov.

Sincerely,

Tashia J. Clemons
Director, Planning and Environment

Appendix H Comment Letters and Responses

This appendix contains the comments received from the Governor's Office of Planning and Research, State Clearinghouse and Planning Unit, the California Department of Fish and Wildlife, and the City of Visalia Planning Division during the public review period ending January 2, 2019 for the draft environmental document. No comments from the public were received.

A Caltrans response follows each comment in this section and is incorporated into this final environmental document.

Comments from the Governor's Office of Planning and Research, Clearinghouse and Planning Unit

STATE OF CALIFORNIA
GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

January 3, 2019

Trais Norris
California Department of Transportation, District 6
855 M St
Fresno, CA 93721

Subject: Caldwell Interchange Project
SCH#: 2018111056

Dear Trais Norris:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. The review period closed on January 2, 2019, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

1

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
1-916-322-2318 FAX 1-916-558-3184 www.opr.ca.gov

Response to Comments from the Governor's Office of Planning and Research, State Clearinghouse and Planning Unit

Thank you for your comments on the project.

Response to comment 1: The State Clearinghouse letter confirms that the Draft Mitigated Negative Declaration was submitted to selected state agencies for review and no comments were received. The letter also confirmed Caltrans complied with the State Clearinghouse review requirements for draft environmental documents pursuant to the California Environmental Quality Act.

Comments from the California Department of Fish and Wildlife

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Central Region
1234 East Shaw Avenue
Fresno, California 93710
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

December 19, 2018

Trais Norris
Senior Environmental Planner
Division of Environmental Analysis
California Department of Transportation
855 M Street, Suite 200
Fresno, California 93721
trais.norris@dot.ca.gov

Subject: Caldwell Interchange Project (PROJECT)
MITIGATED NEGATIVE DECLARATION (MND)
SCH No.: 2018111056

Dear Mr. Norris:

The California Department of Fish and Wildlife (CDFW) received a MND from the California Department of Transportation (Caltrans) for the Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish and Game Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (*Id.*, § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

CDFW is also submitting comments as a **Responsible Agency** under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority (Fish and Game Code, § 1600 et seq.). Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish and Game Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

Nesting Birds: CDFW has jurisdiction over actions with potential to result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, eggs and nests include, 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

PROJECT DESCRIPTION SUMMARY

Proponent: Caltrans

Objective: The Project seeks to reconstruct the State Route 99/Avenue 280 interchange in Tulare County, west of the City of Visalia. The project is needed to improve safety and operations. Two build alternatives and a no build alternative are being considered. Improvements would include on/off ramp improvements, bridge replacement, frontage road relocation, utility relocation, pedestrian improvements, ditch crossing modifications, and right-of-way acquisition.

Location: The Project site is located at the interchange of State Route 99 and Avenue 280, west of the City of Visalia, between Post Miles 36.1 and 36.8.

Timeframe: Unspecified.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist Caltrans in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

The MND includes measures for San Joaquin kit fox but does not include provisions for take authorization should they colonize the project site. In addition, the MND's measures for Swainson's Hawk (SWHA) do not include a timeframe for preconstruction surveys, and only specify a 600 foot no-disturbance nest buffer. The MND also includes a "special provision for migratory birds" to ensure no potential nesting birds are affected, but fails to define the provision.

For these reasons, as currently drafted, the provisions described in the measures may not be enforceable or adequate in minimizing impacts to special-status species to a level that is less than significant.

I. Environmental Setting and Related Impact

Would the Project 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 CDFW or United States Fish and Wildlife Service (USFWS)?

COMMENT 1: San Joaquin Kit Fox (SJKF)

Issue: Review of aerial imagery indicates that the Project area contains annual grassland cover, making it potentially suitable for SJKF. SJKF will forage in fallow and agricultural fields. SJKF will also den in right-of-ways, vacant lots, etc. and populations can fluctuate over time. Presence/absence in any one year is not necessarily a reliable indicator of SJKF potential to occur on a site. In addition, SJKF may be attracted to the Project area due to the type and level of ground-disturbing activities and the loose, friable soils resulting from intensive ground disturbance. For these reasons, there is potential for SJKF to colonize the Project area.

Specific impact: Without appropriate avoidance and minimization measures for SJKF, potential significant impacts associated with Project construction include den collapse, inadvertent entrapment, reduced reproductive success, reduction in health and vigor of young, and direct mortality of individuals.

Evidence impact is potentially significant: Habitat loss resulting from agricultural, urban, and industrial development is the primary threat to SJKF (Cypher et al. 2013). Very little suitable habitat remains in Tulare County (Cypher et al. 2013).

Recommended Potentially Feasible Mitigation Measure(s)
CDFW recommends editing the MND considering the preceding and following information to include the following measure.

Mitigation Measure 1: SJKF Take Authorization

SJKF detection warrants consultation with CDFW to discuss how to avoid take, or if avoidance is not feasible, to acquire an Incidental Take Permit (ITP) prior to ground-disturbing activities, pursuant to Fish and Game Code Section 2081(b). 1

COMMENT 2: Swainson's Hawk

Issue: The MND acknowledges that the Project area contains suitable nest trees for SWHA, and that 8-10 of these trees will be removed during construction. SWHA have

also been documented to nest less than 1/2- mile from the Project area (CDFW 2018). In addition, the Project area includes agriculturally productive row crops, which may provide foraging habitat for SWHA. For these reasons, there is potential for SWHA to colonize and nest within the Project area.

Specific impact: Without appropriate avoidance and minimization measures for SWHA, potential significant impacts associated with development of the Project include loss of foraging and/or nesting habitat, nest abandonment, reduced reproductive success, and reduced health and vigor of eggs and/or young.

Evidence impact would be significant: The primary threat to SWHA in California is loss of foraging and nesting habitat resulting from urban development and incompatible agriculture (CDFW 2016). Nest trees are a limited resource in the San Joaquin Valley. For this reason, and because SWHA exhibit high nest-site fidelity year after year, CDFW considers removal of known SWHA nest trees, even outside of the nesting season, a potentially significant impact under CEQA (CDFW 2016). In addition, because nest trees are a limited resource, disturbance to occupied nests has the potential to significantly impact annual recruitment of SWHA if nests are disturbed or abandoned as a result of construction activities.

Recommended Potentially Feasible Mitigation Measure(s)
Because suitable habitat for SWHA is present in the Project area, CDFW recommends editing the MND to include the following measures and that these be made conditions of approval for the Project.

Mitigation Measure 2: Focused SWHA Surveys

CDFW recommends that construction be timed to avoid the normal bird breeding season (February 1 through September 15). However, if construction must take place during that time, CDFW recommends that a qualified wildlife biologist conduct surveys for nesting raptors following the survey methodology developed by the SWHA Technical Advisory Committee (SWHA TAC 2000) prior to project initiation. In addition, CDFW recommends that a qualified biologist conduct additional pre-construction surveys for active nests no more than 10 days prior to the start of construction. 2

Mitigation Measure 3: SWHA Avoidance

If an active SWHA nest is found during pre-construction surveys, CDFW advises implementation of a minimum ½-mile no-disturbance buffer until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival. CDFW does not concur that the 600-foot no disturbance buffer as proposed in the MND will be sufficient to avoid the potential for take of SWHA (as defined pursuant to Fish and Game Code § 86) or reduce impacts to nesting SWHA to less than significant. 3

Mitigation Measure 4: Tree Removal

CDFW recommends that the removal of known raptor nest trees, even outside of the nesting season, be replaced with an appropriate native tree species planting at a ratio of 3:1 at or near the Project area or in another area that will be protected in perpetuity. This mitigation would offset the temporal impacts of nesting habitat loss. 4

Mitigation Measure 5: Compensation for Loss of Foraging Habitat

If SWHA nests occur in the vicinity of the Project site, CDFW recommends compensation for the loss of SWHA foraging habitat as described in CDFW's Staff Report Regarding Mitigation for Impacts to SWHA (DFG 1994) to reduce impacts to foraging habitat to less than significant. The Staff Report recommends that mitigation for habitat loss occur within a minimum distance of 10 miles from known nest sites. CDFW has the following recommendations based on the Staff Report: 5

- For projects within 1 mile of an active nest tree, a minimum of one acre of habitat management (HM) land for each acre of development is advised.
- For projects within 5 miles of an active nest but greater than 1 mile, a minimum of 0.75 acres of HM land for each acre of development is advised.
- For projects within 10 miles of an active nest tree but greater than 5 miles from an active nest tree, a minimum of 0.5 acres of HM land for each acre of development is advised.

