SR-241/SR-91 Tolled Express Lanes Connector Project

ORANGE COUNTY, CALIFORNIA
DISTRICT 12
12-ORA-241 PM 36.1/39.1
12-ORA-91 PM 14.7/18.9
08-RIV-91 PM 0.0/1.5
EA No. 12-0K9700
Project No. 1200020097
SCH No. 1989010410

Final Supplemental Environmental Impact Report/ Environmental Impact Statement



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 USC 327 and the Memorandum of Understanding dated December 23, 2016, and executed by FHWA and Caltrans.

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

January 2020

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General Information About This Document

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has prepared this Final Supplemental Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the proposed project located in Orange County, California. Caltrans is the lead agency under both the National Environmental Policy Act (NEPA) and 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 Draft Supplemental EIR/EIS was circulated to the public for 61 days between November 7, 2016, and January 9, 2017. Comments received during this period are included in Chapter 5. Elsewhere throughout this document, a vertical line in the margin indicates a change 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 Caltrans District 12, 1750 East Fourth Street, Suite 100, Santa Ana, California 92705; the TCA office, 125 Pacifica, Suite 120, Irvine, California 92618; and at:

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SCH No. 1989010410
12-ORA-241 PM 36.1/39.1
12-ORA-91 PM 14.7/18.9
08-RIV-91 PM 0.0/1.5
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Construct a tolled direct connector between State Route 241 (SR-241) and the State Route 91 (SR-91) Tolled Express Lanes from Orange County (12-ORA-241 PM 36.1/39.1 and 12-ORA-91 PM 14.7/18.9 to 08-RIV-91 PM 0.0/1.5) to the Riverside County line.

FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C), 49 USC 303 and/or 23 USC 138

THE STATE OF CALIFORNIA
Department of Transportation

Cooperating Agency:
United States Army Corps of Engineers

Responsible Agencies:

United States Department of Fish and Wildlife
California Department of Fish and Wildlife
Foothill/Eastern Transportation Corridor Agency
Regional Water Quality Control Board
County of Orange
California Transportation Commission

1/7/2020
Date of Approval

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Abstract: The purpose of the Proposed Project is to implement the build out of the Eastern Transportation Corridor (ETC), as approved in 1994. The overall objective of the ETC project was to accommodate traffic growth associated with planned and approved development in Orange County. The need for the Proposed Project is to address roadway deficiencies including: peak-hour demand exceeding capacity between the SR-241 and SR-91 connectors, lack of connectivity between tolled/managed facilities, and weaving between general purpose connectors and median lanes reducing traffic flow. Caltrans, in cooperation with the Foothill/Eastern Transportation Corridor Agency (F/ETCA), proposes to construct a tolled direct connector between SR-241 and the *91 Express Lanes*. Currently, there is no direct connection between the SR-241 toll road and the *91 Express Lanes*. A Preferred Alternative was identified by the Project Development Team, which is the Proposed Project (the Build Alternative) discussed in this document. The only substantial effects from the Proposed Project include impacts to paleontological resources and biological resources.

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Summary

S.1 NEPA Assignment

California participated in the "Surface Transportation Project Delivery Pilot Program" (Pilot Program) pursuant to 23 United States Code (USC) 327, for more than 5 years, beginning July 1, 2007, and ending September 30, 2012. MAP-21 (P.L. 112-141), signed by President Obama on July 6, 2012, amended 23 USC 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, the California Department of Transportation (Caltrans) entered into a Memorandum of Understanding (MOU) pursuant to 23 USC 327 (National Environmental Policy Act [NEPA] Assignment MOU) with the Federal Highway Administration (FHWA). The NEPA Assignment MOU became effective October 1, 2012, and was renewed on December 23, 2016, for a term of 5 years. In summary, Caltrans continues to assume FHWA 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, FHWA assigned, and Caltrans assumed, all of the United States 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 FHWA assigned to Caltrans under the 23 USC 326 Categorical Exclusion Assignment MOU, projects excluded by definition, and specific project exclusions.

S.2 Joint CEQA/NEPA Document

The Proposed Project is a joint project by Caltrans and the FHWA, 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 NEPA. Caltrans is the lead agency under both CEQA and NEPA. In addition, FHWA's responsibility for environmental review, consultation, and any other action 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 MOU dated December 23, 2016, and executed by FHWA and Caltrans.

Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. Because NEPA is concerned with the

significance of the Project as a whole, often a "lower level" document is prepared for NEPA.

This Final Supplemental Environmental Impact Report/Environmental Impact Statement (EIR/EIS) includes responses to comments received on the Draft Supplemental EIR/EIS (Chapter 5) and identifies the Preferred Alternative (the Build Alternative). Locations in this Final Supplemental EIR/EIS where changes were made to the document following publication of the Draft Supplemental EIR/EIS are underlined and shown with a vertical line in the side margin.

As the owner-operator and lead agency, Caltrans is the approving agency for the Proposed Project. Upon approval of the Proposed Project, a Notice of Determination will be published for compliance with CEQA. With respect to the National Environmental Policy Act (NEPA), Caltrans, as assigned by the FHWA, will document and explain its decision regarding the selected alternative, project impacts, and mitigation measures in a Record of Decision (ROD).

Caltrans, in cooperation with the Foothill/Eastern Transportation Corridor Agency (F/ETCA) (responsible agency pursuant to the *State CEQA Guidelines* Section 15381 and sponsoring agency), proposes the State Route 241 (SR-241)/State Route 91 (SR-91) Tolled Express Lanes Connector Project (Proposed Project) to construct a median-to-median connector between SR-241 and the tolled lanes in the median of SR-91 (*91 Express Lanes*). SR-241 is a tolled facility, starting at the Oso Parkway interchange, in south Orange County, to its terminus at SR-91. The Orange County Transportation Authority (OCTA) *91 Express Lanes* is a tolled facility, two lanes in each direction, located in the median of SR-91, from State Route 55 (SR-55), to the Orange/Riverside County Line (east of the SR-241 interchange). The existing junction of SR-241 and SR-91 connects all lanes of northbound SR-241 to the non-tolled, general-purpose lanes of eastbound and westbound SR-91 and the eastbound and westbound SR-91 to southbound SR-241. There is currently no direct connection between the SR-241 and the *91 Express Lanes*.

S.3 Project Background/History

In May 1994, F/ETCA, in cooperation with Caltrans/FHWA, prepared and approved a Final EIR and Final EIS to construct the Eastern Transportation Corridor (ETC) (SR-241) as a limited access highway (tollway), starting at the Santa Ana Freeway (Interstate 5/State Route 133 [I-5/SR-133)]) interchange, to its terminus at SR-91.

The Systems Management Concept (SMC)[1] for the ETC projected that each Build Alternative would be staged, incorporating general-purpose traffic and eventually high-occupancy vehicle (HOV) "carpool" lanes, to meet the forecasted demand. Under the SMC, ETC construction would be completed in one stage, with three or more phases.

The Preferred Alternative selected for the ETC as documented in the Final EIR and Final EIS included a single alignment called the North Leg through Gypsum and Blind Canyons transitioning to the East Leg south of Santiago Canyon Road. The East Leg crosses Loma Ridge near Rattlesnake Canyon, extends southeasterly toward Siphon Reservoir where the ETC interchanges with the Foothill Transportation Corridor (FTC) and then extends southerly along the Orange County Great Park to the I-5/SR-133 interchange. Construction of the ETC began in 1996 and finished in 1998.

The Proposed Project is a later phase of the ETC. It was originally evaluated as an SR-241/SR-91 HOV direct connector in the 1991 ETC Draft EIR/EIS, the 1992 ETC Final EIR, and the 1994 ETC Final EIS.

To implement this later phase of the ETC, this Supplemental EIR/EIS has been prepared to:

- Focus on the northern end of the original project
- Address changes to environmental conditions and regulatory requirements
- Address the extended Project Limits on SR-91 to the east; and
- Comply with 23 Code of Federal Regulations (CFR) 771.129(b): *A written evaluation of the final EIS will be required before further approvals may be granted if major steps to advance the action (e.g., authority to undertake final design, authority to acquire a significant portion of the right-of-way, or approval of the plans, specifications, and estimates) have not occurred within three years after the approval of the final EIS…*Because the SR-241/SR-91 Express Lanes Connector design was postponed longer than 3 years after the ETC Final EIS approval, the median-to-median connector is required to be re-evaluated in compliance with NEPA.

[1] The SMC defines the environment in which the freeway is to operate, and the needs of the users. It is a tool by which regions, agencies, and traffic management centers identify the optimal solution on their preferred approach, capabilities, and constraints.

S.4 Purpose and Need

The Project Purpose is a set of objectives the Proposed Project is intended to meet. The Project Need is the range of transportation deficiencies that the Proposed Project was initiated to address.

S.4.1 Purpose of the Proposed Project

In addition to the originally intended objectives of the ETC, changed circumstances at the junction of SR-241 and SR-91 have led to the following objectives for the Proposed Project:

- Implement the build out of the ETC, as approved in 1994
- Attain compatibility with the SR-91 mainline and SR-91 Express Lanes
- Improve traffic flow and operations by reducing weaving across multiple general-purpose lanes between the SR-91 Express Lanes and the SR-241 general-purpose lane connectors
- Enhance the efficiency of the tolled system, thereby reducing congestion on the non-tolled system on the SR-91

S.4.2 Need for the Proposed Project

There is a need for improved access between SR-241 and SR-91. Roadway deficiencies are described below:

- Demand exceeds capacity on the northbound SR-241 connector to the eastbound SR-91 and on the westbound SR-91 connector to the southbound SR-241
- Northbound vehicles on SR-241 cannot access the eastbound SR-91 Express Lanes.
- Westbound SR-91 Express Lanes motorists cannot access southbound SR-241.
- The weaving between the general-purpose connectors and the median lanes is an issue because it degrades the level of service due to increased vehicle density. In addition, the weaving operations contribute to sideswipe accidents.

S.5 Project Description

The Proposed Project proposes to improve access and reduce congestion at the SR-241/SR-91 interchange by providing a direct connector between SR-241 and the *91 Express Lanes*. The Proposed Project, located in the cities of Anaheim, Yorba Linda, and Corona, and the counties of Orange and Riverside is proposed to be a tolled facility with a total length of approximately 8.7 miles (mi).

The improvements for the connector include 5.9 mi in the cities of Anaheim and Yorba Linda and unincorporated areas of Orange and Riverside counties, from south of Windy Ridge Wildlife Undercrossing on SR-241 to Coal Canyon Undercrossing on SR-91. The remaining 2.8 mi of the Proposed Project include signage improvements (advance signage) in the cities of Anaheim (1.2 mi), Yorba Linda (0.1 mi), and Corona (1.5 mi) and unincorporated Orange and Riverside counties, with exact placement of the signage pending the Final Design process. The Proposed Project is mostly within existing Caltrans right-of-way, with one partial acquisition required adjacent to eastbound SR-91. Construction access and staging areas would occur within existing Caltrans right-of-way. The area where the partial acquisition would be located, adjacent to eastbound SR-91, would be used for construction access but not for construction staging. The partial acquisition would not result in the displacement or relocation of any residents or businesses.

This Supplemental EIR/EIS includes a No Build Alternative and only one Build Alternative (Preferred Alternative) for the median-to-median connector for the following reasons:

- The median-to-median connector is a component of a previously approved project and alternative selected during the 1992 EIR Certification and 1994 ROD for the original ETC project;
- Various alternatives were studied for the previously approved project that included consideration of a reasonable range of potentially feasible alternatives; and
- There are limited locations for a median-to-median connector between SR-241 and SR-91.

S.5.1 Build Alternative (Two-Lane Tolled Express Lanes Connector) (Preferred Alternative)

The Build Alternative would construct a two-lane tolled express lane median-to-median connector between SR-241 and SR-91, which would connect lanes from the median of northbound SR-241 to the existing eastbound median *91 Express Lanes*. The reverse movement would also be accommodated, from the westbound median *91 Express Lanes* to the median of southbound SR-241.

The Build Alternative would merge into the existing *91 Express Lanes* at Coal Canyon Undercrossing. The Riverside County Transportation Commission's (RCTC) SR-91 CIP Initial Phase extended the express lanes on SR-91 east to Interstate 15

(I-15) and opened to traffic on March 20, 2017. The Build Alternative is compatible with the approved SR-91 CIP for both the initial and ultimate configurations, including the number and widths of the express lanes, express auxiliary lanes, and general-purpose lanes.

On March 24, 2016, the Project Development Team evaluated the Build Alternative and the No Build Alternative to develop a recommendation to Caltrans for the Preferred Alternative. Due to the fact that there was only one Build Alternative, no systematic criteria were developed to compare the Build Alternative to the No Build Alternative. However, the reasons for selecting the Build Alternative as the Preferred Alternative include:

- Meeting the Proposed Project's Purpose and Need
- Consistency with the planned facility
- Consistency with regional transportation and air quality planning

In addition, the environmental impacts of the Build Alternative were in an acceptable range (all substantial environmental impacts can be avoided, minimized, or mitigated) when compared to the No Build Alternative. The Build Alternative would implement the selected alternative in the ETC Final EIR and ROD for the Final EIS. While the Build Alternative meets the Proposed Project's Purpose and Need, the identification of it as the Preferred Alternative was also based upon the following factors:

- Various alternatives were studied for the previously approved project that included consideration of a reasonable range of potentially feasible alternatives; and
- There are limited locations for a median-to-median connector between SR-241 and SR-91.

The following sections describe the permanent and temporary features of the Build Alternative. Additional details and a corresponding figure are provided in Chapter 2.

S.5.1.1 Permanent Project Features

New Lanes and Roadway Alignment

Improvements on Southbound SR-241

On southbound SR-241, an additional lane and shoulder would be provided by widening Windy Ridge Wildlife Undercrossing into the existing median and improving the highway median for approximately 10,000 feet (ft) to the north.

Improvements on Northbound SR-241

Starting approximately 3,700 ft north of the Windy Ridge Wildlife Undercrossing, an additional lane and shoulder would be provided by widening into the existing highway median for approximately 5,000 ft. The two express (northbound and southbound) connector lanes would converge in the existing SR-241 median on fill for approximately 800 ft. The connector then spans over the existing northbound SR-241 to the westbound SR-91 general-purpose lane connector and the SR-91/ Gypsum Canyon Road interchange on two new bridge structures approximately 570 ft and 1,590 ft in length, respectively (to merge in the median of SR-91).

Improvements on Eastbound SR-91

To accommodate the addition of the median-to-median connector, eastbound SR-91 would be realigned to the south. The northbound SR-241 to eastbound 91 Express Lanes connector would continue on eastbound SR-91, ending approximately 1,000 ft west of Coal Canyon Undercrossing. An eastbound auxiliary express lane would be constructed within the 91 Express Lanes. The proposed auxiliary express lane would begin approximately 2,000 ft east of Gypsum Canyon Road Undercrossing to Coal Canyon Undercrossing joining the initial phase of the SR-91 CIP at Coal Canyon Undercrossing. These improvements would provide a four-lane express lane facility, tapering down to three lanes between the connector and Coal Canyon Undercrossing. The number of existing eastbound SR-91 general-purpose lanes would be maintained within the project limits. The eastbound 91 Express Lanes would have a 4 ft buffer on the right separating the general-purpose lanes, and a 4 ft buffer to the left separating the express connector lane. The buffers would transition to 0 ft to join the SR-91 CIP at the eastern terminus of the Project Limits. Approximately 4,500 ft west of Coal Canyon Undercrossing, grading into an existing slope on the south side of SR-91 would be required to accommodate the realigned eastbound SR-91 lanes. The grading would span approximately 1,300 ft along eastbound SR-91. A maintenance access road would be provided along the edge of slope grading. The purpose of the access road is to maintain the slope and facilitate a smooth and seamless transition where natural and built slopes intersect. These improvements would provide a four-lane express lane facility, tapering down to three lanes between the connector and Coal Canyon Undercrossing.

Improvements on Westbound SR-91

At the eastern terminus of the Project, the westbound *91 Express Lanes* would be restriped and the median widened to accommodate the addition of the express connector lane within the *91 Express Lanes* to the southbound SR-241 median-to-

median connector. The connector lane would begin approximately 1,000 ft west of Coal Canyon Undercrossing and extend west for approximately 4,500 ft in the SR-91 median ending at the express lanes connector. The auxiliary express lane at the SR-91 CIP connection would be extended in the westbound direction ending 2,000 ft west of Coal Canyon Undercrossing. These improvements would provide a four-lane overlap section along westbound SR-91 for approximately 1,000 ft. This 1,000 ft overlap would accommodate weaving between traffic accessing the southbound SR-241 median-to-median connector and the westbound *91 Express Lanes*. The existing eastbound SR-91 lanes would be shifted to the south.

Striped Buffers and Channelizers

The Build Alternative would provide a striped buffer with surface mounted channelizers to separate the SR-91 general-purpose lanes from the *91 Express Lanes* and a new striped buffer to separate the eastbound express lane connector lane from the *91 Express Lanes*. The eastbound express lane buffers would taper from 0 to 4 ft and the westbound express lane buffers would taper from 0 to 2 ft.

Ramp Realignment

The SR-91/Gypsum Canyon Road interchange on- and off-ramps and the northbound SR-241 to eastbound SR-91 general-purpose connector would be realigned to accommodate the median-to-median connector. A design variation for this interchange is a roundabout configuration.

Bridge Structures and Bridge Widening

Two new overcrossing structures would be constructed and two existing bridges would be widened as follows:

- **SR-241/SR-91 Connector Overcrossing Structures:** Two new structures would connect traffic from northbound SR-241 to eastbound SR-91 and from westbound SR-91 to southbound SR-241.
- **Gypsum Canyon Undercrossing Widening:** On eastbound SR-91, the existing Gypsum Canyon Undercrossing would be widened to the south.
- **Windy Ridge Wildlife Undercrossing Widening:** On southbound SR-241, the Windy Ridge Wildlife Undercrossing would be widened to the east.

All structures would be constructed using a cast-in-place, pre-stressed, concrete box girder.

Graded Slopes

Manufactured fill slopes would not exceed a 4:1 ratio. Manufactured cut slopes would not exceed a 2:1 ratio. Graded slopes would be contoured consistent with the existing topography, and would be seeded with native plant species consistent with existing vegetation.

Guard Rails/Barriers

Additional pavement would be added between the existing northbound SR-241/ eastbound SR-91 and the northbound SR-241/westbound SR-91 general-purpose connectors to accommodate a future concrete barrier separation to prevent vehicles traveling on the northbound SR-241/westbound SR-91 general-purpose connector to "queue jump" into the eastbound SR-91 general-purpose connector. This feature would improve traffic flow on SR-241 and would be added in a later phase of the Proposed Project if queue jumping continues after pavement marking and striping are implemented in this area.

Guard rails would be constructed along the new SR-241/SR-91 median-to-median connector embankments and structures.

An existing barrier along the inside shoulder of north SR-241 (just south of the Windy Ridge Undercrossing) would be removed to allow for advance signage.

Retaining Walls

Four retaining walls are required for the Proposed Project. One wall would be constructed in the median of SR-241 to support median widening and to accommodate the future addition of a southbound lane per the ETC Ultimate Project. This wall would be approximately 2,900 ft long and up to 15 ft high. Two Mechanically Stabilized Earth (MSE) retaining walls would be constructed in the median of SR-91 to support the connector as it transitions to an elevated structure. These walls would be approximately 1,350 ft long and up to 15 ft high, but views would be blocked by the existing structures associated with the junction of SR-241 and SR-91. One retaining wall would be constructed adjacent to eastbound SR-91, approximately 2,200 ft west of the Coal Canyon Undercrossing and would be approximately 1,025 ft long and up to 28 ft high. However, this retaining wall would face vacant land to the south; only the top 3 ft of the retaining wall cap would be visible from SR-91.

Advance Signage

On SR-241 at the southern end of the Proposed Project, signage would be modified approximately 0.2 mi south of the Windy Ridge Wildlife Undercrossing. In addition, signage improvements would also be made on SR-91 between Coal Canyon Undercrossing and Green River Road and west of SR-241 within the existing SR-91 median and highway footprint.

Water Quality Best Management Practices

Design Pollution Prevention best management practices (BMPs) proposed as part of the Proposed Project include dikes, overside drains, ditches, berms, swales, modifications to the existing storm drain system, the preservation of existing vegetation, and replanting new slopes with appropriate native vegetation. Proposed Treatment BMPs include five biofiltration swales and strips and two media filters along eastbound SR-91.

Drainage Improvements

New drainage features would be constructed and existing features would be modified along SR-241 and within the SR-241/SR-91 interchange. The improvements include the construction of new drop inlets with connecting pipes, new guard rails with dikes, median drainage, and deck drains; modification of existing drop inlets; replacement of edge drains; and removal or abandonment of existing drop inlets and existing culverts. The proposed drainage improvements would be linked to the existing drainage system and would preserve the existing drainage patterns as much as possible, including draining all storm water to the Santa Ana River.

Landscaping

Replacement landscaping will be provided in the following areas: (1) the area between the SR-241 general-purpose connector (northbound SR-241 to eastbound SR-91) and the SR-241 general-purpose connector (westbound SR-91 to southbound SR-241); and (2) the slope and other vegetated areas on the south side of SR-91, within the disturbance limits.

Transportation System Management (TSM)/Transportation Demand Management (TDM) Features

TSM elements include ramp metering, auxiliary lanes, and traffic signal coordination. In addition, the Build Alternative proposes to have dynamic traffic management technology (toll pricing varies based on express lanes demand). Toll operations are being coordinated among the F/ETCA, OCTA, and RCTC and are being evaluated in

a separate Concept of Operations report, which will be completed during Final Design.

The addition of a median-to-median toll connector included in the Build Alternative is a TDM feature in and of itself because it would provide additional capacity for HOVs and buses. The Build Alternative would improve travel time, increase the efficiency of the freeway system within the traffic Study Area, and reduce congestion and delay.

Noise Attenuation

No feasible noise attenuation (sound barrier) has been identified for the Proposed Project.

Right-of-Way Acquisition

The Build Alternative would be constructed mostly within existing Caltrans right-of-way. However, one partial acquisition adjacent to eastbound SR-91 would be required. Approximately 5 acres (ac) of land on the slope approximately 3,600 ft west of Coal Canyon, on Assessor's Parcel Number 085-071-56 would be acquired. This parcel is currently part of the Irvine Ranch National Natural Landmark, owned by the County of Orange with a Conservation Easement held by The Nature Conservancy. The Conservation Easement allows for "necessary infrastructure improvement." A maintenance access road would be constructed on this slope.

Design Exceptions (Bold and Underline)

The Build Alternative would require design exceptions. Design exceptions are necessary when the proposed design deviates from the standard design features in the Caltrans *Highway Design Manual*. For example, the design standard for a freeway travel lane is 12 ft; design exceptions would be requested for locations where the lane widths would be 11 ft to match the lane widths approved for the SR-91 CIP. The Build Alternative would require design exceptions (both bold and underline features) for stopping sight distance, superelevation rate, travelway width, minimum shoulder width, and minimum ramp to local road intersection distance, for superelevation transition, single lane connector through lane, and side slopes.

S.5.1.2 Temporary Project Features

Temporary Restriping

The existing number of through lanes on the mainlines of SR-241 and SR-91 would be maintained during construction by restriping the existing lanes using reduced lane widths and shifting traffic within those corridors to maintain the existing capacity.

The *91 Express Lanes* would also be temporarily restriped to maintain two lanes in the eastbound direction.

The eastbound off-ramp and eastbound loop on-ramp at Gypsum Canyon Road would be restriped to allow construction of the two realigned eastbound ramps. One lane would be provided on the off-ramp, and two lanes would be provided on the loop on-ramp. In addition, the existing northbound SR-241 to the eastbound SR-91 connector would be restriped to provide two lanes during construction of the eastbound SR-91 widening, as well as construction of the realigned northbound SR-241 to the eastbound SR-91 connector.

Construction Barriers

During construction, all work areas would be protected by temporary safety devices, such as Temporary Railing (Type K), Temporary Crash Cushions, and other safety features in accordance with federal, State, and local agency requirements.

Detours and Closures

Temporary detours and weekend or nighttime closures would be required at the Gypsum Canyon Road interchange on- and off-ramps and the northbound SR-241 to eastbound SR-91 connector.

Construction Access and Staging Areas

Construction access and staging areas would be located within the junction of SR-241 and SR-91 in existing Caltrans right-of-way. As discussed above, the partial property acquisition adjacent to SR-91 would be used for construction access but not for construction staging. Access would also be required to the SR-91 median at Coal Canyon (only limited daytime access), at Gypsum Canyon, and for scheduled maintenance.

S.5.2 No Build (No Action) Alternative

The No Build Alternative would maintain the current configurations of SR-241 and SR-91 in the Project Area. The SR-91 CIP Initial Phase extended the existing OCTA *91 Express Lanes* east from the Orange/Riverside County line to I-15 in the City of Corona. With completion of the SR-91 CIP Initial Phase on March 20, 2017, SR-91 now has continuous express lanes between SR-55 and I-15. The No Build Alternative would not include a direct connector between the SR-241 and the *91 Express Lanes*; therefore, the gap between SR-241 and the *91 Express Lanes* would not be closed. As a result, motorists traveling north on SR-241 would have to use the general-purpose lane connector to SR-91 and then weave across several lanes to access the eastbound

RCTC SR-91 Express Lanes at the merge area near Green River Road. Similarly, motorists traveling west in the RCTC SR-91 Express Lanes would have to exit at Green River Road, merge across lanes, and use the general-purpose lane connector to southbound SR-241. In addition, under the No Build Alternative, motorists would not be prevented from inappropriately "queue jumping" during congested traffic periods, thereby disrupting traffic flow on the northbound SR-241 connector to the eastbound SR-91 general-purpose lanes during PM peak hours.

Although smaller localized projects could be considered, approved, and implemented on their own merits, no other major corridor improvements would be implemented on the project segments of SR-241 and SR-91 under the No Build Alternative.

Because the No Build Alternative does not include the improvements proposed as part of the Build Alternative, the No Build Alternative provides a benchmark by which the public and decision-makers can compare the magnitude of the effects of the Build Alternative.

S.6 Project Impacts

Table S-1 summarizes the potential impacts of the Proposed Project and the No Build Alternative and identifies avoidance and minimization measures. Where applicable, some of these measures are sometimes also mitigation measures, as discussed in Chapter 4 of this Supplemental EIR/EIS. For detailed information regarding the impacts of each alternative, see Chapters 3 and 4 of this Supplemental EIR/EIS and the associated technical studies.

S.7 Coordination with Public and Other Agencies

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and level of analysis required, and to identify potential impacts, mitigation measures, and related environmental requirements. Agency consultation and public participation for this project has been accomplished through a variety of formal and informal methods, including Project Development Team meetings, Conceptual Operations Meetings, interagency coordination/consultation meetings, and public announcements placed in local newspapers, the *Federal Register,* at the Orange County Clerk's office, and in public libraries. Chapter 5 discusses the results of Caltrans' efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
Cost	Not applicable	$120 million	Not applicable
Construction Duration	Not applicable	24 months	Not applicable
Land Use	**Land Use Conversion** • No impacts **Land Use Consistency** • Inconsistent with several plans and policies to improve regional mobility. **Parks and Recreational Effects and Section 4(f) Use** • No impacts	**Land Use Conversion** • Permanent conversion, through acquisition, of approximately 5 acres of land designated as parkland/reserve to transportation. • No temporary impacts. **Land Use Consistency** • Consistent with the goals, objectives, and policies of all surrounding communities' General Plans; the 2016 RTP/SCS; 2017 FTIP; the Orange County Central and Coastal NCCP/HCP; the Western Riverside MSHCP; the Orange County MPAH; and the Orange County LRTP. • No temporary impacts. **Parks and Recreational Effects and Section 4(f) Use** • Noise levels during operation would increase by 3 A-weighted decibels (dBA) or less, which is barely perceptible to the human ear. *Gypsum Canyon Nature Preserve* • Permanent use: approximately 5 acres (preliminary de minimis finding for the use). • Temporary use: none. • Temporary minimal visual, dust, and noise proximity effects. *Weir Canyon Nature Preserve* • No temporary or permanent use.	Effects to parks and recreation and Section 4(f) resources will be minimized by implementation of Measures AQ-1 through AQ-5, provided in Section 3.12, Air Quality, and Measures N-1 and N-2, provided in Section 3.13, Noise, as well as Measure LU-1, Uniform Act and Park Preservation Act Compliance, provided in Section 3.1, Land Use.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
		• Temporary minimal visual, dust, and noise proximity effects. *Chino Hills State Park* • No temporary or permanent use. • Temporary minimal visual, dust, and noise proximity effects. *Santa Ana River Trail/Bike Lane* • No temporary or permanent use. • Temporary minimal visual, dust, and noise proximity effects. *Featherly Regional Park* • No temporary or permanent use. • Temporary minimal visual, dust, and noise proximity effects. *Green River Golf Club* • No temporary or permanent use. • Temporary minimal visual, dust, and noise proximity effects. *Brush Canyon Park* • No temporary or permanent use. *Santiago Oaks Regional Park* • No temporary or permanent use. *Running Springs Elementary School Recreational Facilities* • No temporary or permanent use. *Other Trails and Fire Roads* • No temporary or permanent use. • Temporary minimal visual, dust, and noise proximity effects.	

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
Growth	No impacts	No impacts	None
Community Impacts	**Community Character and Cohesion** • Accessibility to and mobility in the SR-241/SR-91 interchange area would continue to deteriorate. **Relocations and Real Property Acquisition** • No Impacts **Environmental Justice** • Similar to the overall communities, environmental justice populations would receive no benefits by the reduction in access and mobility in the Project Area.	**Community Character and Cohesion** *Temporary Impacts* • Minimal impacts due to construction noise and dust. • Closure of one lane in each direction on SR-241 and SR-91 at various times to construct the median-to-median connector and install advance signage. • Detours and weekend or nighttime closures at the SR-91/Gypsum Canyon Road interchange ramps to realign the ramps and construct bridge supports for the new connector. • Detours and weekend or nighttime closures at the existing northbound SR-241 to eastbound SR-91 connector to widen SR-91 to the south. • Construction lighting. *Permanent Impacts* • Long-term visual changes because of permanent alteration of existing visual environment at the junction of SR-241 and SR-91 (retaining walls, piers/ supports, and buffers. • Noise levels would increase by 3 A-weighted decibels (dBA) or less, which is barely perceptible to the human ear. • Improved access and circulation along SR-241 and SR-91 in the Project Area by providing a direct connection between SR-241 and the *91 Express Lanes.*	• Measure TR-1 in Section 3.5 (implementation of a TMP) would minimize temporary impacts to community character and cohesion. • Temporary air quality impacts would be minimized based on implementation of Measures AQ-1 through AQ-5, which are provided in Section 3.12, Air Quality. • Temporary noise impacts would be minimized based on implementation of Measure N-1, which is provided in Section 3.13, Noise. Measures V-1 through V-7, found in Section 3.6.5, will be implemented to minimize potential impacts to visual resources. These measures include lighting fixtures, context-sensitive design, architectural treatments, and landscaping. • Operational noise impacts would be minimized based on implementation of Measure N-2, which is provided in Section 3.13, Noise.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
		Relocations and Real Property Acquisition *Temporary Impacts* • No impacts. *Permanent Impacts* • Partial acquisition of one undeveloped County of Orange-owned property (Assessor's Parcel Number 085-071-56). • No displacement or relocation of any residents or businesses. **Environmental Justice** *Temporary Impacts* • With implementation of Measures N-1, AQ-1 through AQ-5, TR-1, and V-1 through V-7, construction of the Build Alternative would not result in adverse impacts that are appreciably more severe or greater in magnitude on environmental justice populations than the adverse effects experienced by non-environmental justice populations. Therefore, the Build Alternative would not cause disproportionately high and adverse temporary effects on minority or low-income populations, as listed above. *Permanent Impacts* • Similar to the overall communities, environmental justice populations would receive the benefits of an increase in access and mobility in the Project Area. Operation of the Build Alternative would not result in adverse impacts that are appreciably more severe or greater in magnitude on environmental justice populations than the adverse effects experienced by non-environmental justice populations.	• Temporary noise impacts would be minimized based on implementation of Measure N-1, which is provided in Section 3.13, Noise. • Temporary air quality impacts would be minimized based on implementation of Measures AQ-1 through AQ-5, which are provided in Section 3.12, Air Quality. • Measure TR-1 in Section 3.5 (implementation of a TMP) would minimize temporary impacts to community character and cohesion. • Temporary visual impacts to environmental justice communities would be minimized based on implementation of Measures V-1 through V-7.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
Utilities and Emergency Services	**Utilities** • No impacts **Emergency Services** • Providers would not benefit from improved mobility and reduced traffic congestion.	**Utilities** *Temporary Impacts* • Utility disruptions could occur. *Permanent Impacts* • No impacts to utilities. **Emergency Services** *Temporary Impacts* • Delay in response time for emergency services. *Permanent Impacts* • May improve response times for emergency services using SR-241 and SR-91. • Emergency service providers would be able to use the express lanes connector when the general-purpose lane connector is experiencing heavy traffic volumes and slow travel speeds.	**Minimization Measure UES-1: Utilities.** During final design, utility protection-in-place plans will be prepared in consultation with the affected utility providers/owners for those utility facilities anticipated to be relocated, removed, and protected in-place. Final design will focus on avoiding utility relocations. If relocation is necessary, final design will focus on relocating utilities within the State right-of-way or within other existing public rights-of-way and/or easements. If relocation outside of existing or the additional public rights-of-way and/or easements required for the Proposed Project is necessary, final design will focus on relocating those facilities in such a manner as to minimize environmental impacts as a result of project construction and ongoing maintenance and repair activities. The utility relocation plans will be included in the project specifications. Prior to and during construction F/ETCA will ensure that the components of any utility relocation plans provided in the project specifications are properly implemented by the construction contractor. **Minimization Measure UES-2: Law Enforcement, Fire Protection, and Emergency Medical Service Providers.** Prior to and during construction, F/ETCA will require the construction contractor to coordinate all temporary ramp and lane closures and detour plans with law enforcement, fire protection, and emergency medical service providers to minimize temporary delays in emergency response times.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			The plans shall be developed in coordination with the affected agencies and shall include the identification of alternative routes and access to construction areas for emergency vehicles. **Minimization Measure UES-3: Law Enforcement, Fire Protection, and Emergency Medical Service Providers.** Prior to operation of the connector, an emergency call box shall be placed along the alignment in compliance with OCTA Call Box placement policies. **ETC Final EIR and Final EIS Measure U-2**. *In conjunction with Final Design, the TCA shall explore the joint use of Corridor maintenance roads, if needed, by the County and utility companies. (North and East Legs)* **ETC Final EIR and Final EIS Measure PS-2.** *The impact on other law enforcement agencies is considered to be minor. Implementation of several measures by the TCA shall assist law enforcement agencies in fulfilling their responsibilities and in avoiding confusion in providing service to their jurisdictions. These measures are: clear identification of jurisdictional boundaries along the Corridor, clearly signed and well lit intersections, and distance location markers along the Corridor. (North and East Legs)*