Mitigation Measure 6: SWHA Take Authorization

If SWHA are detected and the ½-mile no-disturbance nest buffer is not feasible, consultation with CDFW is warranted to determine if the Project can avoid take. If take cannot be avoided, acquisition of an ITP for SWHA is necessary prior to project implementation, pursuant to Fish and Game Code Section 2081(b) to comply with CESA. 6

II. Editorial Comments and/or Suggestions

Nesting birds: CDFW encourages Project implementation occur during the bird non-nesting season. However, if activities must occur during the breeding season (February through mid-September), the project applicant is responsible for ensuring that implementation of the project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes as referenced above. 7

To evaluate Project-related impacts on nesting birds, CDFW recommends that a qualified wildlife biologist conduct pre-activity surveys for active nests no more than 10 days prior to the start of ground disturbance to maximize the probability that nests that could potentially

be impacted are detected. CDFW also recommends that surveys cover a sufficient area around the work site to identify nests and determine their status. A sufficient area means any area potentially affected by the Project. In addition to direct impacts (i.e., nest destruction), noise, vibration, and movement of workers or equipment could also affect nests. Prior to initiation of construction activities, CDFW recommends that a qualified biologist conduct a survey to establish a behavioral baseline of all identified nests. Once construction begins, CDFW recommends that a qualified biologist continuously monitor nests to detect behavioral changes resulting from the project. If behavioral changes occur, CDFW recommends the work causing that change cease and CDFW consulted for additional avoidance and minimization measures. 8

If continuous monitoring of identified nests by a qualified wildlife biologist is not feasible, CDFW recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors. These buffers are advised to remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival. Variance from these no disturbance buffers is possible when there is compelling biological or ecological reason to do so, such as when the construction area would be concealed from a nest site by topography. CDFW recommends that a qualified wildlife biologist advise and support any variance from these buffers and notify CDFW in advance of implementing a variance. 9

Federally Listed Species: CDFW also recommends consulting with the USFWS on potential impacts to federally listed species including, but not limited to, SJKF. Take under the federal Endangered Species Act (ESA) is more broadly defined than CESA; take under ESA also includes significant habitat modification or degradation that could result in death or injury to a listed species by interfering with essential behavioral patterns such as breeding, foraging, or nesting. Consultation with the USFWS in order to comply with ESA is advised well in advance of any ground-disturbing activities. 10

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special status species and natural communities detected during project surveys to the California Natural Diversity Database (CNDDB). The CNDDB field survey form can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDB_FieldSurveyForm.pdf. The completed form can be mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov. The types of information reported to CNDDB can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp. 11

FILING FEES

If it is determined that the Project will result in significant impacts to biological resources, an assessment of filing fees will be necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final (Cal. Code Regs, tit. 14, § 753.5; Fish and Game Code, § 711.4; Pub. Resources Code, § 21089).

12

CONCLUSION

CDFW appreciates the opportunity to comment on the Project to assist the County of Tulare in identifying and mitigating project-level impacts on biological resources.

More information on survey and monitoring protocols for sensitive species can be found at CDFW's website (https://www.wildlife.ca.gov/Conservation/Survey-Protocols). Questions regarding this letter or further coordination should be directed to Jennifer Giannetta, Environmental Scientist, at the address provided on this letterhead, by telephone at (559) 243-4014 extension 216, or by email at Jennifer.Giannetta@wildlife.ca.gov.

Sincerely,

Julie A. Vance
Regional Manager

REFERENCES

California Department of Fish and Game (CDFG), 1994. Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo Swainsoni*) in the Central Valley of California. California Department of Fish and Game.

California Department of Fish and Wildlife (CDFW), 2016. Status Review: Swainson's hawk (*Buteo swainsoni*) in California. Reported to California Fish and Game Commission. Five years status report.

CDFW, 2018. Biogeographic Information and Observation System (BIOS). https://www.wildlife.ca.gov/Data/BIOS. Accessed December 17, 2018.

Cypher, B. L., S. E. Phillips, P. A. Kelly, 2013. Quantity and distribution of suitable habitat for endangered San Joaquin kit foxes: conservation implications. Canid Biology and Conservation 16(7): 25–31.

SWHA TAC, 2000. Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in the Central Valley of California. Swainson's Hawk Technical Advisory Committee. May 31, 2000.

Response to Comments from the California Department of Fish and Wildlife

Response to comment 1: Thank you for your comments on the project. Preconstruction surveys will be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities for any project activity that could impact the San Joaquin kit fox. If San Joaquin kit foxes are detected on the project site, consultation with the California Department of Fish and Wildlife will occur to discuss how to avoid a take or the potential need for an Incidental Take Permit (ITP).

Response to comment 2: If construction takes place during the nesting season (February 1-September 30), preconstruction surveys will be performed no more than 10 days prior to any ground-disturbing activities. Preconstruction surveys will follow the methodology developed by the Swainson's Hawk Technical Advisory Committee (SWHA TAC 2000).

Response to comment 3: Caltrans has successfully protected Swainson's hawk nests with 600-foot-radius buffers on other projects in the past, in conjunction with biological monitoring. The monitor will have the authority to stop work if the Swainson's hawk shows any signs of disturbance. Preconstruction surveys for active nests will occur no more than 10 days prior to the start of construction. Swainson's hawks often nest in areas adjacent to highways, as well as in agricultural lands with frequent human and mechanized activity, therefore a 600-foot buffer with monitoring is an adequate protection measure in those circumstances.

Response to comment 4: The project will require the unavoidable removal of approximately 6 to 8 eucalyptus trees and 2 oak trees. The eucalyptus trees will be replaced at a minimum ratio of 1:1. The oak trees will be replaced at a ratio of 10:1 for a minimum of 20 new oak trees. A revegetation plan will be developed for the project to mitigate the impact to potential habitat. The new trees will be replanted on-site, along the same watershed, and/or at an off-site location.

Response to comment 5: The project's impact to farmland includes the addition of a new northbound slip ramp, frontage road realignment, and three new signalized intersections. This work will result in certain agricultural parcels being bisected. The affected farmland includes grapes, corn and stone fruit – all agriculture that is not preferred Swainson's hawk foraging habitat. West of State Route 99 lie several agricultural parcels that will not be impacted by the project such as nuts and other low-growing row crops, which are much more suitable foraging habitat for Swainson's hawk. Although the project would convert Prime and Unique Farmland to non-agricultural use, the acreages that would be converted under the two build alternatives only represent between 0.000039 to 0.000045 percent of the total farmland in Tulare County. Thus, the impact to farmland would be less than significant. Surveys performed on December 15, 2017, April 6 and 24, 2018, and on May 1, 2018, resulted in no observations of Swainson's hawks or nests. Additionally, pre-construction surveys will be performed following the methodology developed by the Swainson's Hawk Technical Advisory. Based on the above, impacts to Swainson's foraging habitat were determined to be less than significant under CEQA.

Response to comment 6: Caltrans has successfully protected Swainson's hawk nests with 600-foot-radius buffers on other projects in the past, in conjunction with biological monitoring. The monitor will have the authority to stop work if the Swainson's hawk shows any signs of disturbance. Preconstruction surveys for active nests will occur no more than 10 days prior to the start of construction. Swainson's hawks often nest in areas adjacent to highways, as well as in agricultural lands with frequent human and mechanized activity, so a 600-foot buffer with monitoring is an adequate protection measure in those circumstances. If a Swainson's hawk nest is detected and a 600-foot buffer is not feasible, an incidental Take Permit will be necessary for project implementation.

Response to comment 7: Construction during the nesting season (February 1-September 30) will require a qualified biologist to conduct surveys for nesting birds prior to any ground-disturbing activities to ensure the project will comply with the Migratory Bird Treaty Act. Surveys for nests will occur no more than 10 days prior to any ground disturbance.

Response to comment 8: Surveys by a qualified biologist will include establishment of a behavioral baseline for all identified nests. Nests will be monitored during construction to detect any behavioral changes due to construction activities. If behavioral changes occur, consultation with the California Department of Fish and Wildlife will be required to determine if any additional avoidance and minimization measures are necessary.

Response to comment 9: If continuous monitoring of nests is not feasible, a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors will be implemented. The no-disturbance buffers will remain in place until the breeding season has ended or the birds have fledged the nest.

Response to comment 10: Kit fox surveys were conducted in the area when the project was initiated. No evidence of a kit fox was observed, so it is anticipated the project will have no effect on the species. Preconstruction surveys will also be performed no less than 14 days and no more than 30 days prior to any ground disturbance. Consultation with the U.S. Fish and Wildlife Service will occur if kit foxes are observed in the project area.

Response to comment 11: Any special-status species and natural communities detected during project surveys will be reported to the California Natural Diversity Database.

Response to comment 12: The project will not result in significant impacts to biological resources. Preconstruction surveys will be performed to determine the presence of any species of concern prior to any ground-disturbing activities. Buffers will be established around any active nests. Trees that serve as potential habitat will be replaced at a ratio of 1:1 for eucalyptus and 10:1 for oak trees.