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
Traffic and Transportation	*Temporary Impacts* • No impacts *Permanent Impacts* • Overall, increased travel time, reduced speed, increased vehicle hours traveled, and increased queues in the SR-91 corridor study area.	*Temporary Impacts* • Detours and closures are expected to result in some delays to the traveling public. *Permanent Impacts* • Vehicle throughput in the SR-91 corridor would improve, vehicles miles traveled would increase, and travel time would decrease. • Traffic would shift from other regional routes (SR-91 between SR-55 and SR-241, SR-55, and surface streets) to SR-241 as a result of the additional capacity of the new connector. • The length of the northbound SR-241 to the eastbound SR-91 queue on the general-purpose ramp would shorten in the PM peak period. • The length of the queues would shorten at the SR-91 westbound mainline bottleneck between the Green River Road interchange and the *91 Express Lanes* ingress in the AM peak period. • There would be a reduction in friction due to fewer vehicles weaving from the northbound SR-241 to the eastbound SR-91 general-purpose ramp to the RCTC SR-91 Express lanes. • There would be an increase in friction on eastbound SR-91, because more vehicles must exit the *91 Express Lanes* and enter the general-purpose lanes and fewer cars can leave the general-purpose lanes and enter the RCTC SR-91 Express Lanes due to the increase in traffic volumes on the express lanes connector.	**Minimization Measure TR-1: Transportation Management Plan.** Ensure that a Transportation Management Plan (TMP) is completed in consultation with the California Department of Transportation (Caltrans) and included in the Plans, Specifications, and Estimates for implementation by the contractor prior to and during construction of any project improvements. The TMP will be consistent with the Caltrans *Transportation Management Plan Guidelines* (November 2015), which include coordination with affected jurisdictions, transportation agencies, and public outreach. The TMP will be prepared by a qualified traffic engineer and will address traffic impacts from temporary detours and weekend or nighttime closures to reduce traveler delays and enhance traveler safety during project construction. The TMP may include the following elements: • Public awareness campaign • Highway advisory radio • Portable changeable message signs • Temporary loop sensor/signals • Bus or shuttle service • Construction Zone Enhanced Enforcement Program • Incident management • Staging construction • Traffic control plan • Freeway service patrol • Transportation management team (TMT) **ETC Final EIR and Final EIS Measure T-13.** *During final design, the TCA shall establish ETC bridge structure clearances to provide an absolute minimum construction false work vertical clearance of 14.0 feet over existing and planned arterial undercrossing identified in the Orange County Master Plan of Arterial Highways.*

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			ETC Final EIR and Final EIS Measure C-15. *All traffic control measures shall conform with applicable local and State Regulations*.
Visual and Aesthetics	No impacts	*Temporary Impacts* • Sensitive viewers, including motorists and residents, would be exposed to views of cleared vegetation, graded slopes, construction vehicles, equipment, and other materials. • Periodic nighttime construction, safety/security lighting would be used during some stages of construction. *Permanent Impacts* • The proposed median-to-median connector would appear similar to the existing general-purpose lane connectors at the SR-241/SR-91 interchange because the new structure would be of similar profile as the existing structures and would be in the Caltrans right-of-way between the existing SR-241/SR-91 northbound-to-southbound connectors. • Motorists traveling on SR-91 would experience views of the express lane bridge connector and retaining walls, but views of open space and other visual resources in the vicinity of the SR-241/ SR-91 interchange would not be obstructed. • Residents with high viewer sensitivity with views of the Project Area would experience permanent views of the proposed express lanes connector but the existing views of hillsides, ridgelines, and open space would not be obstructed.	**Minimization Measure V-1: Lighting Fixtures.** In conjunction with Final Design, proposed lighting fixtures shall be hooded where feasible and lighting shall be directed on the site to minimize potential intrusion of light and glare onto nearby land uses. Lighting shall be designed consistent with the existing lighting along the State Route 241 corridor. **Minimization Measure V-2: Hillsides.** To avoid visual impacts resulting from cut hillsides and filled topography, hills should be preserved where possible. All disturbed areas associated with cut-and-fill activities should appear similar in color to existing topography. Manufactured fill slopes should not exceed a four-to-one ratio. Manufactured cut slopes should not exceed a two-to-one ratio. Rounding of manufactured slopes should be applied. **Minimization Measure V-3: Architectural Treatments.** To maintain consistency with the existing infrastructure (i.e., bridges and walls, etc.) in the Project Area, landscape and/or architectural treatments (i.e., color, texture, etc.) for the structure elements of the Proposed Project shall be determined in consultation with the District Landscape Architect during the Final Design process. **Minimization Measure V-4: Landscaping.** To maintain the context of the Project Area (color, form, and texture) the Proposed Project shall install landscaping that is compatible with the existing landscape along the freeway. The landscape concept and plant palette shall be determined in consultation with the District

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
		• Grading for the Proposed Project features would remove vegetation and modify slopes.	Landscape Architect during the Final Design process. Erosion control plant species utilized shall be determined by the District Landscape Architect to ensure that the mix and application strategy is appropriate for the specific soil composition of the area. Drought-tolerant native species shall be used adjacent to areas of native habitat. Enhanced plantings shall occur adjacent to wildlife crossings. **Minimization Measure V-5: Construction Lighting.** For all nighttime construction activities, necessary lighting for safety and construction purposes shall be contained and directed toward the specific area of construction. **Measure V-6: Context-Sensitive Solutions.** Context-sensitive solutions will be used. Slopes graded for the Build Alternative will be contoured consistent with the existing topography, and all disturbed soil areas will be seeded with drought-tolerant native plant species consistent with existing vegetation. **Measure V-7: Tree Planting.** Permanently impacted Coast live oak, California walnut, and sycamore trees will be replaced at a minimum 2:1 ratio. Heritage oaks (oaks greater than 36 inches in diameter at breast height) will be replaced at a minimum 3:1 ratio. **ETC Final EIR and Final EIS Measure C-19.** *Where appropriate and feasible, construction staging areas shall be located inconspicuously to minimize adverse visual effects on residential and recreation areas. They shall be located to avoid any additional impacts on biological, historical or cultural resources. (Construction Staging, North and East Legs)*

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
Cultural Resources	No impacts	*Temporary Impacts* • Not applicable. *Permanent Impacts* • No impacts to known archaeological or historic resources. • Potential for impacts to previously unknown buried cultural materials or human remains.	**Avoidance and Minimization Measure CR-1: Cultural Materials.** If cultural materials are discovered during construction, all earthmoving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find. At that time, the Caltrans District 12 Environmental Branch Chief will be contacted to ensure that Section 106 compliance is maintained. Section 106 compliance could include: excavation in accordance with a data recovery plan and standard archaeological field methods and procedures; laboratory and technical analyses; report of findings; curation at an appropriate facility for future research and/or display; an interpretive display at a local school, museum, or library; and public lectures at local schools and/or historical societies on the findings and significance of the site and recovered archaeological materials. **Avoidance and Minimization Measure CR-2: Human Remains.** If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities will cease in any area or nearby area suspected to overlie remains, and the County Coroner will be contacted. Pursuant to Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the Coroner will notify the Native American Heritage Commission (NAHC), who will designate the Most Likely Descendent (MLD). At this time, the Caltrans District 12 Environmental Branch Chief will be contacted so that they may work with the MLD on the respectful treatment and disposition of the remains. The MLD recommendations may include scientific removal and nondestructive analysis, preservation in place, relinquishment to the descendants for treatment, or any other culturally appropriate

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			treatment. Further provisions of PRC 5097.98 are to be followed as applicable.
Water Quality and Storm Water Runoff	• No impacts	*Temporary Impacts* • Potential for soil erosion, sediment transport, release of hazardous materials, increased pollutants in runoff, groundwater dewatering. *Permanent Impacts* • Increase in impervious area by approximately 20.5 acres. • Potential increased pollutants in runoff due to increased impervious area and volume of runoff. • Proposed treatment BMPs would reduce pollutants.	**Minimization Measure WQ-1: Construction General Permit.** The Proposed Project will comply with the requirements prescribed in the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) Order No. 2009-009-DWQ, as amended, or any future replacement permit. The Proposed Project shall comply with the Construction General Permit by preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP) to address all construction-related activities, equipment, and materials that have the potential to impact water quality for the appropriate Risk Level. The SWPPP will identify the sources of pollutants that may affect the quality of storm water and include Best Management Practices (BMPs) to control the pollutants, such as Sediment Control, Catch Basin Inlet Protection, Construction Materials Management and Nonstorm Water BMPs. All work shall conform to the Construction Site BMP requirements specified in the latest edition of the Caltrans *Storm Water Quality Handbooks: Construction Site Best Management Practices Manual* to control and minimize the impacts of construction and construction-related activities, materials, and pollutants on the watershed. These include, but are not limited to, temporary sediment control, temporary soil stabilization, waste management and materials pollution control, wind erosion control, and other nonstorm water BMPs. **Minimization Measure WQ-2: Caltrans Permit.** The Proposed Project will comply with the provisions of the National Pollutant Discharge Elimination System

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			(NPDES) Statewide Storm Water Permit, *Waste Discharge Requirements (WDRs) for the State of California, Department of Transportation*, Order No. 2012-0011-DWQ, NPDES No. CAS000003 (Caltrans Permit), as amended, or any future replacement permit. **Minimization Measure WQ-3: Design Pollution Prevention Best Management Practices.** Caltrans-approved Design Pollution Prevention BMPs will be implemented to the maximum extent practicable (MEP) consistent with the requirements of the *Waste Discharge Requirements (WDRs) for the State of California, Department of Transportation*, Order No. 2012-0011-DWQ, NPDES No. CAS000003 (Caltrans Permit) and the Caltrans Project Planning and Design Guide. Design Pollution Prevention BMPs include preservation of existing vegetation, slope/surface protection systems (erosion control/reseeding and replanting of vegetation) dikes, overside drains, and concentrated flow conveyance systems such as ditches, berms, and biofiltration swales and strips. **Minimization Measure WQ-4: Treatment Best Management Practices.** Caltrans-approved Treatment BMPs will be implemented to the MEP consistent with the requirements of the Caltrans Permit, which is described in Measure WQ-2 and the Project Planning and Design Guide. Treatment BMPs may include biofiltration swales, biofiltration strips, and media filters. **Minimization Measure WQ-5: Groundwater Dewatering.** If groundwater dewatering is required, the Proposed Project will comply with the provisions of General Waste Discharge Requirements for Discharges to Surface Waters that Pose an

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			Insignificant (De Minimus) Threat to Water Quality, Order No. R8-2015-0004, NPDES No. CAG998001, as they relate to discharge of non-storm water dewatering wastes for the Proposed Project. **ETC Final EIR and Final EIS Measure W-12.** *In conjunction with final design, entry into drainages shall be avoided during site preparation, grading and construction, except where required for construction. Activity in drainages shall be limited to crossings rather than using the lengths of drainage courses for access or for parking automobiles, trucks, and construction equipment. In addition, these areas will be marked for "limited access" on construction plans.* **ETC Final EIR and Final EIS Measure W-14.** *During site preparation, grading, and construction, vehicles and equipment shall not be parked in washes or other drainages.* **ETC Final EIR and Final EIS Measure W-15.** *During site preparation, grading and construction, overwatering shall be avoided in washes and other drainages.* **ETC Final EIR and Final EIS Measure WQ-2.** *The TCA will ensure that all herbicides used in landscaping and weed control are handled, stored, applied, and disposed of consistent with all applicable federal, state, and local regulations.* **ETC Final EIR and Final EIS Measure WQ-3.** *Whenever feasible, construction vehicles will be rinsed before leaving the construction area to remove mud and other materials before the vehicles leave the site.*

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			ETC Final EIR and Final EIS Measure E-1. *In conjunction with final design, the TCA shall map native vegetation outside the right-of-way on grading and construction plans to indicate vegetation to protect from use as vehicle travel or parking areas, storage of equipment and storage of debris or building materials.* **ETC Final EIR and Final EIS Measure E-3.** *During final design, the TCA shall ensure that all proposed grading shall conform to the Caltrans Highway Design Manual and the TCA Project Manual Guidelines. All applicable policies and guidelines shall be listed in the grading plans.* **ETC Final EIR and Final EIS Measure E-6.** *In conjunction with final design, the TCA shall ensure that cut and fill slopes shall not be steeper than 2:1. Where steeper slopes are indicated, TCA shall, in conjunction with final design, prepare geologic and engineering analyses. These analyses shall determine the safety of those slopes and proposed erosion control measures consistent with Caltrans design standards.* **ETC Final EIR and Final EIS Measure E-9.** *As part of final design, TCA shall ensure that all slopes shall conform to slope criteria developed by TCA and Caltrans. All slope criteria shall be noted on final plans.* **ETC Final EIR and Final EIS Measure E-10.** *Fills shall not encroach on natural watercourses or improved channels except as shown on the approved project plans.*

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			ETC Final EIR and Final EIS Measure E-11. *Fills placed against watercourses shall have suitable protection against erosion during storm flows, such as riprap, protective walls, and culverts.* **ETC Final EIR and Final EIS Measure E-12.** *During site preparation, grading, and construction, the TCA shall ensure that excavated materials shall not be deposited or stored in or alongside watercourses where the materials can be washed away by high water or storm runoff.* **ETC Final EIR and Final EIS Measure E-13.** *During site preparation and grading, the TCA shall ensure that all land shall be graded to drain and dispose of surface water without ponding, except where approved by Caltrans or the affected responsible public agency.*
Geology, Soils, Seismic, and Topography	No impacts	*Temporary Impacts* • Ground motion from seismic activities, liquefaction, and landslides. • Potential for unstable slopes and erosion. *Permanent Impacts* • Potential for seismic impacts to structures. • Potential for unstable slopes and erosion. • Potential for liquefaction. • Minor changes to topography.	**Minimization Measure GEO-1: Final Geotechnical Report.** During Final Design, a qualified geotechnical engineer will conduct a comprehensive geologic and geotechnical investigation and prepare a design-level geotechnical report. This report will document geology-related constraints and hazards such as fault-induced ground rupture, slope instability, settlement, liquefaction, or related secondary seismic impacts that may be present along the alignment of the Build Alternative. The performance standard for this report will be the California Department of Transportation's (Caltrans) Geotechnical Manual (2012 or most recent version) standards as they apply to the project features and structures. The measures recommended in the design-level geotechnical report will be incorporated into the Final Design and project specifications. The construction contractor will implement the measures recommended in the design-level geotechnical reports as included in the project