Comments from the City of Visalia

City of Visalia — **Planning Division**

315 E. Acequia Ave., Visalia, CA 93291

Tel: (559) 713-4359; Fax: (559) 713-4814

January 2, 2018

California Department of Transportation
Attn: Trais Norris, Senior Environmental Planner
855 M Street, Suite 200
Fresno, CA 93721

RE: Proposed Mitigated Negative Declaration/Environmental Assessment for the Caldwell Interchange Project.

Dear Mr. Norris,

The City is in receipt of the above-referenced environmental document for the Caldwell Interchange Project. The subject area has a "Reserve" designation in the Visalia General Plan and the area was included into Visalia's Sphere of Influence, with the intention of pursuing eventual annexation. The City of Visalia intends to one day establish an active land use designation for the entire area, and thus the City remains very interested in activities related to the highway interchange.

As noted in the project description, this project will pose impacts to city owned property. In particular, the removal of mature valley oak trees and the removal of a City owned billboard are noted in the project description. The initial study has identified the City of Visalia Valley Oak Tree Ordinance and the mitigation measures to replant trees that are removed as a result of the project. However, the removal of the city owned billboard is of concern to the City of Visalia. 1

The City requests that the project description be revised clarifying that the billboard is to be relocated and retained and not removed from City owned property. The relocation of the billboard ensures that the city retains the ability to lease the billboard sign with minimal interruption to the lease agreement the City has with advertisers. 2

Thank you very much for your time and consideration. The City also requests to be included in the distribution of all pertinent notices and materials. Please contact me with any questions related to the City's comments.

Sincerely,

Nick Mascia, Community Development Director
Community Development Department

cc: Randy Groom, City Manager
Visalia City Councilmembers
Nick Mascia, Community Development Director
Frank Senteno, City Engineer/Assistant Director
Paul Bernal, City Planner

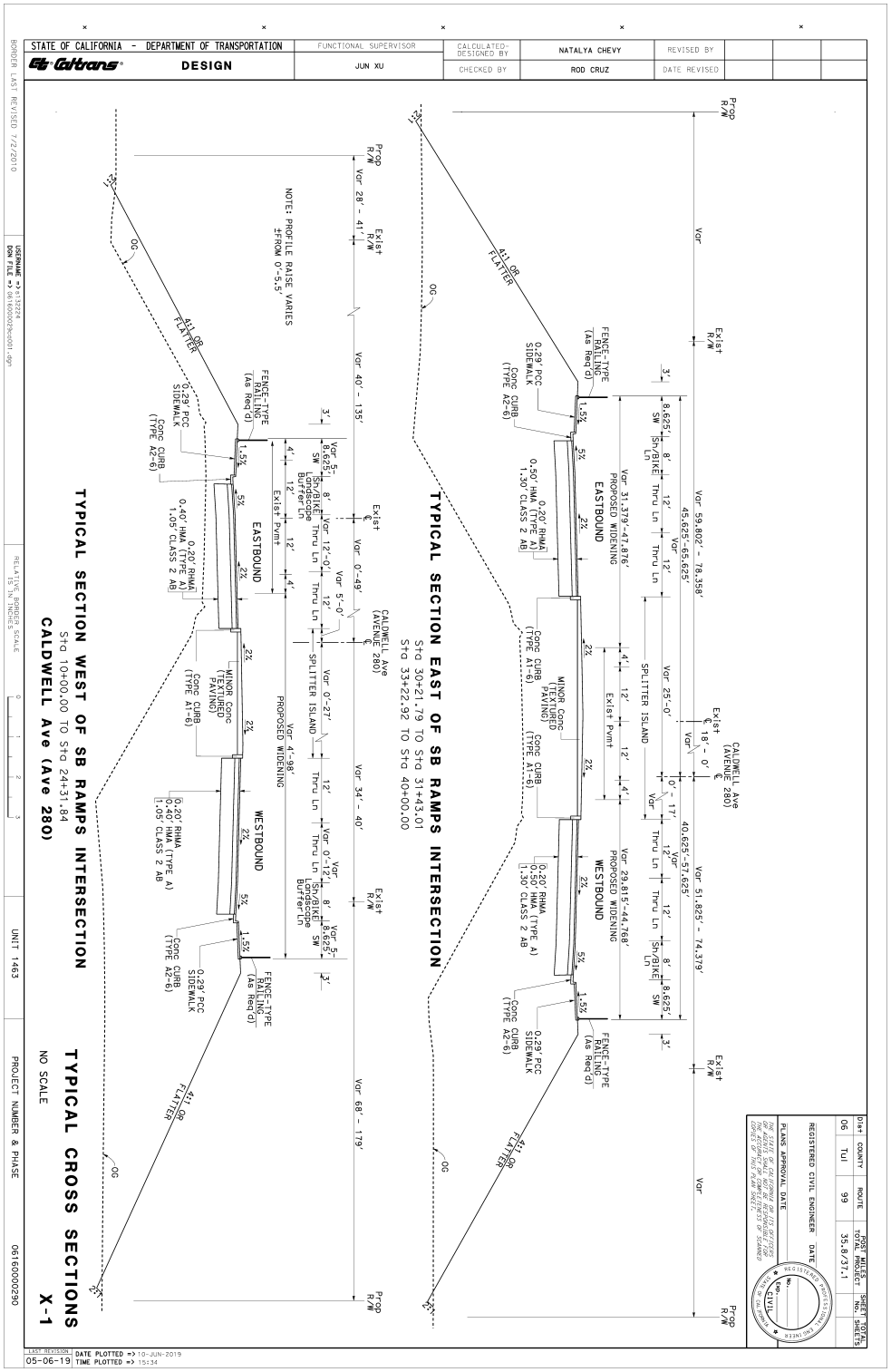
Response to Comments from the City of Visalia

Thank you for your comments on the project.

Response to comment 1: Any oak trees removed will be replaced at a ratio of 10:1 based on the size of the trees. Replanting will occur on-site, along the same watershed, and/or at an off-site location.

Response to comment 2: The billboard at the Middle Fork of the Persian Ditch will be removed. The City of Visalia will be compensated for the in-place value of the sign. Caltrans provides compensation for the replacement/relocation of the billboard to be carried out by the City of Visalia.

Appendix I Project Plans



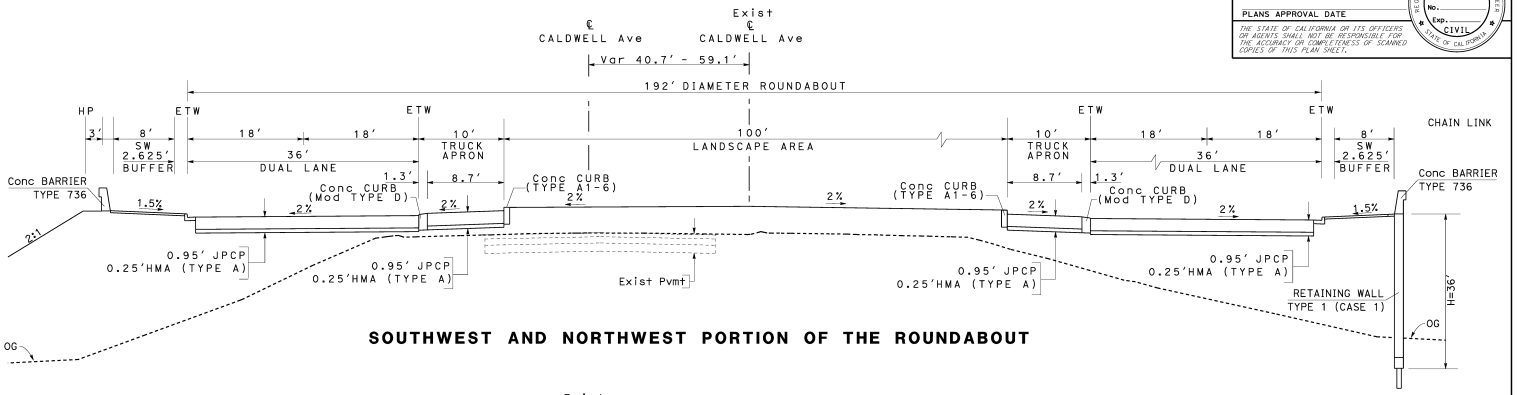
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	35.8/37.1		