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			design and specifications. **Minimization Measure GEO-2: Quality Assurance/Quality Control Plan.** During Final Design, a quality assurance/quality control (QA/QC) plan will be prepared and implemented during construction. The QA/QC plan will include observing, monitoring, and testing by the Project Geotechnical Engineer and/or the Project Geologist prior to and during construction to confirm that the geotechnical/ geologic recommendations from the design-level geotechnical report and standard design and construction practices are fulfilled by the contractor, or if different site conditions are encountered, appropriate changes are made to accommodate such issues. Weekly reports will be prepared during all project-related grading, excavation, and construction activities.
Paleontology	No impacts	*Temporary Impacts* • Not applicable. *Permanent Impacts* • Potential to impact scientifically valuable fossils and fossil-bearing formations.[1]	**Mitigation Measure PAL-1: Paleontological Mitigation Plan.** During Final Design, a Paleontological Mitigation Plan (PMP) will be prepared and adhered to during construction. The PMP will follow the guidelines of the Society of Vertebrate Paleontologists (SVP) and Caltrans. The PMP requires inclusion of, but is not limited to, the following items a through h: a. Attendance at the pregrade meeting by a qualified paleontologist or representative; b. Preconstruction field survey by the paleontological mitigation team; c. Monitoring during construction excavation by the paleontological mitigation team;

[1] This impact is less than significant with mitigation under CEQA.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			d. Collection of representative samples from geologic formations; e. Sieving of bulk samples for microfossil recovery; f. Preparation of specimens to the point of identification and permanent preservation; g. Curation of fossils into a repository with permanent retrievable storage that meets Caltrans' requirements; and h. Preparation of a Paleontological Mitigation Report documenting the implementation of the Paleontological Mitigation Plan.
Hazardous Wastes and Materials	No impacts	*Temporary Impacts* • Potential to encounter aerially deposited lead (unpaved areas adjacent to SR-91), asbestos-containing materials (Gypsum Canyon bridge structure 55-0506), chemically treated wood waste (guardrails, and landscape timber, etc.), and lead-based paint in traffic striping (SR-241 and SR-91). • Potential to rupture an unused petroleum pipeline with an unspecified location that may contain residual material that would need disposal. • Due to historical uses in the area, there is a potential to encounter unrecorded hazardous waste during construction. *Permanent Impacts* • No impacts other than routine use of hazardous materials associated with maintenance of a transportation facility.	**Minimization Measure HAZ-1: Aerially Deposited Lead.** Consistent with Minimization Measure MW-3 of the State Route 91 Corridor Improvement Project Final Environmental Impact Report/Environmental Impact Statement (SR-91 CIP 2012 Final EIR/EIS), dated August 2012, the Project Engineer will ensure that a qualified consultant conducts a new soil Aerially Deposited Lead (ADL) evaluation and/or investigation for this project at the Design Phase. The previous ADL test results may be used if applicable along with any new ADL test results. The new soil ADL evaluation and/or investigation will be consistent with the new DTSC Lead Agreement contaminant concentration limits. In addition, new DTSC Lead Agreement soil reuse requirements and restrictions will apply. A Lead Compliance Plan will be prepared to address workers' health and safety. **Minimization Measure HAZ-2: Asbestos-Containing Materials.** During the design phase, a certified specialist will confirm the presence or absence of asbestos in the Gypsum Canyon Road Undercrossing, if demolition/renovation of the bridge structure will occur as part of the Proposed Project. If

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			asbestos is present, the certified asbestos abatement specialist should monitor the disposal of the asbestos-containing materials as they are uncovered. The construction contractor will comply with the Caltrans Standard Specifications Section 14-9.02 pertaining to air pollution control compliance with rules, regulations, ordinances, and statues during renovation and demolition activities.
			Minimization Measure HAZ-3: Treated Wood Waste. During construction, the construction contractor will comply with Caltrans Standard Specifications Section 14-10 pertaining to the handling and disposal of treated wood waste. **Minimization Measure HAZ-4: Traffic Striping.** During construction, the construction contractor will comply with Caltrans Standard Specifications Section 14-11 pertaining to the testing, removal, and disposal of any traffic striping and pavement-marking materials. **Minimization Measure HAZ-5: Petroleum Pipeline.** During construction, the construction contractor will comply with Caltrans Standard Specifications pertaining to excavation. The contractor shall notify the regional notification center, ensuring that all utility owners within the project disturbance limits identify the locations of underground transmission lines and facilities (including underground petroleum pipelines). **Minimization Measure HAZ-6: Construction Contingency Plan.** Prior to the start of construction, the construction contractor will prepare a Construction Contingency Plan (CCP) in accordance with Caltrans Unknown Hazards Procedures for Construction, in the Caltrans Construction Manual. The CCP will include

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			provisions for emergency response in the event that unidentified hazardous materials, petroleum hydrocarbons, or hazardous or solid wastes are discovered during construction activities. The CCP will address field screening, contaminant materials testing methods, mitigation and contaminate management requirements, and health and safety requirements for construction workers. The construction contractor will implement the CCP during all construction activities. During construction, the Resident Engineer will require the construction contractor to cease work immediately if an unexpected release of hazardous substances is found in reportable quantities. If an unexpected release of hazardous substances is found in reportable quantities, the Resident Engineer will require the construction contractor to notify the National Response Center by calling 1-800-424-8802. The construction contractor will perform clean up of unexpected releases under the appropriate federal, State, and local agency oversight. **ETC Final EIR and Final EIS Measure HW-2.** *Hazardous substances are strictly regulated by the Environmental Protection Agency (U.S. EPA), the California and National Occupational Safety and Health Administration (OSHA) and the United States Department of Transportation (DOT). The DOT specifies the procedures for safely transporting hazardous materials, as well as the procedures to follow in case of accidental spills during transport, in the 49 Code of Federal Regulations (CFR) series of regulations (parts 100 through 177). U.S. EPA specifies the requirements for proper labeling and placarding of hazardous substances. The American National Standards Institute recommends safety procedures for handling and storing hazardous*

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			materials, and OSHA specifies the procedures required for using and storing hazardous materials. These procedures shall be followed during all ETC site preparation, grading, construction, operations, and maintenance.
Air Quality	• May have an incremental detrimental effect due to no reduction of congestion on roadway links in the Proposed Project vicinity.	*Temporary Impacts* • Short-term degradation of air quality may occur due to the release of particulate emissions generated by excavation, grading, hauling, and other construction activities. *Permanent Impacts* • No new regional vehicular emission impacts. • May have a beneficial effect in helping to reduce congestion on roads in the Proposed Project vicinity.	**Minimization Measure AQ-1: Fugitive Dust Source Controls.** During clearing, grading, earthmoving, and excavation operations, excessive fugitive dust emissions will be controlled by regular watering or other dust preventive measures using the following procedures, as specified in the South Coast Air Quality Management District (SCAQMD) Rule 403. • All material excavated or graded will be sufficiently watered to prevent excessive amounts of dust. • Watering will occur at least twice daily with complete coverage, preferably in the late morning and after work is done for the day. • All material transported on site or off site will be either sufficiently watered or securely covered to prevent excessive amounts of dust. The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized so as to prevent excessive amounts of dust. • These control techniques will be indicated in project specifications. Visible dust beyond the property line emanating from the Proposed Project will be prevented to the maximum extent feasible. **Minimization Measure AQ-2: Ozone Precursor Emission Controls.** Project grading plans will show the duration of construction. Ozone precursor emissions from construction equipment vehicles will

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			be controlled by maintaining equipment engines in good condition and in proper tune per manufacturers' specifications. **Minimization Measure AQ-3: Prevention of Spills onto Public Streets.** All trucks hauling excavated or graded material on site will comply with State Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2), and (e)(4), as amended, regarding the prevention of such material spilling onto public streets and roads. **Minimization Measure AQ-4: Caltrans Standard Specifications for Construction.** The contractor will adhere to Caltrans Standard Specifications for Construction (Sections 14.9 02 and 14 9.03). **Minimization Measure AQ-5: Construction Vehicles Prohibition.** All construction vehicles both on- and off-site shall be prohibited from idling in excess of 5 minutes.
Noise	No impacts	*Temporary Impacts* • Noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. However, construction noise would be short-term, intermittent, and overshadowed by local traffic noise. *Permanent Impacts* • Noise levels would increase by 3 dBA or less, which is barely perceptible to the human ear.	**Minimization Measure N-1: Control of Construction Noise Levels.** The control of noise from construction activities will conform to the California Department of Transportation (Caltrans) Standard Specifications, Section 14-8.02, "Noise Control." The nighttime noise level from the contractor's operations, between the hours of 9:00 p.m. and 6:00 a.m., will not exceed 86 A-weighted decibels (dBA) one-hour A weighted equivalent continuous sound level (L_{eq}(h)) at a distance of 50 feet. **Measure N-2: Deck Specifications.** To ensure that noise impacts are minimized, the deck texture on the direct connector ramps will be constructed using the new quieter longitudinally-tined Groove and Grind

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			deck specifications, instead of a transversely-tined texture.
Energy	• Temporary indirect impacts from the manufacture of vehicles that operate on SR-241 and SR-91. • Increase in VHT in 2017 and 2040, which will increase energy consumption when compared to the Build Alternative.	*Temporary Impacts* • Indirect energy impacts from the manufacture of vehicles that would operate on the project facilities and be used for project construction. However, the Proposed Project would not, on its own, increase the manufacture of vehicles; therefore, the per-vehicle indirect energy impacts for the baseline (No Build), the Build Alternative, and the existing condition would all be the same. • Energy costs associated with construction of roads and structures. *Permanent Impacts* • Total net change in VHT in 2017 would decrease by 726 VHT, indicating a slight increase in efficiency compared to the No Build Alternative. Therefore, vehicle fuel/energy consumption would be reduced. • A 0.3 percent reduction in direct energy use annually in 2040 due to reduction in VMT. • A 1.5 percent increase in maintenance-related permanent indirect energy consumption in 2040 due to increase in VMT.	None

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
Natural Communities	No impacts	*Temporary Impacts* • Impacts to 31.26 acres of coastal sage scrub within the NCCP/HCP Plan Area. • Impacts to 0.02 acre of coastal sage scrub outside the NCCP/HCP Plan Area. • Impacts to 8 coast live oak and 15 sycamore trees. • Impacts to Windy Ridge Wildlife Undercrossing. *Permanent Impacts* • Impacts to 13.66 acres of coastal sage scrub within the NCCP/HCP Plan Area. • Impacts to 6 coast live oak trees.	**Minimization Measure NC-1: Coastal California Gnatcatcher Environmentally Sensitive Areas.** Prior to the commencement of grading operations or other activities involving substantial soil disturbance, all areas of CSS habitat to be avoided under the provisions of the NCCP/HCP shall be identified with temporary fencing or other markers clearly visible to construction personnel. Additionally, prior to the commencement of grading operations or other activities involving disturbance of CSS, a survey will be conducted to locate CAGN and cactus wrens within 100 ft of the outer extent of projected soil disturbance activities. The locations of any such species shall be clearly marked and identified on the construction/grading plans. **Minimization Measure NC-2: Nesting Coastal California Gnatcatchers.** During clearing or construction, to the maximum extent practicable, no grading of CSS habitat that is occupied by nesting CAGN will occur during the breeding season (February 15 through July 15). It is expressly understood that this provision and the remaining provisions of these "construction-related minimization measures" are subject to public health and safety considerations. These considerations include unexpected slope stabilization, erosion control measures, and emergency facility repairs. In the event of such public health and safety circumstances, landowners or public agencies/utilities will provide USFWS/CDFW with the maximum practicable notice (or such notice as is specified in the NCCP/HCP) to allow for capture of CAGN, cactus wrens (Campylorhynchus brunneicapillus), and any other CSS Identified Species that are not otherwise flushed and will carry out the following measures only to the extent practicable in the context of the public health

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			and safety considerations. (Note: While this text is taken directly from NCCP/HCP Construction Minimization Measures, to preserve their integrity, the capture and relocation of birds is not encouraged or authorized by the USFWS.) The breeding season is now considered to be from February 15 through August 31; therefore, these dates are applicable to this measure. **Minimization Measure NC-3: Biological Monitor.** A monitoring biologist acceptable to USFWS/CDFW will be on site during any clearing of CSS. The landowner or relevant public agency/utility will advise USFWS/ CDFW at least 7 calendar days (preferably 14 calendar days) prior to the clearing of any habitat occupied by Identified Species to allow USFWS/ CDFW to work with the monitoring biologist in connection with bird flushing/capture activities. The monitoring biologist will flush Identified Species (avian or other mobile Identified Species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities. If birds cannot be flushed, they will be captured in mist nets, if feasible, and relocated to areas of the site to be protected or to the NCCP/HCP Reserve System. (Note: While this text is taken directly from NCCP/HCP Construction Minimization Measures, to preserve their integrity, the capture and relocation of birds is not encouraged or authorized by the USFWS.) It will be the responsibility of the monitoring biologist to ensure that Identified Species will not be directly impacted by brush-clearing and earth-moving equipment in a manner that also allows for construction activities on a timely basis. **Minimization Measure NC-4: Coastal Sage Scrub Environmentally Sensitive Area.** Following the

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			completion of initial grading/earth movement activities, all areas of CSS habitat to be avoided by construction equipment and personnel will be marked with temporary fencing or other appropriate markers clearly visible to construction personnel. No construction access, parking, or storage of equipment or materials will be permitted within such marked areas. **Minimization Measure NC-5: Coastal Sage Scrub Access Restrictions.** In areas bordering the NCCP/HCP Reserve System or Special Linkage/ Special Management areas containing substantial CSS identified in the NCCP/HCP for protection, vehicle transportation routes between cut-and-fill locations will be restricted to a minimum number during construction consistent with project construction requirements. Waste dirt or rubble will not be deposited on adjacent CSS identified in the NCCP/HCP for protection. Preconstruction meetings involving the monitoring biologist, construction supervisors, and equipment operators will be conducted and documented to ensure maximum practicable adherence to these measures. **Minimization Measure NC-6: Coastal Sage Scrub Dust Control.** CSS identified in the NCCP/HCP for protection and located within the likely dust drift radius of construction areas shall be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist. **Minimization Measure NC-7: Coast Live Oak Tree Environmentally Sensitive Areas.** Prior to clearing or construction, highly visible barriers and, as needed, silt fencing will be installed around the protected zone of any oak tree or oak habitat. Such areas will be

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			designated on the project specifications as Environmentally Sensitive Areas (ESAs) to be preserved. The ESAs will extend 5 ft outside the dripline or 15 ft from the trunk of each tree, whichever is greater, unless the area includes a road shoulder or existing asphalt. In those instances, safety requires the road shoulder or existing asphalt not be included in the ESA and the boundary of the ESA will be modified accordingly. These modified ESAs are included because impacts to oaks may occur within these road shoulder and asphalt areas if roots become exposed, soil surrounding roots is excessively compacted, material is deposited over roots, or branches or roots are broken or damaged. In addition, to avoid breaking overhanging branches, branch trimming may be required. Proper tree pruning procedures will be followed. No grading or fill activity of any type will be permitted within the ESAs for trees that are expected to be preserved. In addition, heavy equipment, including motor vehicles, will not be allowed to operate in the ESAs. All construction equipment will be operated in such a manner as to prevent accidental damage to nearby oaks. No structure of any kind, or incidental storage of equipment or supplies, will be allowed in the ESAs. Silt fence barriers will be installed at the ESA boundaries to prevent accidental deposition of fill material in areas where trees are immediately adjacent to planned construction activities. **Minimization Measure NC-8: Coast Live Oak Tree Replacement.** During Final Design, the TCA will develop a revegetation program to help compensate for lost oak trees with spacing criteria to be determined by the Project Biologist. Senate

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			Concurrent Resolution No. 17 (filed with the Secretary of State on September 1, 1989) requests all State agencies to preserve and protect native oak woodlands to the maximum extent feasible or to provide for replacement plantings. Impacts to any oak trees (excluding California scrub oaks) with trunk sizes greater than 8 inches diameter at breast height (dbh), but less than 36 inches dbh, will be replaced at a minimum mitigation-to-impact ratio of 1:1. Heritage oaks (oaks greater than 36 inches dbh) will be replaced at a minimum mitigation-to-impact ratio of 3:1. Replacement resources will include a combination of plantings such as acorns, 5-gallon, and 15-gallon trees and/or transplantation where feasible. Replacement plantings may take place in TCA or Caltrans right-of-way or suitable areas in proximity to the project limits. **Minimization Measure NC-9: Existing Wildlife Fencing.** If necessary for construction access, the existing wildlife fencing will be removed only after installation of temporary fencing to protect against wildlife-vehicle incidents during construction. Temporary fencing will be the same or greater height than the existing wildlife fencing and must be maintained and functional throughout project construction. After construction, any temporary fencing will be replaced with new permanent fencing consistent with the existing wildlife fencing. **Minimization Measure NC-10: Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing Revegetation.** Following the completion of the project construction, all disturbed habitat adjacent to Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing will be restored with native vegetation consistent with the

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			1994 Biological Opinion and the 2019 Biological Opinion, as applicable. **Minimization Measure NC-11: Construction Lighting and Staging.** Construction equipment maintenance, lighting, and staging must be in designated areas, away from Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing. **Minimization Measure NC-12: Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing Avoidance.** During construction, Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing will be avoided as much as is feasible. Activity that must take place at the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing will be done as quickly as possible and only during daylight hours. Noise levels generated from construction activities at Coal Canyon Undercrossing shall not exceed 5 A-weighted decibels (dBA) above the ambient noise level within 100 ft from the edge of roadway. **Minimization Measure NC-13: Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing Access.** Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing will be kept clear of all equipment or structures that could potentially serve as barriers to wildlife passage. **Minimization Measure NC-14: Windy Ridge Wildlife Undercrossing Construction Staging.** Within Windy Ridge Wildlife Undercrossing, structures required for bridgework will be erected as to not block the main underpass. Scaffolding and false work will be restricted to the sides of the underpass to maintain the functionality of the crossing for wildlife movement.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			Minimization Measure NC-15: Western Riverside County Multiple Species Habitat Conservation Plan Construction Guidelines. Construction activities in the SR-91 Advanced Signage Area in Riverside County will comply with the objectives, policies, procedures, and guidelines from Section 7.5.3, Construction Guidelines, as well as BMPs outlined in Appendix C (WR-MSHCP Volume 1) of the Western Riverside County Multiple Species Habitat Conservation Plan (WR-MSHCP). The applicable guidelines from Section 7.5.3: Construction Guidelines are: • When work is conducted during the fire season (as identified by the Riverside County Fire Department) adjacent to coastal sage scrub or chaparral vegetation, appropriate fire-fighting equipment (e.g., extinguishers, shovels, and water tankers) shall be available on the site during all phases of project construction to help minimize the chance of human-caused wildfires. Shields, protective mats, and/or additional fire preventative methods shall be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventative actions, and responses to fires shall advise contractors regarding fire risk from all construction-related activities. • Waste, dirt, rubble, or trash shall not be deposited in the Conservation Area or on native habitat. The applicable practices from the 15 practices listed in Appendix C: Standard Best Management Practices are:

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			• The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via pre-existing access routes to the greatest extent possible. • To avoid attracting predators of the species of concern, the project site shall be kept clean of debris. All food-related trash items shall be enclosed in sealed containers and regularly removed from the project site. • Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project construction activities and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas. • The Permittee shall have the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions including these BMPs. **Avoidance and Minimization Measure NC-16: Sensitive Species and Habitats.** In conjunction with the final design and prior to site preparation, all sensitive species and special habitats within 300 feet of the Project Area shall be mapped on the grading plans by a qualified biologist. Sensitive and candidate species and special habitats shall be defined as:

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			• Coastal California gnatcatcher • Cactus wren • Designated critical habitat for Coastal California gnatcatcher • Thread-leaved brodiaea • Designated critical habitat for Braunton's milk-vetch • Least Bell's vireo • Southwestern willow flycatcher • Drainages and streambeds • Coastal sage scrub • Coast Live Oak Woodland **Avoidance and Minimization Measure NC-17: Cactus.** Prior to clearing and grubbing and construction, cactus will be saved where feasible, for use in revegetation efforts. **ETC Final EIR and Final EIS Measure B-2.** *Prior to grading and site preparation, all native oak, sycamore, and willow trees of 4 inches in diameter at breast height (DBH-4.5 ft from mean ground level) within the Project limits and within 20 ft of grading and construction operations shall be tagged and numbered with permanent tags. The tag numbers of the trees to be protected and those to be removed shall be noted. Records of these numbers shall be kept by TCA, the Resource Management Coordinator/ Monitor and the Orange County Environmental Management Agency/Environmental Planning Division for use in mitigation/replacement and monitoring of tree resources before, during and after grading and construction activities.* **ETC Final EIR and Final EIS Measure B-3.** *Prior to grading and site preparation, all trees subject to*

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			removal shall be marked with a red "X" on the trunk. Trees to be preserved shall be marked with yellow flagging visible from all direction. **ETC Final EIR and Final EIS Measure B-4.** *In conjunction with grading, site preparation and construction, short term soil stabilization using accepted soil protection techniques and native species shall be conducted under the direction of a qualified biologist, where determined to be appropriate to protect sage scrub communities.* **ETC Final EIR and Final EIS. Measure B-8.** *For the period covering all site preparation, grading and construction, a resource management coordinator shall monitor wildlife* [and plant] *habitat preservation to ensure that the ESAs and areas outside the Caltrans right-of-way are not adversely impacted. The monitor shall be on site before, during, and after the completion of site preparation, grading and construction.* **ETC Final EIR and Final EIS Measure B-11.** *Prior to site preparation, grading and construction, the TCA shall implement procedures for protecting sensitive and candidate species and special habitats* [particularly Braunton's milk-vetch critical habitat] *identified and mapped on grading plans during site preparation, grading, construction and maintenance activities by following Caltrans Environmentally Sensitive Area procedures* **ETC Final EIR and Final EIS Measure B-25.** *During site preparation and grading, the TCA shall phase operations around important habitat areas to allow for completion of nesting and breeding activities for the*

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			coastal California gnatcatcher and raptor species occurring in oak woodland. This measure will be conducted and overseen by a qualified biologist.
Wetlands and Other Waters	No impacts	*Temporary Impacts* • Impacts to less than 0.53 acre of non-wetland USACE waters inside Caltrans right-of-way and less than 0.01 acres outside Caltrans right-of-way. • Potential for indirect impacts to functions and values of on-site drainages and downstream areas. • Impacts to approximately 1.01 acres of CDFW jurisdictional areas inside Caltrans right-of-way and approximately 0.03 acre outside Caltrans right-of-way. • Impacts to less than 0.53 acre of RWQCB jurisdictional areas inside Caltrans right-of-way and less than 0.01 acre outside Caltrans right-of-way. *Permanent Impacts* • Impacts to approximately 0.45 acre of USACE jurisdictional non-wetland waters inside Caltrans right-of-way and approximately 0.02 acre outside Caltrans right-of-way. • Impacts to approximately 0.66 acre of CDFW jurisdictional areas inside Caltrans right-of-way and approximately 0.20 acre outside Caltrans right-of-way. • Impacts to approximately 0.45 acre of RWQCB jurisdictional areas inside Caltrans right-of-way and approximately 0.02 acre outside Caltrans right-of-way.	**Minimization Measure WET-1: Nationwide Permit.** Prior to initiation of construction, a permit will be obtained through the United States Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act. As part of coordination with the USACE, a Nationwide Permit will be pursued, if appropriate. **Minimization Measure WET-2: Streambed Alteration Agreement.** Prior to initiation of construction, a Streambed Alteration Agreement (SAA) with the California Department of Fish and Wildlife will be obtained and any specifications in the SAA will be implemented. **Minimization Measure WET-3: Water Quality Certification.** Prior to initiation of construction, a Section 401 Water Quality Certification from the Santa Ana Regional Water Quality Control Board will be obtained and any specifications in the Certification will be implemented. **ETC Final EIR and Final EIS Measure B-13.** *In conjunction with final design, the TCA shall, to the extent feasible, construct stream bank reinforcements of ungrouted riprap gabions or other appropriate material at the shallowest possible slope (2:1 or less), allowing for the replacement of soil and the subsequent revegetation of these areas with riparian plant species.*

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
Plant Species	No impacts	*Temporary Impacts* • Potential indirect impacts to California black walnut trees near the Gypsum Canyon off-ramp due to the potential for fuel spills from construction equipment and activities of construction equipment or personnel outside designated construction areas and ESAs in the vicinity of the trees. • Potential direct impacts to Coulter's Matilija poppy and potential temporary indirect impacts due to the potential for fuel spills from construction equipment and activities of construction equipment or personnel outside designated construction areas and ESAs. *Permanent Impacts* • Potential direct impacts to 3 California black walnut saplings. • Coulter's Matilija poppies in the slope area south of SR-91 would be removed.	**Minimization Measure PS-1: California Black Walnut Environmentally Sensitive Areas.** Prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed around the protected zone of any southern California black walnut tree and designated as an Environmentally Sensitive Area (ESA) to be preserved for those trees not within the footprint of project structures or areas of ground disturbance. The protected zone will extend 5 feet (ft) outside of the drip line or 15 ft from the trunk of the tree, whichever is greater. No grading or fill activity of any type will be permitted within the ESA. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby California black walnut trees. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESA. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where trees are immediately adjacent to planned grading activities. **Minimization Measure PS-2: California Black Walnut Sapling Relocations.** The California black walnut saplings in the median of the SR-241/SR-91 interchange will be assessed at the time of construction and relocated within Caltrans right-of-way, if feasible. If not feasible, replacement planting of the California black walnut saplings will be done at a minimum 2:1 ratio. **Minimization Measure PS-3: Coulter's Matilija Poppies Environmentally Sensitive Areas.** Prior to clearing or construction, highly visible barriers (such as orange construction fencing)

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			will be installed around the protected zone of any Coulter's Matilija poppies and designated as an ESA to be preserved to the extent feasible. The protected zone will extend 5 ft outside of the vegetation edge. No grading or fill activity of any type will be permitted within the ESA. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby Coulter's Matilija poppies. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESA. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where Coulter's Matilija poppies are adjacent to planned grading activities.
Animal Species	No impacts	*Temporary Impacts* • May redirect foraging golden eagles away from the borders of the BSA during construction. • Potential indirect impacts to species that occupy the coastal sage scrub and chaparral natural communities through the disturbance of potentially suitable habitat. • Impacts to special-status bat species including noise, dust, night lighting, and human encroachment, and reduced access to roost sites in the crevices of bridges and overhead structures. • Potential indirect impacts to grassland and open space species through the disturbance of approximately 14.1 acres of potential habitat. • Direct impacts to nesting birds through vegetation clearing, grading, and tree removal.	**Minimization Measure AS-1: Nesting Birds.** Prior to clearing or construction, to avoid impacts to nesting birds, any native vegetation removal or tree- (native or exotic) trimming activities will occur outside of the bird nesting season (February 15 through August 31). In the event that vegetation clearing is necessary during the nesting season or if construction activities or access have the potential to impact nesting birds, a qualified biologist will conduct a preconstruction survey to identify the locations of nests. Should nesting birds be found, an exclusionary buffer will be established by the qualified biologist. This buffer will be clearly marked in the field by construction personnel under guidance of the qualified biologist, and construction or clearing will not be conducted within this zone until the qualified biologist determines that the young have fledged or the nest is no longer active. Construction of the Coal Canyon Undercrossing access ramp and widening of Windy Ridge Wildlife

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
		• Potential indirect impacts to nesting birds due to disturbances near trees occupied by nesting birds if tree-trimming activities were to occur during the nesting season. *Permanent Impacts* • Indirect impacts to species that occupy coastal sage scrub and chaparral through the removal of potential suitable habitat. • Indirect impacts to special-status grassland animal species through potential habitat loss. • Potential indirect impacts to nesting birds due to loss of foraging and nesting habitat as a result of loss of vegetation or changes in habitat types.	Undercrossing will be conducted outside the bird nesting season (February 15 through August 31). Periodic monitoring by the project biologist will be conducted as needed to ensure that construction activities do not impact bridge-nesting birds at Coal Canyon Undercrossing and Windy Ridge Wildlife Undercrossing. **Minimization Measure AS-2: Bat Maternity Roosting Survey.** A qualified bat biologist will survey the Project Area during the maternity roosting period, typically in June, to assess the potential for its use as a maternity roost because maternity roosts are generally formed in late spring. The qualified bat biologist will also perform preconstruction surveys because bat roosts can change seasonally. The surveys will include a combination of structure inspection, sampling, exit counts, and acoustic surveys. **Minimization Measure AS-3: Bridgework Schedule.** To prevent impacts to bridge and crevice-roosting bats, all bridgework will be scheduled between September 1 and November 30 to avoid hibernating bats and the maternity season. If this is not feasible, temporary bat eviction and exclusion devices will be installed between September 1 and November 20 prior to the initiation of construction activities and under the supervision of a qualified bat biologist. Exclusion devices will be installed during the fall, or as otherwise directed by a qualified biologist, to avoid trapping flightless young inside during the summer months or hibernating individuals during the winter. Such exclusion efforts will be continued to keep the structures free of bats until the completion of construction on those structures, at which time the

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			devices will be removed to allow the bats to resume roosting in the structure and prevent any permanent loss of bat-roosting habitat. All bat exclusion techniques will be coordinated between the District Biologist and the resource agencies. **Avoidance and Minimization Measure AS-4: Construction Work Activities.** To avoid or minimize impacts to bats at a night roost, work activities are not to occur within 100 feet of the structure between sunset and sunrise. If construction work must be performed at night in the vicinity of the bridge structure containing a night roost, noise and direct lighting will be directed away from the structure or lighting will be specifically focused on the section of the bridge actively under construction to minimize impacts to night-roosting bats. **Avoidance and Minimization Measure AS-5: Bird Exclusion Netting.** Airspace access to and from a bridge structure containing a night roost will not be restricted. Bird exclusion netting will not be used unless made from thick plastic and installed with no exposed overlap joints. Clearing of vegetation in the vicinity of the structure will also be minimized to the greatest extent practicable. **Minimization Measure AS-6: Unfilled Expansion.** Subject to public health and safety considerations, existing unfilled expansion joints will remain unfilled and unobstructed to prevent permanent loss of existing day- and/or night-roosting habitat. Habitat for bats may be enhanced in the project limits by leaving newly created expansion joints unrubberized so that they are available to bats for day roosting after construction is complete.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			Avoidance Measure AS-7: Burrowing Owl Survey. In accordance with the California Department of Fish and Wildlife survey guidelines for burrowing owl, a take avoidance survey shall be conducted no less than 14 days prior to initiating ground-disturbance activities and, if time lapses between project activities, a final survey may be conducted within 24 hours prior to ground disturbance.
Threatened and Endangered Species	No impacts	*Temporary Impacts* • Potential indirect impacts through the accumulation of dust on the leaves of any Braunton's milk-vetch plants in designated critical habitat. • Potential to impact thread-leaved brodiaea. • Potential to redirect foraging bald eagles, least Bell's vireo, and southwestern willow flycatcher away from the BSA. • Indirect impacts to coastal California gnatcatcher due to increased exposure to noise, vibration, dust, nighttime lighting, and human presence. • Direct impacts to coastal California gnatcatcher through habitat disturbance and removal. • Impacts to 11.85 acres of coastal California gnatcatcher occupied habitat in the median of the SR-241/SR-91 interchange in the NCCP/HCP Plan Area. • Impacts to 12.8 acres of designated coastal California gnatcatcher critical habitat in the NCCP/HCP Plan Area. • Impacts to 7.96 acres of designated coastal California gnatcatcher habitat outside the NCCP/HCP Plan Area in Caltrans right-of-way.	**Avoidance Measure TE-1: Construction Work Limits Review.** During Final Design, the construction work limits will be reviewed to ensure that the lateral work limits are reduced to avoid designated Braunton's milk-vetch critical habitat and that construction staging areas are located in areas that have been previously disturbed or developed. All designated critical habitat for Braunton's milk-vetch adjacent to and outside the project disturbance limits will be delineated on the project specifications as environmentally sensitive areas (ESAs) prior to any construction activities near those areas. **Avoidance Measure TE-2: Thread-Leaved Brodiaea Preconstruction Surveys and Environmentally Sensitive Areas.** Preconstruction surveys will be conducted to determine if thread-leaved brodiaea is present in the Project Area. If this species is found in the Project Area, prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed around the protected zone of any thread-leaved brodiaea individuals and designated as an ESA to be preserved to the extent feasible. The protected zone will extend 5 feet (ft) outside of the vegetation edge. No grading or fill activity of any type will be permitted within the ESA. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
		Permanent Impacts • Potential minor impacts to thread-leaved brodiaea habitat. • Indirect impacts to coastal California gnatcatcher as a result of increased exposure to noise, vibration, and dust. • Take of coastal California gnatcatcher in the NCCP/HCP Plan Area through the permanent loss of 2.98 acres of occupied habitat in the median of the existing junction of SR-241 and SR-91.[1] • Take of designated coastal California gnatcatcher critical habitat in the NCCP/HCP Plan Area through the permanent loss of approximately 19.72 acres.[1] • Take of designated coastal California gnatcatcher habitat outside the NCCP/HCP Plan Area as a result of impacts to 1.18 acres in Caltrans right-of-way.[1] • Potential loss of a minimal amount (approximately 1 acre of chaparral) of potential foraging habitat for least Bell's vireo and southwestern willow flycatcher.	so as to prevent accidental damage to nearby thread-leaved brodiaea. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESA. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where thread-leaved brodiaea is adjacent to planned grading activities. **Avoidance Measure TE-3: Coastal California Gnatcatcher Survey.** Prior to the commencement of grading operations or other activities involving disturbance of coastal sage scrub or areas of coastal California gnatcatcher designated critical habitat (with constituent elements), a survey will be conducted to locate coastal California gnatcatcher within 100 ft of the outer extent of projected soil disturbance activities and the locations of coastal California gnatcatchers shall be clearly marked and identified on the construction/grading plans. The 100 ft buffer outside the project soil disturbance limits will be clearly marked in the field by construction personnel under the guidance of the biologist. Construction or clearing will not be conducted within the project disturbance limits adjacent to the 100 ft buffer until the biologist determines that the young have fledged or the nest is no longer active. **Avoidance Measure TE-4: Barrier Installation.** Prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed around coastal sage scrub and coastal California gnatcatcher designated critical habitat (with constituent elements) adjacent to and outside the project footprint to designate ESAs. No grading or fill