REGISTERED CIVIL ENGINEER DATE

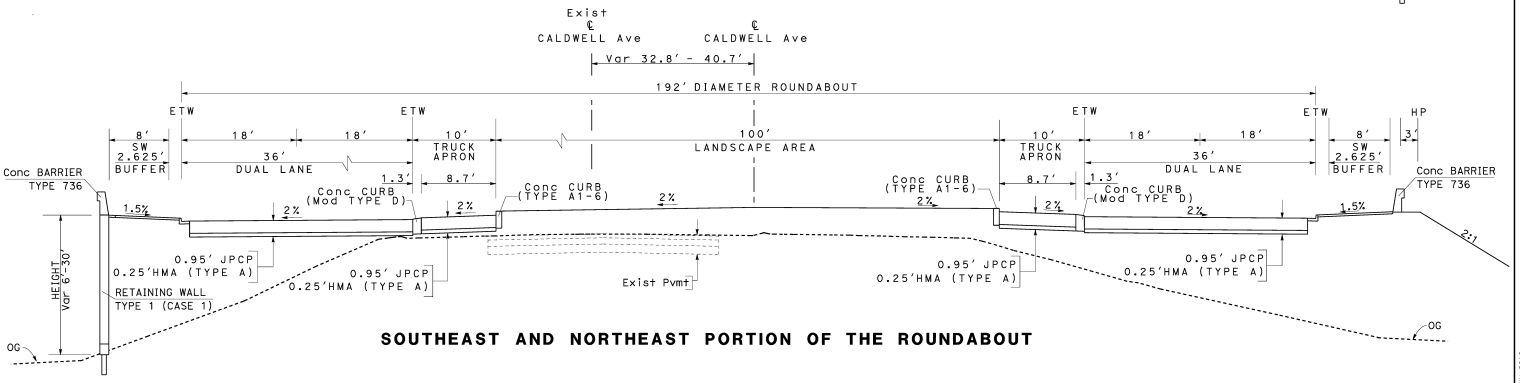
PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA



SOUTHWEST AND NORTHWEST PORTION OF THE ROUNDABOUT



SOUTHEAST AND NORTHEAST PORTION OF THE ROUNDABOUT

SB RAMPS/CALDWELL Ave ROUNDABOUT INTERSECTION
(WEST ROUNDABOUT)
Sta 26+22.52 to Sta 28+14.52

TYPICAL CROSS SECTIONS

NO SCALE

X-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR: JUN XU
CALCULATED/DESIGNED BY: NATALYA CHEVY
CHECKED BY: ROD CRUZ
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 10-JUN-2019
TIME PLOTTED => 15:34
05-10-19

BORDER LAST REVISED 7/2/2010 | USERNAME => s132224 | DGN FILE => 0616000029cs002.dgn | RELATIVE BORDER SCALE IS IN INCHES (0 1 2 3) | UNIT 1463 | PROJECT NUMBER & PHASE 06160000290

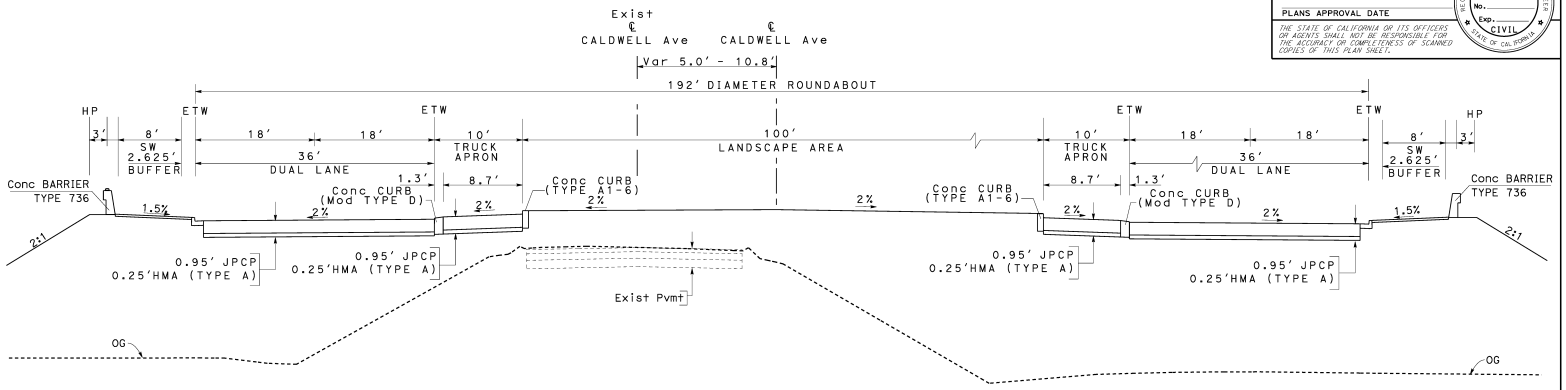
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	35.8/37.1		

REGISTERED CIVIL ENGINEER DATE

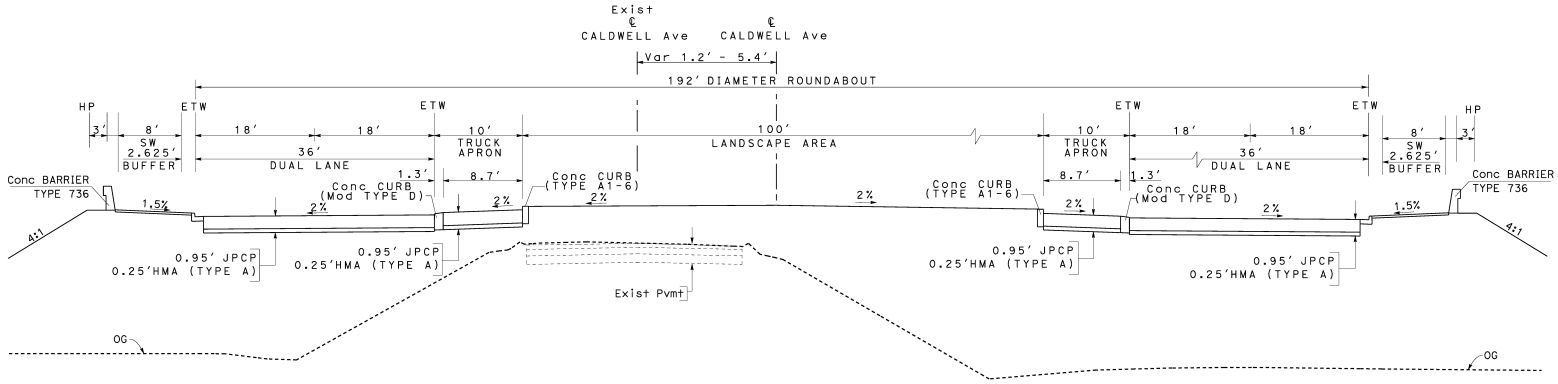
PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA



SOUTHWEST AND NORTHWEST PORTION OF THE ROUNDABOUT



SOUTHEAST AND NORTHEAST PORTION OF THE ROUNDABOUT

NB RAMPS/CALDWELL Ave ROUNDABOUT INTERSECTION
(EAST ROUNDABOUT)
Sta 31+36.94 to Sta 33+28.94

TYPICAL CROSS SECTIONS

NO SCALE

X-3

REVISED BY	DATE REVISED
NATALYA CHEVY	ROD CRUZ
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	JON XU

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN

LOC REVISION | DATE PLOTTED => 10-JUN-2019 | TIME PLOTTED => 15:54

BORDER LAST REVISED 7/2/2010 | USERNAME => s132224 | DGN FILE => 0616000029cd003.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1463 | PROJECT NUMBER & PHASE 06160000290

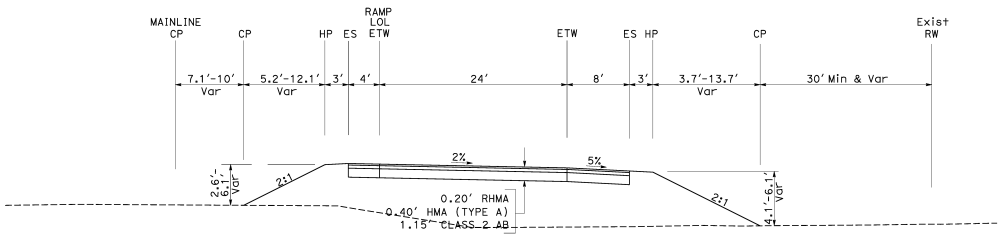
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	35.8/37.1		

REGISTERED CIVIL ENGINEER DATE

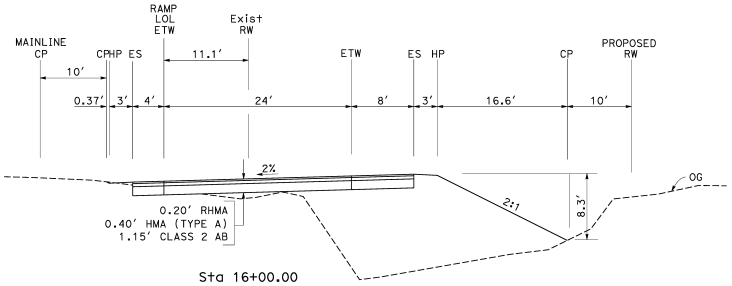
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