[1] This impact is less than significant with mitigation under CEQA.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			activity of any type will be permitted within the ESAs and no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby ESAs. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESAs. Silt fence barriers will be installed at the ESA boundaries adjacent to the project footprint to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities. **Avoidance Measure TE-5: Construction Activities Monitoring.** A qualified biologist will monitor all construction activities for the duration of the project construction in areas adjacent to ESAs to flush out any wildlife species present from the construction areas prior to construction and to ensure that vegetation removal, best management practices, ESAs, and all avoidance and minimization measures are properly followed. **Avoidance and Minimization Measure TE-6: Shielded Lighting.** Shielded lighting will be used for any nighttime construction adjacent to coastal sage scrub within coastal California gnatcatcher designated critical habitat to avoid and minimize artificial night lighting effects on the gnatcatcher. **Mitigation Measure TE-7: Section 7 Consultation and Biological Opinion.** Section 7 consultation was conducted with the United States Fish and Wildlife Service (USFWS) to address effects to coastal California gnatcatcher and coastal California gnatcatcher-occupied and/or critical habitat outside the Natural Communities Conservation Plan (NCCP)

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			Area. Requirements from the 2019 Biological Opinion are listed below. Temporary impacts to coastal sage scrub and native plant restoration will be offset through restoration of 6.84 acres with coastal sage scrub (not as mitigation slopes; coastal sage scrub will be the baseline condition for future consultations). Temporary impacts to chaparral, oak woodland, nonnative grassland, and ruderal in designated critical habitat will be offset through restoration of 7.31 acres with native fuel modification zone species[1] (not mitigation slopes). Permanent impacts to coastal sage scrub and native plant restoration will be offset through: on-site restoration of 8.73 acres (6.98 acres with coastal sage scrub and 1.75 acres with native fuel modification zone species [not mitigation slopes]); off-site mitigation of 19.63 acres including advance restoration of 13.3 acres at Strawberry Farms (9.75 acres of coastal sage scrub restoration, 1.86 acres of coastal sage scrub and prickly pear cactus restoration, 0.39 acre of native perennial grassland restoration, and 1.3 acre of coastal sage scrub enhancement); and off-site mitigation of 6.33 acres at Saddle Club (2.63 acres of coastal sage scrub and 3.7 acres of coastal sage scrub/chaparral mix). Permanent impacts to chaparral, oak woodland, nonnative grassland, and ruderal in designated critical habitat will be offset through: on-site restoration of

[1] A fuel modification zone is an area where combustible vegetation in the landscaping is modified or replaced with drought-tolerant or fire-resistant vegetation to provide protection against wildfires. These drought-tolerant and fire-resistant species are considered fuel modification zone species.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			7.31 acres with native fuel modification zone species (not mitigation slopes); on-site restoration of 0.28 acre with native fuel modification zone species, with maintenance activities within 14 ft from edge of pavement (not mitigation slopes); and off-site mitigation of 4.24 acres at Saddle Club with coast live oak woodland. The conservation measures (CMs) included in the 2019 Biological Opinion that will be implemented as part of the Proposed Project to avoid and minimize impacts to gnatcatchers are as follows: ***Avoidance and Minimization through Project Design*** ***CM 1.*** *If feasible, the Soil Nail Wall Design Option will be selected to minimize permanent impacts to approximately 5 acres of land located within the Gypsum Canyon Nature Preserve. The final engineering design for this area will be reported to the CFWO at least 15 working days prior to initiating project impacts.* ***CM 2.*** *Permanent project lighting will be of the lowest illumination necessary for safety and will be directed toward the roadway and away from sensitive habitats and wildlife crossing areas. Light glare shields will be used to reduce the extent of illumination into sensitive habitats. The Caltrans Project Biologist[1] will review the permanent lighting plans and then submit them to the CFWO for review and approval at least 15 working days prior to initiating project impacts.*

[1] The Caltrans Project Biologist will be a Caltrans biologist familiar with the federally listed species potentially affected by the project and with the habitats that support these species; he/she will be the primary contact for the CFWO during project implementation.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			CM 3. *A wildlife connectivity plan will be developed and implemented to ensure that ecosystem functions[1] are maintained by the project for the benefit of listed species. The plan will be provided to the CFWO for review and approval at least 60 days prior to initiating project impacts. The plan will include the following requirements:* *a. Animals may not be able to navigate steep vertical bends and they may not utilize culverts or crossing structures that have horizontal bends that limit visibility. The culvert at drainage feature 4 will be lengthened by the project but no vertical or horizontal bends will be constructed in the culvert extension;* *b. To the maximum extent feasible, rock slope protection will be avoided at culvert and wildlife crossing openings. If rock slope protection is required, modifications (e.g., small pebble, dirt, or grouted movement pathways) will be made such that animals of all sizes can access culverts and wildlife crossings;* *c. If stream bank reinforcements are required at wildlife crossing and culvert areas, project proponents will design them in the manner most conducive to wildlife movement. If stream bank reinforcements of ungrouted riprap gabions or other material are required, they will be constructed at the shallowest possible slope (2:1 or less), and will be covered with soil and revegetated with native riparian plant species in a manner that will allow for the movement of wildlife of all sizes.*

[1] For example, dispersal of top predators to control meso-predators that prey on avifauna, such as gnatcatchers (e.g., Crooks and Soule 1999)

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			Project proponents will ensure that soil placement on top of stream bank reinforcements will occur in a manner that does not result in erosion holes in the soil surface over time; *d. Restoration of temporary impact areas at wildlife crossings will be planned in a manner that will encourage wildlife use and movement. Project proponents will ensure that plantings will not obscure culvert or wildlife crossing openings. Native vegetation may be used to funnel wildlife toward the crossings and create a visual barrier between the roadway and habitat in a manner that will encourage wildlife movement;* *e. Culvert openings will be flush with the road slope and ground to allow animals to easily find and access the culverts. Culvert openings that provide for wildlife movement under the roadway will not be blocked with grates, with the exception of openings from culverts to those portions of the roadway median that are not intended for wildlife access or movement;* *f. Where the project will result in new roadside fencing, project proponents will ensure that fencing ties into culvert and wildlife crossing openings such that animals following the fencing can easily find and access culverts and crossings. Any new roadside fencing will be 10 to 12-foot high chain link fence with an 18-inch "outrigger" (three strands of barbed wire) angled away from the road, located within the Caltrans right-of-way, subject to the Biological Monitor's[1] recommendations, and will be buried 24 inches into the ground to discourage wildlife from digging under the fence. In areas*

[1] See CM 14 for a description of the Biological Monitor.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			where new fencing is installed, old fencing that blocks access to culverts and crossings will be removed. Any new fencing constructed by the project at the SR-241/SR-91 interchange will incorporate recommendations on page 194 of USGS 2013; *g. Project proponents will coordinate with the Orange County Transportation Authority (OCTA) to ensure that the project will not negatively affect the camera study and native plantings planned by OCTA at the Coal Canyon Undercrossing;* *h. Equipment maintenance, lighting, and staging for the project will be in designated areas, away from the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing. Construction in the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing will be limited to daylight hours. These areas will be kept clear of all equipment or structures that could potentially serve as barriers to wildlife passage. Structures required for bridgework at the Windy Ridge Wildlife Undercrossing will be erected so as not to block the main underpass, and scaffolding and false work will be restricted to the side of the underpass to maintain the functionality of the crossing for wildlife movement. Construction access to the SR-91 median at Coal Canyon will be provided within the fenced access area at Coal Canyon Road, and no project work or access will take place beyond the fencing within the existing dirt wildlife crossing area at Coal Canyon;* *i. Freeway signage with lighting, including changeable message signs, will be located in areas away from the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing;*

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			j. Construction noise at the Coal Canyon Undercrossing will be limited to no more than 5 dBA hourly L_{eq} above ambient levels beyond 100 feet from the edge of the roadway to avoid noise disturbance to wildlife within the crossing; *k. A new turnaround has been constructed in the SR-91 median west of Coal Canyon that benefits both wildlife connectivity and human safety by providing a more accessible and rapid turnaround location that is outside of the wildlife undercrossing. This turnaround is not large enough to accommodate construction vehicles and will continue to be accessible to emergency vehicles during project work, maintaining the recent benefits to wildlife movement that the turnaround provides; and* *l. Subject to approval by California Highway Patrol (CHP) and Orange County Fire Authority (OCFA), install a permanent access control gate near the top of the eastbound off-ramp at Coal Canyon, leaving enough room in front of the gate for personnel in authorized vehicles to exit SR-91 and open the gate, but encouraging unauthorized vehicles to use the new median turnaround. Signage will be posted and maintained at the gate to inform the public about adjacent sensitive habitats and species as well as access restrictions (e.g., wildlife crossing, no unauthorized access, no night access). The gate and signage will be installed prior to completion of project construction. If installation of the gate is not approved, Caltrans and TCA will coordinate with the CFWO to identify an alternative measure to enhance connectivity or improve safety for dispersing wildlife to offset temporal impacts resulting from the substantially degraded functioning of Coal Canyon as a wildlife undercrossing during the 2-year construction*

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			period. If enhancing connectivity at Coal Canyon itself is not practicable, then improvements may occur at a different location identified in coordination with the CFWO. ***Avoidance and Minimization during Vegetation Clearing/Project Construction*** ***CM 4.*** *The clearing and grubbing of native upland habitats for the project will occur between September 1 and February 14, to avoid the gnatcatcher breeding season (or sooner than September 1, if a biologist knowledgeable of gnatcatcher biology and ecology approved by the CFWO demonstrates to the satisfaction of the CFWO that all gnatcatcher nesting is complete). The project proponents will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO at least 15 working days prior to initiating project impacts.* ***CM 5.*** *All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will be restricted to designated staging areas that are a minimum of 100 feet from sensitive habitats and drainages.* ***CM 6.*** *All lighting used at night for project construction will be selectively placed and directed at the immediate work area and away from adjacent sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats.* ***CM 7.*** *Erosion and sediment control devices used for the project, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials*

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard. ***CM 8.*** *The project site will be kept as clear of debris as possible. All food-related trash items will be enclosed in sealed containers and regularly removed from the site. All spoils and material disposal will be disposed of properly.* ***CM 9.*** *If fill must be borrowed from or disposed of offsite, the construction contractor will identify any necessary borrow and disposal sites and provide this information to Caltrans for review. Caltrans will review borrow and disposal site information and if borrow or disposal activities may affect a listed species or critical habitat, Caltrans will reinitiate Section 7 consultation.* ***CM 10.*** *Impacts from fugitive dust will be avoided and minimized through watering and other appropriate measures.* ***CM 11.*** *Project personnel will be prohibited from bringing domestic pets to construction sites to avoid disturbance and depredation of wildlife by domestic pets in adjacent habitats.* ***CM 12.*** *During project construction, all invasive species included on the National Invasive Species Management Plan, the State of California Noxious Weed List, and the California Invasive Plant Council's Invasive Plant Inventory list (Cal-IPC 2006) found growing within the project impact area will be removed. Special care will be taken during transport, use, and disposal of soils containing invasive weed seeds and all weedy vegetation removed during construction will be properly disposed of to prevent*

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			spread into areas outside of the construction area. ***CM 13.*** *All native or sensitive habitats outside and adjacent to the construction limits will be designated as Environmentally Sensitive Areas (ESAs) on project maps. ESAs will be temporarily fenced during construction with orange plastic snow fence, orange silt fencing, or in areas of flowing water, with stakes and flagging. No personnel, equipment, or debris will be allowed within the ESAs. Temporary ESA fencing and flagging will be installed in a manner that does not impact habitats to be avoided and such that it is clearly visible to personnel on foot and operating heavy equipment. The project proponents will submit to the CFWO, at least 5 days prior to initiating project impacts (except for impacts resulting from clearing to install temporary fencing), the final plans for initial clearing and grubbing of habitat and project construction. These final plans will include photographs that show the fenced and flagged limits of impact and all areas to be impacted or avoided. Field maps indicating the location of temporary ESA fencing and/or staking will also be provided. If work occurs within gnatcatcher habitat beyond the fenced or demarcated limits of impact, all work will cease until the problem has been remedied to the satisfaction of the CFWO. Temporary ESA fencing and markers will be maintained in good repair until the completion of project work adjacent to each ESA and removed upon completion of project work adjacent to each ESA.* ***CM 14.*** *A CFWO-approved biologist (Biological Monitor)[1] will be on site during all initial vegetation clearing/grubbing and weekly during project*

[1] The Biological Monitor will be familiar with the federally listed species potentially affected by the project (i.e., gnatcatcher) and with the habitats that support this species.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			construction within 500 feet of gnatcatcher habitat to monitor compliance with all conservation measures. The project proponents will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO at least 15 working days prior to initiating project impacts. The contract of the Biological Monitor will allow direct communication with the CFWO at any time regarding the proposed project. The Biological Monitor will be provided with a copy of this consultation. The Biological Monitor will be available during pre-construction and construction phases to address protection of sensitive biological resources, monitor ongoing work, and maintain communications with construction personnel to facilitate the appropriate and lawful management of issues relating to biological resources. The Biological Monitor will perform the following duties: *a. Perform a minimum of three focused preconstruction surveys, on separate days, to determine the presence of gnatcatchers in the upland project impact footprint. Surveys will begin a maximum of 30 days prior to performing vegetation clearing/grubbing, and one survey will be conducted the day immediately prior to the initiation of vegetation clearing. If any gnatcatchers are found in the upland project impact footprint, the Biological Monitor will direct construction personnel to begin vegetation clearing/grubbing in an area away from the gnatcatchers. It will be the responsibility of the Biological Monitor to implement measures (e.g., direct vegetation clearing away from gnatcatchers, flush gnatcatchers out of the active work area) to avoid death and injury of gnatcatchers by vegetation clearing/grubbing. The Biological Monitor will also record the number and*

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			location of gnatcatchers disturbed by vegetation clearing/grubbing. Caltrans will notify the CFWO at least 7 days prior to vegetation clearing/grubbing to allow the CFWO to coordinate with the Caltrans Project Biologist on potential bird flushing activities; *b. Perform a minimum of three focused surveys, on separate days, to determine the presence of gnatcatcher nest building activities, egg incubation activities, or brood rearing activities within 500 feet of project construction that is initiated during the February 15 to August 31 breeding season for the gnatcatcher. Surveys will begin a maximum of 7 days prior to performing construction within 500 feet of gnatcatcher habitat during the breeding season, and one survey will be conducted the day immediately prior to the initiation of construction within 500 feet of gnatcatcher habitat during the breeding season. Additional surveys will be done once a week during project construction within 500 feet of gnatcatcher habitat during the breeding season. These additional surveys may be suspended as approved by the CFWO;* *c. If active gnatcatcher nests are identified within 500 feet of noise generating construction activities and noise is in excess of 60 dBA hourly L_{eq} or if noise is in excess of ambient noise levels if ambient noise levels exceed 60 dBA hourly L_{eq}, noise attenuation structures will be installed at the noise source to reduce noise levels to 60 dBA hourly L_{eq} or to ambient noise levels if ambient noise levels exceed 60 dBA hourly L_{eq} at the nest location. Noise monitoring will occur during the breeding season and be reported monthly to the CFWO. If the Biological Monitor suspects that avoidance and minimization measures are ineffective, and project activities may be adversely affecting the*

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			gnatcatcher, culpable activities will be suspended within 500 feet of active nests until nesting activity is completed and fledglings are no longer in the area or until effective avoidance and minimization measures can be identified, implemented, and demonstrated to be effective. If the specified noise targets cannot be met or the Biological Monitor observes potential adverse effects to gnatcatchers from project-related noise, activities that are resulting in potential adverse effects will be halted, and the CFWO will be contacted to determine if reinitiation of consultation is necessary; *d. Oversee installation of and inspect erosion control measures a minimum of once per week to document and bring to the attention of the contractor any breaks in erosion control measures such that they are repaired immediately;* *e. Oversee installation of and inspect ESA fencing a minimum of once per week to document and bring to the attention of the contractor any breaks in the fence such that they are repaired immediately;* *f. Train contractors and construction personnel expected to be in the project impact area on the biological resources associated with the project and document that training is implemented by construction personnel. At a minimum, training will include:* *i. The purpose for resource protection;* *ii. A description of the gnatcatcher and its habitats;* *iii. The CMs that should be implemented during project construction to conserve the gnatcatcher, including strictly limiting activities, vehicles, equipment, and construction materials to the*

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			project footprint to avoid adjacent sensitive resource areas; *iv. Environmentally responsible construction practices;* *v. The protocol to resolve conflicts that may arise at any time during the construction process; and* *vi. The general provisions of the Act, the need to adhere to the provisions of the Act, and the penalties associated with violating the Act;* *g. Monitor the project site immediately prior to and during construction to identify the presence of invasive weeds and recommend measures to avoid their inadvertent spread in association with the project. Such measures may include inspection and cleaning of construction equipment and use of eradication strategies;* *h. Periodically monitor the work area to document that work activities do not generate excessive amounts of dust;* *i. Submit monthly email reports (including photographs of impact areas) to the CFWO during clearing of, and construction within, 500 feet of gnatcatcher habitat. The monthly reports will document that authorized impacts were not exceeded and in general compliance with all conditions. The reports will also outline the location of construction activities, the type of construction that occurred, and equipment used. These reports will specify numbers and locations of gnatcatchers (if observed), their observed behavior (especially in relation to construction activities), and remedial measures employed to avoid and minimize impacts to these species. Raw field notes should be*

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			available upon request by the CFWO; and *j. Submit a final report to the CFWO within 120 days of the completion of construction for the project that includes: photographs of habitat areas that were to be avoided and other relevant summary information documenting that authorized impacts were not exceeded and that general compliance with all conservation measures was achieved.* ***Measures to Offset Impacts to Gnatcatcher and its Habitat*** ***CM 15.*** *Areas of temporary impact, as quantified in Tables 1 and 3, will be revegetated and restored with native species as specified in Tables 4 and 5. These areas will be returned to original grade, as feasible. Prior to initiating project impacts, a restoration plan will be developed for the temporary impact areas. The plan will be submitted to the CFWO for review and approval at least 15 working days prior to initiating project impacts. This plan will include a detailed description of restoration methods, slope stabilization, and erosion control, criteria for restoration to be considered successful, and monitoring protocol(s). Following the completion of construction activities within each area of impact, the restoration plan will be implemented for a minimum of 5 years, unless success criteria are met earlier and all artificial water has been off for at least 2 years. Temporary impact areas will be planted as soon as possible, with consideration of seasonal timing, following re-grading after completion of construction to prevent encroachment by nonnative plants.*

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			CM 16. *Some permanent impact cut and fill slopes for the project will be revegetated with native species as specified in Table 4. Duff and rare plants may be salvaged from the project impact footprint to aid in revegetating slopes with native habitats. The revegetated areas will have temporary irrigation and will be planted with native container plants and seeds. At least 3 years of plant establishment/ maintenance on these slopes will be conducted to control nonnative plants. These areas will be planted as soon as possible, with consideration of seasonal timing, following the completion of construction to prevent encroachment by nonnative plants.* ***CM 17.*** *If maintenance of a coastal sage scrub restoration area is necessary between February 15 and August 31, a CFWO-approved biologist[1] will survey for gnatcatchers within the restoration area, access paths to it, and other areas susceptible to disturbances by site maintenance. Surveys will consist of three visits separated by 2 weeks starting March 1 of each maintenance/monitoring year. Work will be allowed to continue on the site during the survey period. However, if gnatcatchers are found during any of the visits, the applicant will notify and coordinate with the CFWO to identify measures to avoid and/or minimize effects to the gnatcatcher (e.g., nests and an appropriate buffer will be flagged by the biologist and avoided by the maintenance work).*

[1] The biologist for this measure will be a trained ornithologist with at least 40 hours of observing gnatcatchers in the field and documented experience locating and monitoring nests of the target species.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			CM 18. *Permanent and temporary impacts to the gnatcatcher and its habitat[1] (as summarized in Tables 1, 2, and 3) will be offset as specified in Tables 4 and 5.* ***CM 19.*** *Portions of the Saddle Club property used to offset project-related impacts will be conserved and managed in perpetuity. Each of the sub-measures below will be implemented prior to initiating project-related impacts:* *a. A CFWO-approved conservation easement will be recorded over conserved land in favor of a CFWO-approved entity (e.g., a non-profit environmental organization or government agency). The conservation easement will prohibit all activities that significantly disturb wildlife or detrimentally impact habitat for the gnatcatcher. Potential recreation uses that do not impact habitat or result in significant disturbance to gnatcatchers (e.g., hiking along existing trails) may be proposed in a CFWO-approved habitat management plan for the property provided that the management plan includes sufficient measures and funding to ensure that these activities are appropriately monitored and managed;* *b. A CFWO-approved habitat management plan will be prepared that addresses potential threats to the conserved habitat, such as unauthorized human access, monitoring and management of any authorized recreational activities, control of non-native invasive plant species, and habitat*

[1] Permanent and temporary impacts to 3.81 acres and 26.63 acres of habitat, respectively, have already been offset in accordance with the requirements of Biological Opinion 1-6-94-F-17.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			degradation from fire; *c. A CFWO-approved land manager will be identified to implement the habitat management plan; and* *d. A CFWO-approved non-wasting endowment or endowments will be established with sufficient funds to implement the habitat management plan and to monitor and enforce the conservation easement. The funding for the endowment(s) will be determined through a Property Analysis Record (PAR) or equivalent analysis.* *Caltrans will monitor and report on compliance with the established take exemptions for gnatcatchers associated with the proposed action. The terms and conditions of the 2019 Biological Opinion are as follows:* ***Coastal California Gnatcatcher*** ***1.1** Prior to initiating project work, three preconstruction surveys will be conducted within all suitable gnatcatcher habitat within the project footprint, within 30 days prior to initiation of vegetation removal activities, to verify that no more than 1 pair of gnatcatchers will be harmed as a result of the project.* ***1.2** Prior to initiating project work, Caltrans will provide to the CFWO a map showing the distribution of gnatcatchers relative to the project footprint and an estimate of the number of gnatcatcher territories that will be impacted by the project, or confirm in writing that maps, distribution information, and the number of territories that will be impacted by the project remain correct.*

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			1.3 *Prior to project construction, the project proponent will submit to the CFWO Geographic Information System (GIS) shapefiles in UTM, Zone 11N (meters), NAD 83 coordinate system that show the following: anticipated permanent impacts, temporary impacts, habitat restoration sites, and habitat conservation sites. Please note that these polygons may overlap. For example, one location could be temporarily impacted and subsequently restored and conserved. Include the following metadata for each shapefile: summary/description of the data, attribute definitions, coordinate system/ projection information or any other pertinent information. If there are any changes to the boundaries anticipated impacts, restoration, or conservation sites, such changes must be addressed consistent with the Reinitiation Notice below. In addition, updated GIS shapefiles will be submitted to the CFWO.* ***1.4*** *Caltrans will notify the CFWO within 30 days of completing removal of gnatcatcher occupied habitat. The purpose of this notification is to ensure that impacts to gnatcatcher-occupied habitat from the proposed project do not exceed the take thresholds.* **Avoidance and Minimization Measure TE-8: Foraging Special-Status Riparian Birds.** Prior to vegetation clearing or construction within the species foraging habitat areas during the nesting period, a qualified biologist will conduct a preconstruction survey to identify the locations of any special-status riparian birds. If foraging individuals are found within the vegetation clearing area during the breeding season, clearing will be delayed until the species are absent. Per the NCCP/HCP construction minimization measures, outside the breeding season, the monitoring biologist will flush NCCP/HCP identified

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			species from the area, prior to brush-clearing and earth-moving activities. **ETC Final EIR and Final EIS Measure B-27.** *Grading and construction activities shall be redirected temporarily around any nesting sites for a distance of 500 ft for candidate and listed species of birds and at a distance of 1,000 ft for raptors during nesting and breeding seasons. ~~In the event that a coyote, bobcat, or mountain lion den is located, grading and construction operations shall be redirected around the den for a distance of 1,000 ft.~~ The nesting sites ~~and dens~~ should be resurveyed toward the end of the breeding seasons of these species to verify completion of the breeding cycle. Nests ~~and dens~~ that will be removed ~~due to ETC~~ must be removed during the nonbreeding season only.*
Invasive Species	No impacts	• Potential to spread invasive species by the entering and exiting of construction equipment contaminated by invasive species, disturbances to soil surfaces, and improper removal and disposal of invasive species that result in the seed being spread along the highway.	**Minimization Measure IS-1: Weed Abatement Program/Non-Standard Special Provisions.** During Final Design, a qualified landscape architect will develop a Weed Abatement Program/Non-Standard Special Provisions (NSSP) for inclusion in the project specifications. The Weed Abatement Program/NSSP will be developed in compliance with Executive Order 13112 to minimize the potential for intrusion or export of invasive plant species to and from the Biological Study Area during project construction. At a minimum, the following will be included in the Weed Abatement Program/NSSP and implemented prior to and during construction to address potential effects associated with invasive species. The Weed Abatement Program/NSSP will define the specific details, frequency, and, if applicable, performance standards for the following individual activities and requirements: • Inspect and clean construction equipment at the beginning and end of each day and prior to

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			transporting equipment from one project location to another. • Limit soil and vegetation disturbance to those areas specifically required for the project construction. • Obtain soil, gravel, and rock from weed-free sources.
			• Use only certified weed-free straw, mulch, and/or fiber rolls for erosion control during construction. • Prior to the completion of construction, revegetate affected areas adjacent to native vegetation with plant species that are native to the vicinity and approved by California Department of Transportation (Caltrans) District 12 Biologists. • Not use any species listed in the California Invasive Plant Council Invasive Plant Inventory with a High or Moderate rating in revegetation. • After construction, ensure that erosion control and revegetation sites are monitored until achievement of the project-specific performance standards defined in the Weed Abatement Program/NSSP or a period of 1 year, whichever is greater, after installation, to detect nonnative species prior to the establishment of the native vegetation. • Implement eradication procedures (e.g., spraying and/or hand weeding) should an infestation occur during or after construction. The use of herbicides will be prohibited within and adjacent to native vegetation, except as specifically authorized and monitored by Caltrans District 12 Biologists during and after project construction. • During construction, reduce indirect impacts of exotic plant infestations and litter by roadside maintenance at least once daily during construction to remove litter and weeds from the right-of-way.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
Cumulative Impacts	No impacts	The Build Alternative, when considered with other cumulative projects as stated in Table 3.1.3 would contribute incrementally to cumulatively considerable impacts related to: • Potential permanent impacts to paleontological resources when excavations extend into fossiliferous formations. • Permanent and/or temporary removal of coastal sage scrub and grassland, which has the potential to result in adverse impacts to special-status plant and animal species.	Project-specific measures described within this table would avoid or reduce and minimize potential cumulative impacts.
Climate Change	No impacts	• The increase in average vehicle speeds in the Project Area by 2–4 miles per hour would decrease the average delay per vehicle by up to 20 percent, which would help offset the 3,400–7,800 increase in daily trips. • No substantial change to greenhouse gas emissions.	See Measures AQ-2, AQ-4, AQ-5, and TR-1 above. • Landscaping reduces surface warming, and through photosynthesis, decreases CO_2. Landscaping would be provided where necessary within the corridor to provide aesthetic treatment, replacement planting, or mitigation planting for the Proposed Project. The landscape planting would help offset any potential CO_2 emissions increase. The project will plant native trees and shrubs within the project area and right of way; see visual measure V-7. • The Proposed Project would specify the use of energy-efficient lighting, such as LED traffic signals. LED bulbs consume 10 percent of the electricity of traditional lights, which will also help reduce the Proposed Project's operational CO_2 emissions. • According to Caltrans Standard Specifications, idling time for lane closure during construction is restricted to 10 minutes in each direction. In addition, the contractor must comply with Title 13,

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			CCR Section 2449(d)(3) that was adopted by the ARB on June 15, 2008. This regulation restricts idling of construction vehicles to no longer than 5 consecutive minutes. Compliance with this regulation reduces harmful emissions from diesel-powered construction vehicles. • TSM/TDM elements, described more fully in Section 2.2.1.2, are included in the scope of the Build Alternatives. • Legally enforceable measures intended to reduce GHG emissions from the 2016 SCAG RTP/SCS will be included in the Plans, Specifications, and Estimates package prepared for the Project. For example, the new toll lanes would be available for high occupancy vehicles such as buses and vehicles with three or more persons.

ARB = California Air Resources Board
BMPs = Best Management Practices
BSA = biological study area
Caltrans = California Department of Transportation
CCR = California Code of Regulations
CDFW = California Department of Fish and Wildlife
CO_2 = carbon dioxide
dBA = A-weighted decibels
ESA = Environmental Site Assessment
FTIP = Federal Transportation Improvement Program
GHG = greenhouse gas
HCP = Habitat Conservation Plan
HOV = High Occupancy Vehicle
LED = light emitting diode
LRTP = Long-Range Transportation Plan
MPAH = Master Plan of Arterial Highways
NCCP = Natural Communities Conservation Plan
RCTC = Riverside County Transportation Commission
RTP = Regional Transportation Plan
RWQCB = Regional Water Quality Control Board
SCAG = Southern California Association of Governments
SCS = Sustainable Communities Strategy
SR-241 = State Route 241
SR-55 = State Route 55
SR-91 = State Route 91
TDM = Transportation Demand Management
TSM = Transportation System Management
USACE = United States Army Corps of Engineers
VHT = vehicle hours traveled
VMT = vehicle miles traveled
MSHCP = Multiple Species Habitat Conservation Plan

S.7.1 Unresolved Issues or Areas of Controversy

The Proposed Project is a later phase of the ETC that would be constructed in the median of SR-241 and SR-91, and therefore, there are no known unresolved issues or areas of controversy.

S.7.2 Project Schedule

Table S.2 summarizes the general schedule for the Proposed Project, subject to funding availability and obtaining all required approvals and permits. Final Design is expected to be completed in spring 2021.

Table S.2 Project Schedule

Milestone	Estimated Date
Completion of Final Supplemental EIR/EIS and Record of Decision	Early 2020
Completion of anticipated permits, licenses, and approvals after Record of Decision	Mid 2021
Anticipated start of construction	Late 2021
Opening Year	2023

S.7.3 Permits and Approvals Needed

Table S.3 identifies the permits and/or approvals that are or may be required prior to or during construction and/or operation of the Build Alternative.