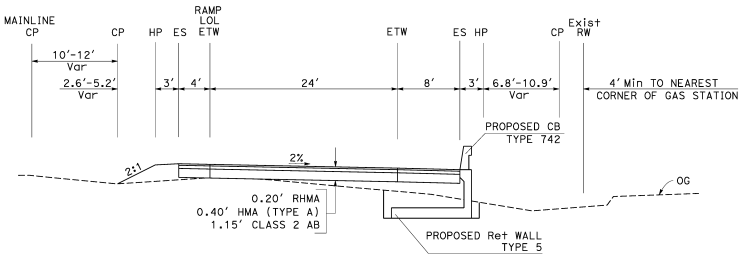
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



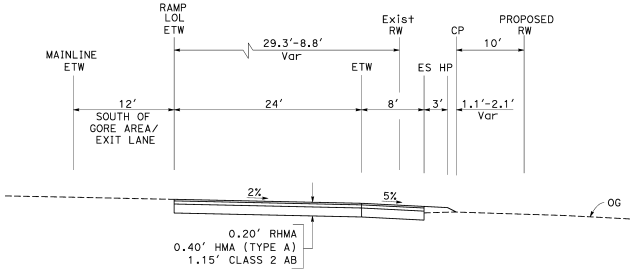
Sta 20+00.00 to Sta 22+00.00



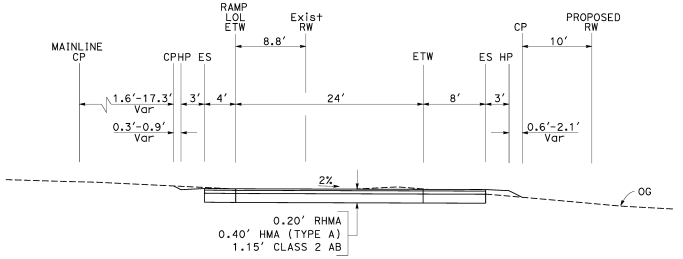
Sta 16+00.00



Sta 19+00.00 to Sta 20+00.00



Sta 10+00.00 to Sta 12+70.72



Sta 12+70.73 to Sta 15+00.00

NB OFF-RAMP TO CALDWELL Ave

TYPICAL CROSS SECTIONS

NO SCALE

X-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR: JUN XU
CALCULATED-DESIGNED BY: NATALYA CHEVY
CHECKED BY: ROD CRUZ
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 10-JUN-2019
TIME PLOTTED => 15:35
05-10-19

BORDER LAST REVISED 7/2/2010

USERNAME => s132224
DGN FILE => 0616000029co004.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1463

PROJECT NUMBER & PHASE 06160000290

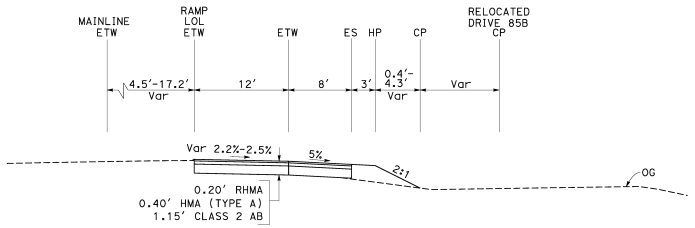
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	35.8/37.1		

REGISTERED CIVIL ENGINEER DATE

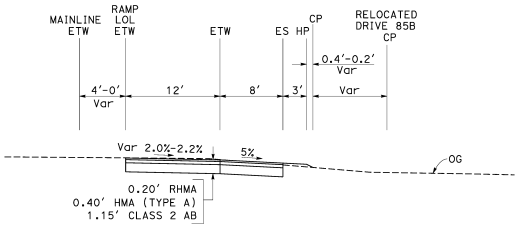
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

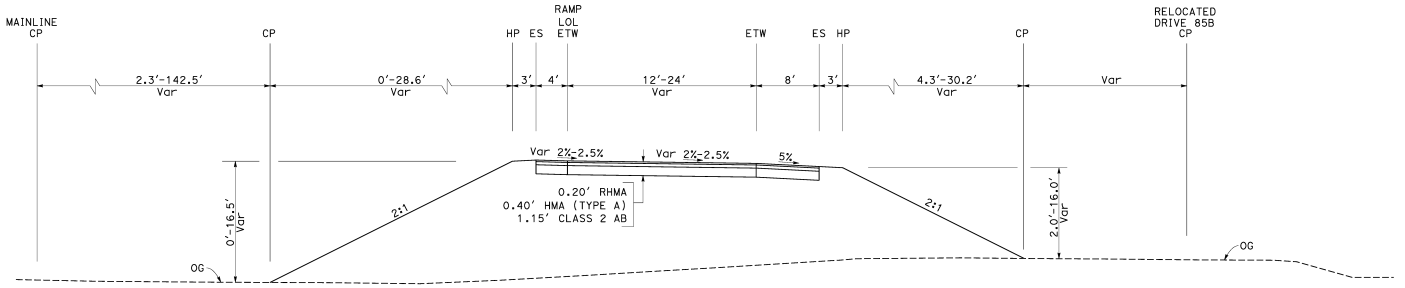
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



Sta 20+00.00 to Sta 23+00.00



Sta 23+00.00 to Sta 24+69.57



Sta 11+38.93 to Sta 20+00.00

NB ON-RAMP FROM WB CALDWELL Ave

TYPICAL CROSS SECTIONS

NO SCALE

X-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISED BY	DATE REVISED
Caltrans DESIGN	JUN XU	CHECKED BY	NATALYA CHEVY	
			ROD CRUZ	

LOC RECISION DATE PLOTTED => 10-JUN-2019
05-17-19 TIME PLOTTED => 15:35

BORDER LAST REVISED 7/2/2010 | USERNAME => s132224 DGN FILE => 0616000029ca005.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1463 | PROJECT NUMBER & PHASE 06160000290

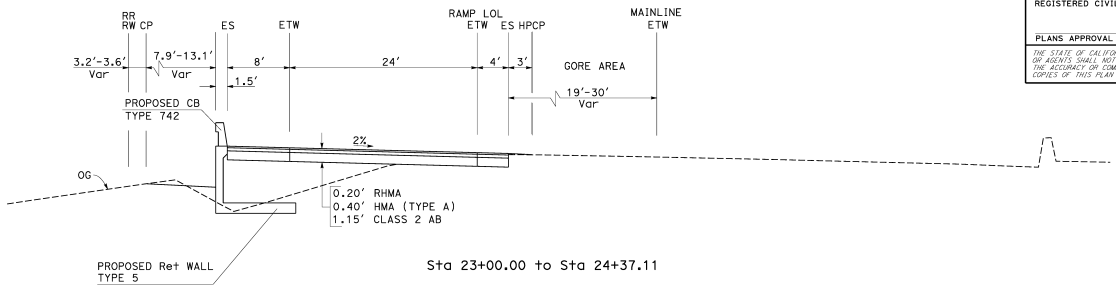
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	35.8/37.1		

REGISTERED CIVIL ENGINEER DATE

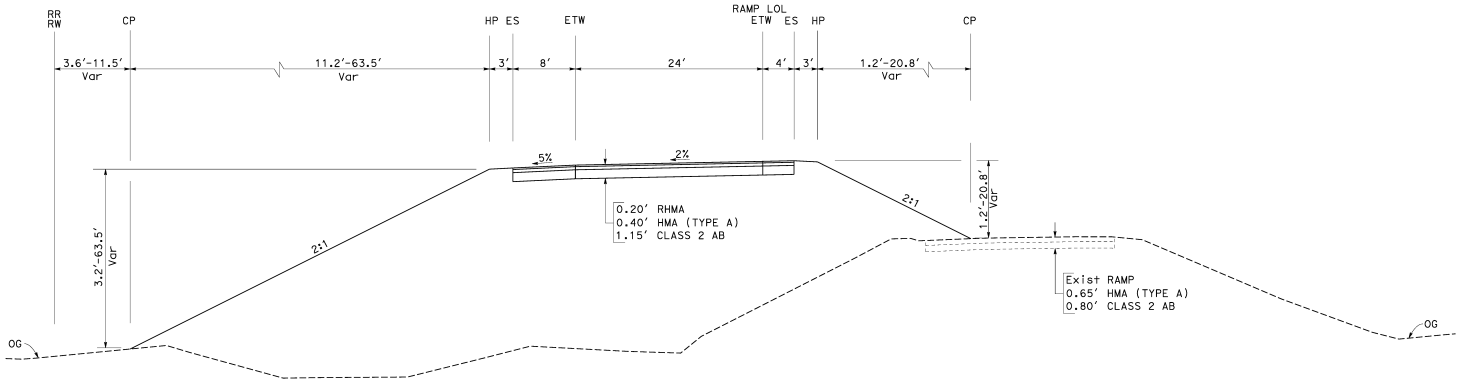
PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA



Sta 23+00.00 to Sta 24+37.11



Sta 10+90.00 to Sta 23+00.00

SB OFF-RAMP TO CALDWELL Ave

TYPICAL CROSS SECTIONS

NO SCALE

X-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DESIGN

FUNCTIONAL SUPERVISOR: JUN XU

CALCULATED-DESIGNED BY: NATALYA CHEVY

CHECKED BY: ROD CRUZ

REVISED BY

DATE REVISED

LAST REVISION DATE PLOTTED => 10-JUN-2019
TIME PLOTTED => 15:35

05-10-19

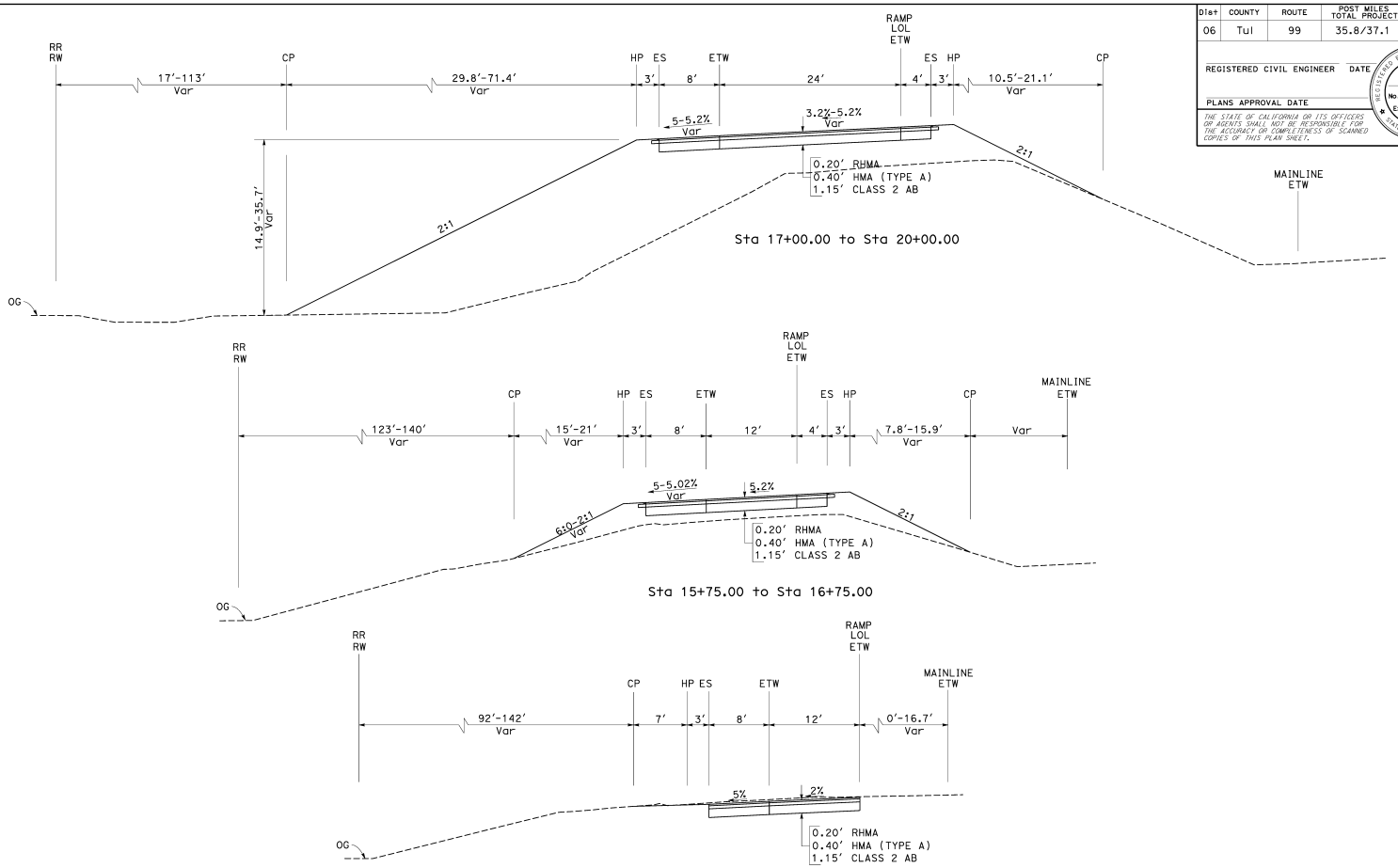
BORDER LAST REVISED 7/2/2010

USERNAME => s132224
DGN FILE => 0616000029cs006.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1463

PROJECT NUMBER & PHASE 06160000290



SB ON-RAMP FROM CALDWELL Ave ("R4"LINE)

TYPICAL CROSS SECTIONS

NO SCALE

X-7

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	35.8/37.1		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR: JUN XU
CALCULATED-DESIGNED BY: NATALYA CHEVY
CHECKED BY: ROD CRUZ
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 10-JUN-2019
TIME PLOTTED => 15:35
04-22-19

BORDER LAST REVISED 7/2/2010

USERNAME => s132224
DGN FILE => 0616000029co007.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1463

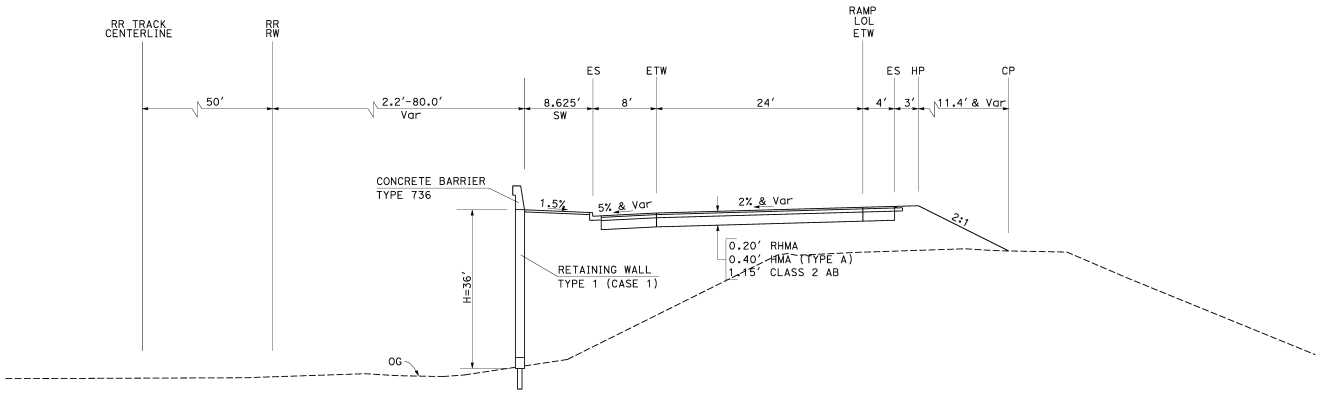
PROJECT NUMBER & PHASE 06160000290

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	35.8/37.1		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. EXP. CIVIL STATE OF CALIFORNIA



Sta 20+58.44 to Sta 21+70.00

NOTE: THIS RETAINING WALL IS INCLUDED IN SHEET X-2.
FOR ILLUSTRATION PURPOSES ONLY SINCE THIS IS ALSO PART OF THE RAMP.

SB ON-RAMP FROM CALDWELL Ave ("R4"LINE)

TYPICAL CROSS SECTIONS

NO SCALE

X-8

LAST REVISION DATE PLOTTED => 10-JUN-2019
TIME PLOTTED => 15:35

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN

FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
JUN XU	NATALYA CHEVY	ROD CRUZ		

BORDER LAST REVISED 7/2/2010

USERNAME => s132224
DGN FILE => 0616000029ca008.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1463

PROJECT NUMBER & PHASE 06160000290

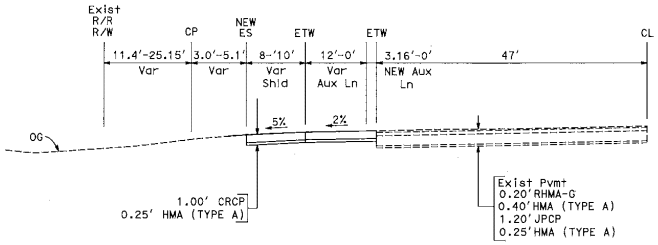
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	35.8/37.1		

REGISTERED CIVIL ENGINEER DATE

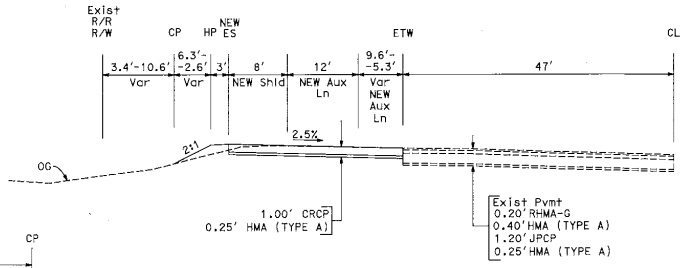
PLANS APPROVAL DATE

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

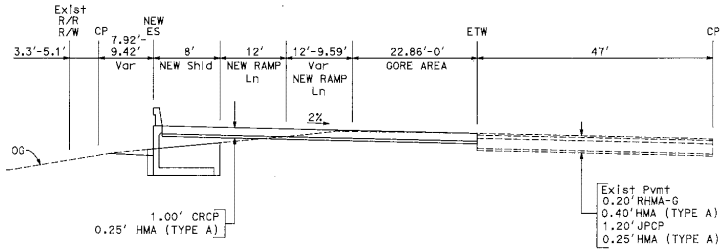
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA



Sta 326+75.00 to Sta 342+60.74



Sta 326+00.10 to Sta 326+50.00



Sta 323+05.94 to Sta 326+00.00

SB AUXILIARY LANE
ROUTE 99

TYPICAL CROSS SECTIONS

NO SCALE

X-9

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
FUNCTIONAL SUPERVISOR: JUN XU
DESIGN
CALCULATED-DESIGNED BY: NATALYA CHEVY
CHECKED BY: ROD CRUZ
REVISED BY
DATE REVISED

LAST REVISION: DATE PLOTTED => 10-MAY-2019
03-21-19 TIME PLOTTED => 13:39

BORDER LAST REVISED 7/2/2010 | USERNAME => s147104 DGN FILE => 06160000290a009.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1463 | PROJECT NUMBER & PHASE 06160000290

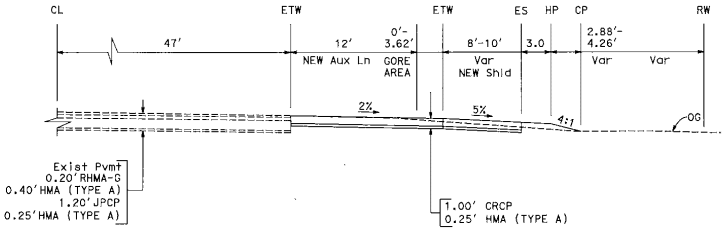
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	35.8/37.1		

REGISTERED CIVIL ENGINEER DATE

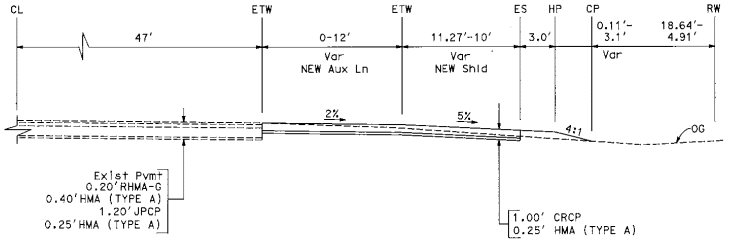
PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA



Sta 276+50.00 to Sta 290+00.00



Sta 274+00.00 to Sta 276+50.00

NB AUXILIARY LANE

ROUTE 99

TYPICAL CROSS SECTIONS

NO SCALE

X-10

REVISED BY	DATE REVISED
NATALYA CHEVY	
ROD CRUZ	

CALCULATED-DESIGNED BY:

CHECKED BY

FUNCTIONAL SUPERVISOR: JUN XU

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

DESIGN

LAST REVISION 04-04-19

DATE PLOTTED => 10-MAY-2019
TIME PLOTTED => 13:41

BORDER LAST REVISED 7/2/2010

USERNAME => s147104
DGN FILE => 06160000290cc010.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1463

PROJECT NUMBER & PHASE 06160000290

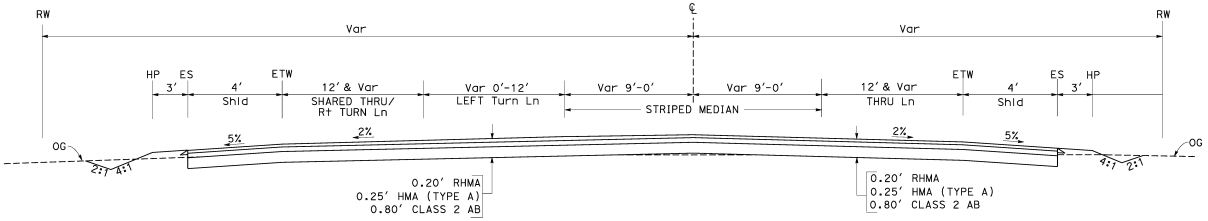
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Tul	99	35.8/37.1		

REGISTERED CIVIL ENGINEER DATE

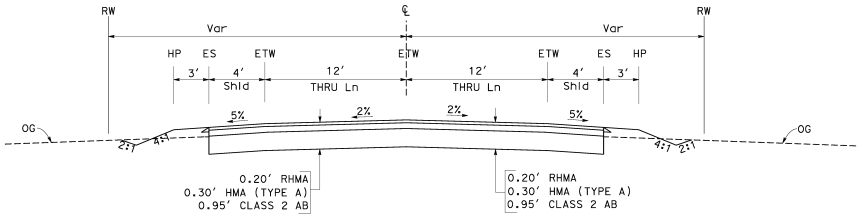
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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



PROPOSED FRONTAGE ROAD
(DRIVE 85B - NORTH OF CALDWELL)



PROPOSED FRONTAGE ROAD
(DRIVE 85A - SOUTH OF EVANS DITCH CANAL)
(DRIVE 85A - NORTH OF CALDWELL)

TYPICAL CROSS SECTIONS

NO SCALE

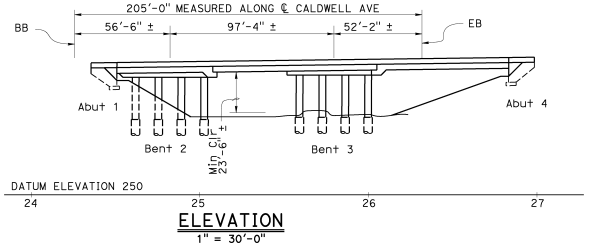
X-11

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR: JUN XU
CALCULATED-DESIGNED BY: NATALYA CHEVY
CHECKED BY: ROD CRUZ
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 19-JUN-2019
TIME PLOTTED => 15:35
04-04-19

BORDER LAST REVISED 7/2/2010
USERNAME => s132224
DGN FILE => 06160000290ca011.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 1463
PROJECT NUMBER & PHASE 06160000290

Dist	COUNTY	ROUTE	POST MILE
06	Tul	Co. Rd	



ELEVATION
1" = 30'-0"

Notes and Assumptions:

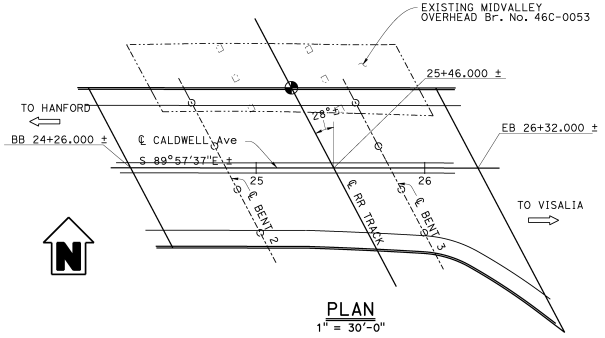
1. Overhead traffic will be carried on the structure. Stage construction will be required. Railroad traffic will pass through the construction site, falsework required, see "MINIMUM CONSTRUCTION CLEARANCE DIAGRAM".
2. Cost of obtaining permits, acquiring right of way, traffic handling, hazardous material removal, relocation or installation of utilities or drainage facilities not considered in this APS.
3. Abutments and wingwalls assumed to be constructed in embankment fills graded to 1.5H:1V where possible. Cost of earthwork outside of structure excavation and backfill limtis not considered in this APS.
4. No approach slabs assumed for this alternative.

LEGEND

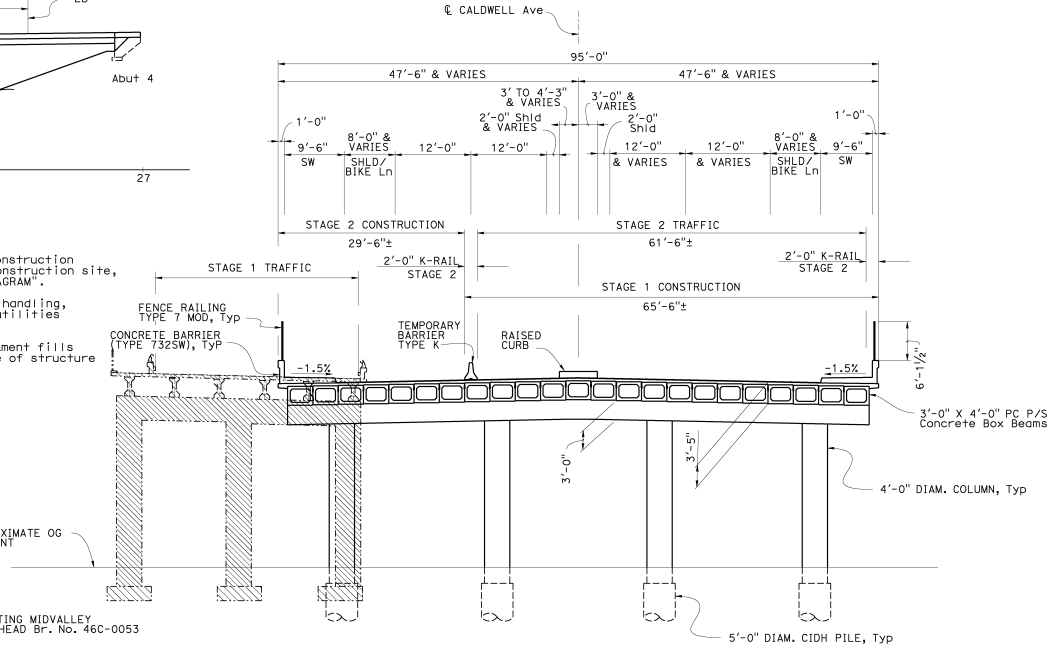
Denotes Existing structure

Denotes point of minimum vertical clearance

Denotes Bridge Removal



PLAN
1" = 30'-0"



TYPICAL SECTION
⅛" = 1'-0"

Note:
Span 2 structure type shown,
Span 1 and Span 3 structure type to be CIP/RC Box Girder

PRELIMINARY PLAN SUBJECT TO REVISION

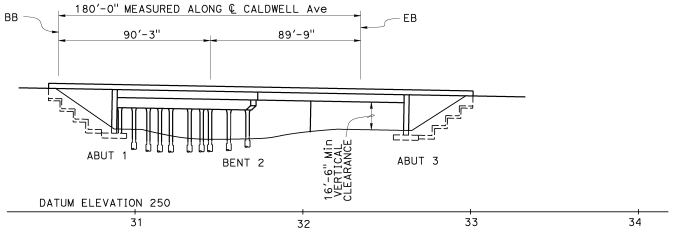
DESIGNED BY Jose Higareda	DATE 05-17-19	STRUCTURE DESIGN	PREFERRED ALTERNATIVE
DRAWN BY Jose Higareda	DATE 05-17-19	DESIGN BRANCH 15	MID-VALLEY OH (REPLACE)
CHECKED BY	DATE		UNIT:3604 / BRIDGE No.:46C-0053
APPROVED	DATE		CONTRACT No.:06-48740 / PROJECT No. & PHASE:0616000029O

STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 3/17/2017)

DATE PLOTTED => 17-MAY-2019 TIME PLOTTED => 15:31
FILE => 46c-0053-a-gp PA 051717.dgn USERNAME => s120177

ORIGINAL SCALE IN INCHES 0 1 2 3

Dist	COUNTY	ROUTE	POST MILE
06	Tul	99	36.41



ELEVATION
1" = 30'-0"

Notes and Assumptions:

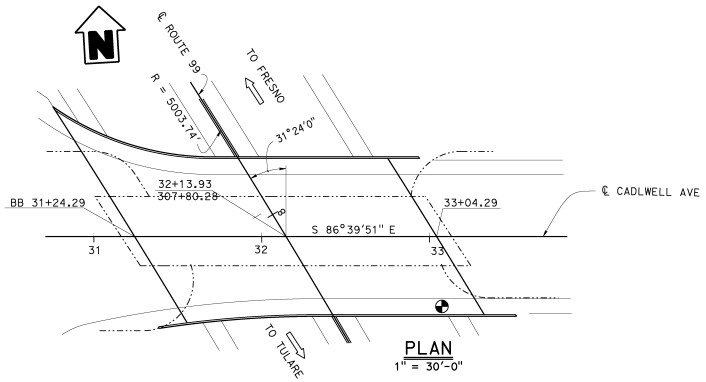
1. Overcrossing traffic will be carried on the structure. Stage construction will be required. Hwy 99 traffic will pass through the construction site, falsework clearance to provide a minimum of 15'-6" vertical clearance and 36'-0" horizontal clearance in each direction.
2. Cost of obtaining permits, acquiring right of way, traffic handling, hazardous material removal, relocation or installation of utilities or drainage facilities not considered in this APS.
3. Abutments and wingwalls assumed to be constructed in embankment fills graded to 1.5H:1V where possible. Cost of earthwork outside of structure excavation and backfill limits not considered in this APS.
4. New Type 60F barrier in median of Hwy 99 not shown but cost considered in estimate.
5. No approach slab assumed for this alternative.
6. 90 kip foundation piles at abutments assumed to be 50 ft. in length. 60 inch CIDH piles at bent assumed to be 90 ft. in length.

LEGEND

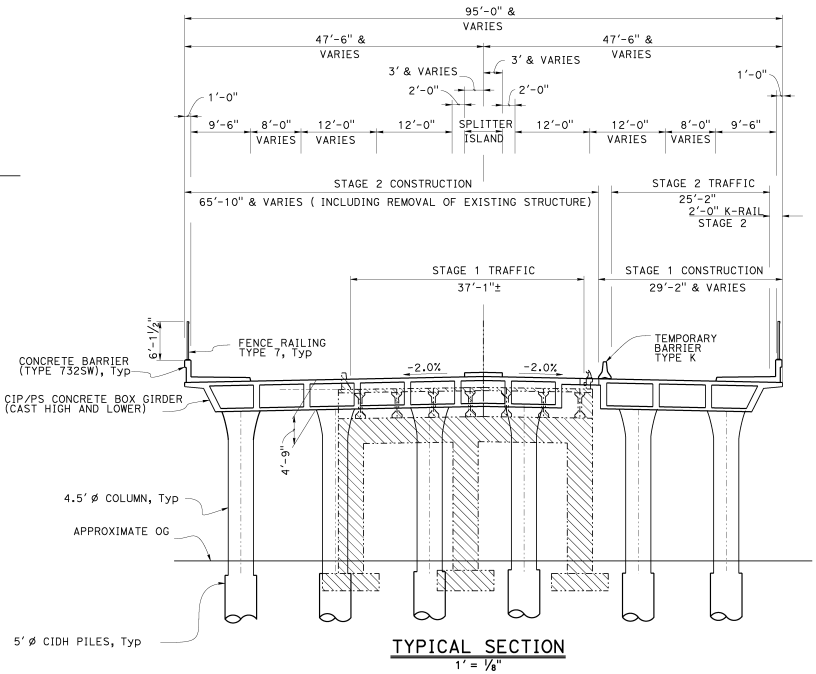
Denotes Existing structure

Denotes Bridge / Rail removal portion

Denotes point of minimum vertical clearance



PLAN
1" = 30'-0"



TYPICAL SECTION
1' = 1/8"

PRELIMINARY PLAN SUBJECT TO REVISION

DESIGNED BY: Jose Higareda	DATE: 02-08-18	STRUCTURE DESIGN	PREFERRED ALTERNATIVE
DRAWN BY: F. Hosseinioun/	DATE: 02-08-18	DESIGN BRANCH 15	AVENUE 280 OC (REPLACE)
CHECKED BY: Krishnakant Andurlekar	DATE: 02-08-18		UNIT: 3604 / BRIDGE No.: 46-0195
APPROVED: Krishnakant Andurlekar	DATE: 02-08-18		CONTRACT No.: 06-48740 / PROJECT No. & PHASE: 06160000290

STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 3/11/2017)

DATE PLOTTED => 17-MAY-2019 TIME PLOTTED => 15:28
FILE => 46-0195-s-gp PA 051719.dgn USERNAME => s120177

ORIGINAL SCALE IN INCHES 0 1 2 3

List of Technical Studies

- Air Quality Study Report: August 2018
- District Preliminary Geotechnical Report: March 2018
- Historic Property Survey Report/Archaeological Survey Report: April 2018
- Initial Site Assessment (Hazardous Waste): March 2018
- Location Hydraulic Study: May 2018
- Natural Environment Study: September 2018
- Noise Study Report: May 2018
- Paleontological Identification Report: April 2016
- Visual Impact Assessment: November 2018
- Water Quality Study: June 2018
- Traffic Operational Analysis Memo: October 2017
- Supplemental Traffic Operational Analysis Memo: August 2018
- Intersection Control Evaluation Memo: June 2018

To obtain a copy of one or more of these technical studies/reports, please send your request to the following email address: d6.public.info@dot.ca.gov

Please indicate the project name and project identifying code (under the project name on the cover of this document) and specify the technical report you would like a copy of. Provide your name and email address or U.S. postal service mailing address (street address, city, state and zip code).