Table S.3 Permits and Approvals Needed

Agency	Permit/Approval	Status/When Required
Federal Highway Administration (FHWA)	Air Quality Conformity Analysis Determination	FHWA determined that the Proposed Project conforms to the State Implementation Plan (SIP) in accordance with 40 CFR Part 93 on May 3, 2017.
United States Fish and Wildlife Service (USFWS)	Section 7 consultation for threatened and endangered species	A new Biological Opinion was issued on April 17, 2019.
United States Army Corps of Engineers (USACE)	Section 404 Permit for filling or dredging of waters of the United States	A Nationwide Permit will be obtained during Final Design.
California Department of Fish and Wildlife (CDFW)	1602 Lake or Streambed Alteration Agreement for impacts to jurisdictional areas	An agreement will be obtained during Final Design.
California Department of Transportation (Caltrans)	Encroachment Permit	An Encroachment Permit will be obtained by the F/ETCA during Final Design.
California Transportation Commission (CTC)	CTC vote to approve funds and approve new public road connection	Following the approval of the Final Supplemental EIR/EIS, the CTC will be required to vote to approve funding for the project if federal funding is sought, as well as approve the new SR-91/SR-241 Express Lanes Connector.
State Water Resources Control Board (SWRCB)	Caltrans NPDES Permit	Permit issued to Caltrans on September 19, 2012, for discharges from State right-of-way. The SWRCB and the Santa Ana RWQCB will be notified of the Project during final design pursuant to the permit requirements.
	Section 402 NPDES Permit (Construction Activity) for waste discharge requirements during construction	Permit Registration Documents, including an NOI, will be submitted at least 7 days prior to the start of construction.
Santa Ana Regional Water Quality Control Board (RWQCB)	Section 401 Water Quality Certification for impacts to jurisdictional areas	Certification will be obtained during final design.
	Section 402 NPDES Permit (Groundwater Dewatering)	If groundwater dewatering is required, an NOI will be submitted at least 60 days prior to the start of construction.
Various Utilities	Encroachment Permits for protection-in-place and possible relocations	During Final Design
City of Anaheim	Potential Encroachment Permit	During Final Design
Orange County Parks (OC Parks)	Concurrence on Section 4(f) De Minimis Determination	OC Parks provided written concurrence with the Section 4(f) De Minimis Determination on July 25, 2017 (see Appendix B).
	Approval of land transfer (partial acquisition)	During right-of-way acquisition process.
Riverside County Transportation Commission (RCTC) and Orange County Transportation Authority (OCTA)	Concept of Operations Report preparation and coordination (tolling operations)	Toll operations are being coordinated among the F/ETCA, OCTA, and RCTC and are evaluated in a separate Concept of Operations report. That report will be completed during Final Design.

CFR = Code of Federal Regulations
EIR/EIS = Environmental Impact Report/Environmental Impact Statement
F/ETCA = Foothill/Eastern Transportation Corridor Agency
NOI = Notice of Intent
NPDES = National Pollutant Discharge Elimination System
SR-241 = State Route 241
SR-91 = State Route 91

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Chapter 1 Proposed Project

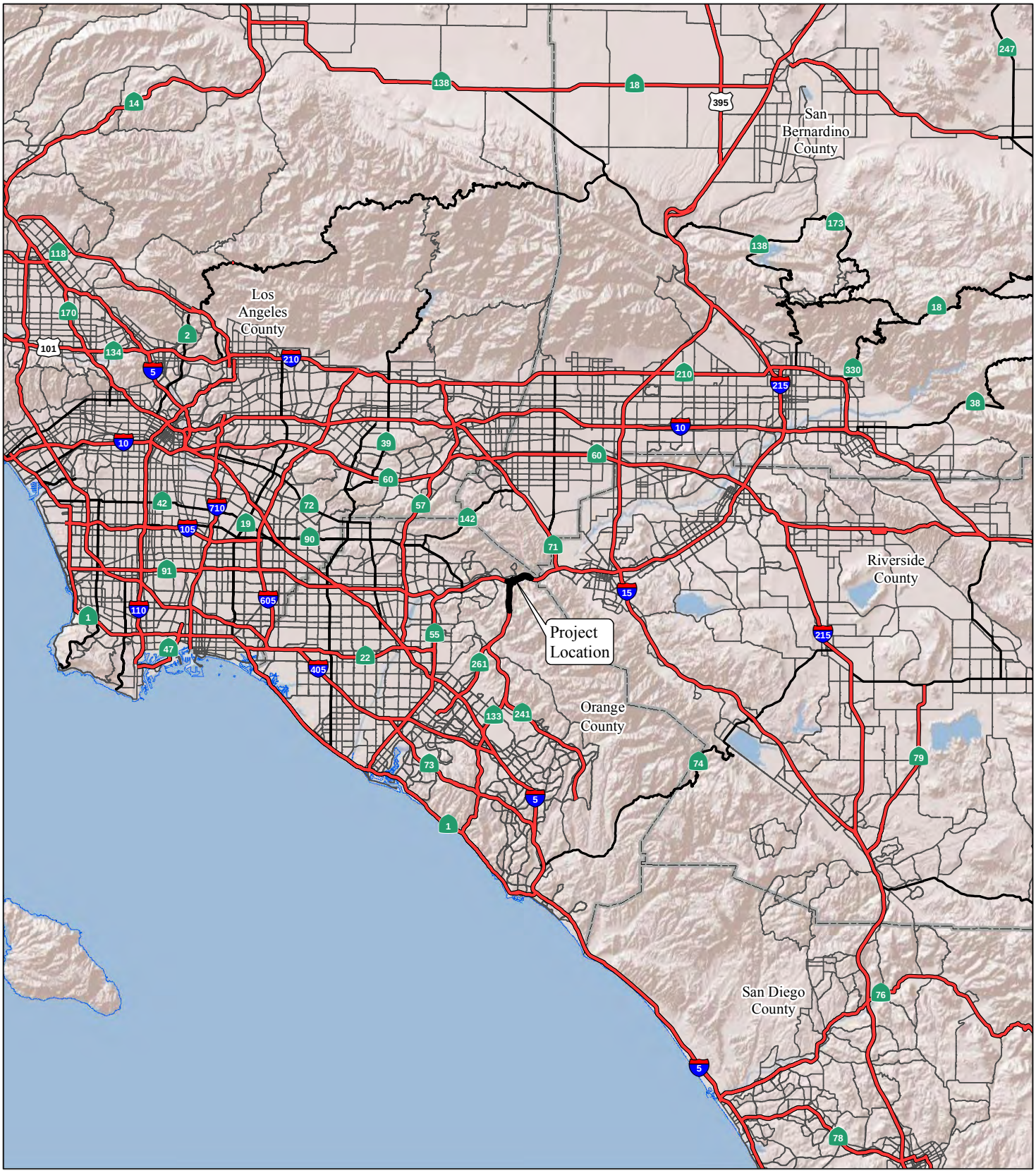
1.1 Introduction

The California Department of Transportation (Caltrans) is the lead agency under the California Environmental Quality Act (CEQA). Caltrans is also the lead agency under the National Environmental Policy Act of 1969 (NEPA), as assigned by the Federal Highway Administration (FHWA), in accordance with NEPA (42 United States Code [USC] 4321 et seq.); and the Council on Environmental Quality (CEQ) Regulations implementing NEPA (40 Code of Federal Regulations [CFR] 1500–1508). As the owner operator and lead agency, Caltrans is the approving agency for the Proposed Project. Caltrans District 12, in cooperation with the Foothill/Eastern Transportation Corridor Agency (F/ETCA) proposes the State Route 241/State Route 91 (SR-241/ SR-91) Tolled Express Lanes Connector Project (Proposed Project) to construct a median-to-median connector between SR-241 and the tolled lanes in the median of SR-91 (*91 Express Lanes*). SR-241 is a tolled facility, starting at the Oso Parkway interchange, in south Orange County, to its terminus at SR-91. The *91 Express Lanes* is a two-lane tolled facility, in each direction, located in the median of SR-91, from State Route 55 (SR-55), to the Orange/Riverside County line (east of the SR-241 interchange). The existing interchange connects all lanes of northbound SR-241 to non-tolled general purpose lanes of eastbound and westbound SR-91 and the eastbound and westbound SR-91 to southbound SR-241. There is currently no direct connection between the SR-241 and the *91 Express Lanes*. Funding sources may include F/ETCA cash on hand, the issuance of non-recourse toll revenue bonds, and State, local and/or federal sources.

The Proposed Project, located at the junction of SR-241 and SR-91 in the cities of Anaheim, Yorba Linda, and Corona and the counties of Orange and Riverside, would provide improved access between SR-241 and SR-91 and is proposed to be a tolled facility. The proposed median-to-median connector project encompasses 12-ORA-241 (Post Mile [PM] 36.1/39.1), 12-ORA-91 (PM 14.7/18.9), and 08 RIV-91 (PM 0.0/1.5) for a length of approximately 8.7 miles (mi). The Project Vicinity and the Project Location are shown in Figures 1.1 and 1.2, respectively.

The improvements for the connector include 5.9 mi in the cities of Anaheim and Yorba Linda and unincorporated Orange County from south of the Windy Ridge Wildlife Undercrossing on SR-241 to Coal Canyon Undercrossing on SR-91.

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LEGEND

Project Location

FIGURE 1.1

SR-241/SR-91 Express Lanes Connector

Project Vicinity

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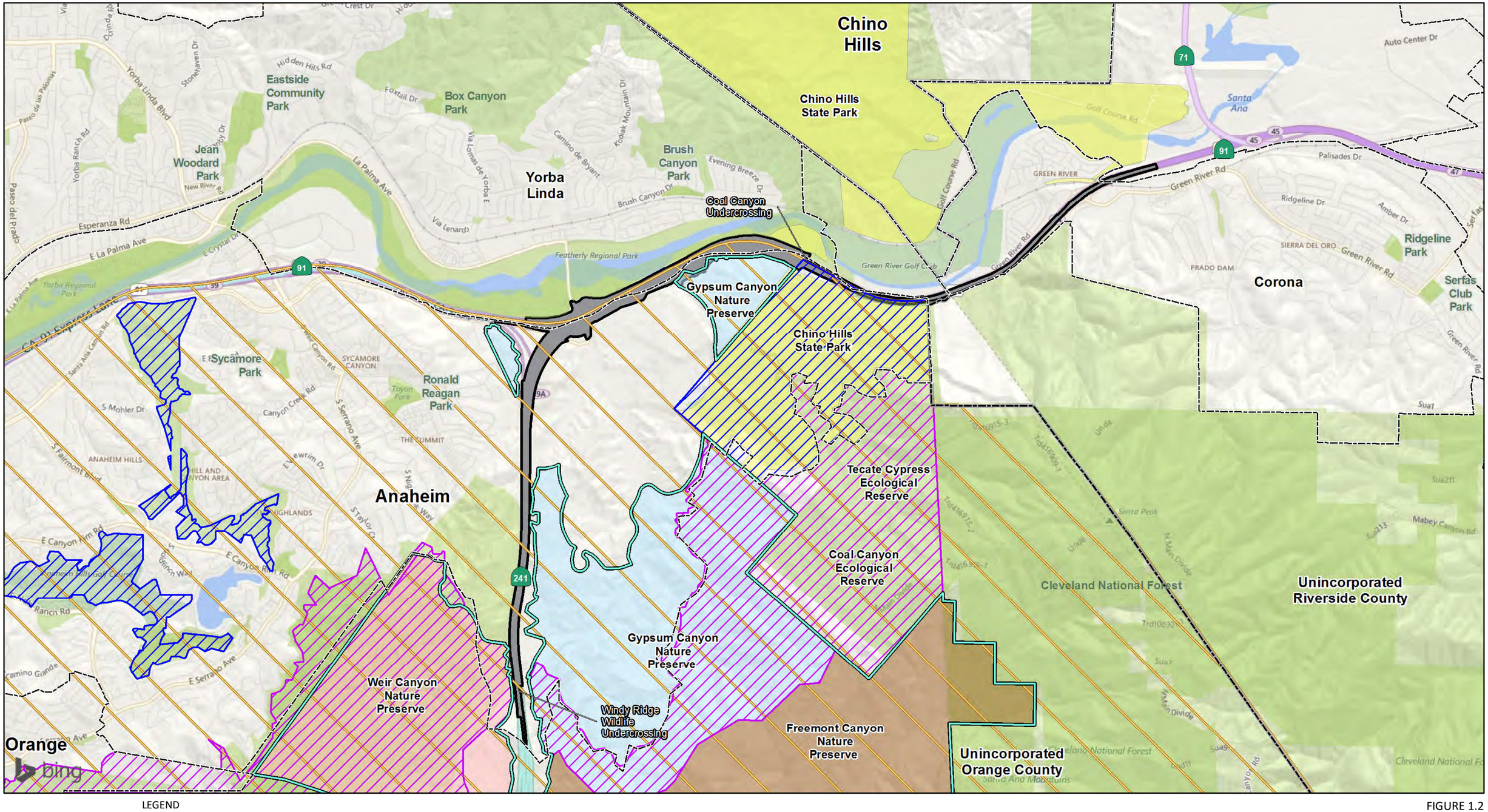
MILES

SOURCE: Thomas Bros (2011)

12-ORA-241 PM 36.1/39.1
12-ORA-91 PM 14.7/18.9
08-RIV-91 PM 0.0/1.5
EA 0K9700

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LEGEND

- Project Location
- City Boundary
- County Boundary
- Chino Hills State Park
- National Natural Landmark
- Fremont Canyon Nature Preserve
- Gypsum Canyon Nature Preserve
- Weir Canyon Nature Preserve

Central/Coastal Subregional

- NCCP Plan Area
- NCCP Existing Use Area
- NCCP Reserve

0 1500 3000
FEET

SOURCE: Bing (2014)

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FIGURE 1.2

SR-241/SR-91 Express Lanes Connector

Project Location

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The remaining 2.8 mi of the Proposed Project include FasTrak signage improvements (advance signage) in the cities of Anaheim (1.2 mi total), Yorba Linda (0.1 mi) and Corona (1.5 mi) and unincorporated Orange and Riverside Counties, with exact placement pending the Final Design process. The Proposed Project is mostly within existing Caltrans right-of-way, with one partial permanent acquisition adjacent to eastbound SR-91. Construction access and staging areas would occur within existing Caltrans right-of-way and the partial permanent acquisition adjacent to eastbound SR-91 as noted above.

On April 7, 2016, the Southern California Association of Governments (SCAG) adopted the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy[1] (2016 RTP/SCS). Also, SCAG received its conformity determination from the FHWA and the Federal Transit Administration (FTA) indicating that all air quality conformity requirements for the 2016 RTP/SCS and associated 2015 Federal Transportation Improvement Program (FTIP) Consistency Amendment have been met. The Proposed Project is included in the 2016 RTP/SCS,[2] which was found to be conforming by the FHWA/FTA on June 1, 2016. The Proposed Project is also included in Amendment 15-12 to the 2015 FTIP, which was found to be conforming by the FHWA/FTA on June 2, 2016. In addition, the Proposed Project is included in the Final 2017 FTIP, which was found to be conforming by the FHWA/FTA on December 16, 2016 (Project ID: ORA111207; Description: 241/91 EXPRESS LANES (HOT) CONNECTOR; NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241, PER SCAG/TCA MOU 4/05/01). The Proposed Project is included in the 2019 FTIP, which was found to be conforming by the FHWA/FTA on December 17, 2018 (Project ID: ORA111207; Description: 241/91 EXPRESS LANES (HOT) CONNECTOR: NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241, PER SCAG/TCA MOU 4/05/01. PAED Phase). Furthermore, the Proposed Project is also included in Amendment 19-13 to the 2019 FTIP, which was found to be conforming by the FHWA/FTA on November 25, 2019 (Project ID: ORA111207; Description: 241/91 EXPRESS LANES (HOT) CONNECTOR: NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241). Copies of the Proposed Project listings from the 2016

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1 Southern California Association of Governments (SCAG). 2016a. April. 2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS). Website: http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx (accessed July 2016).

2 SCAG. 2016b. June. Federal Conformity Determination for 2016 RTP/SCS. Website: http://scagrtpscs. net/Pages/details.aspx?list=Announcements&lid=18&source=/pages/news.aspx (accessed July 2016).

RTP/SCS, the 2015 FTIP, the 2017 FTIP, and the 2019 FTIP and amendments are included in Appendix E.

The Draft Supplemental EIR/EIS stated that Caltrans intended to issue a single document consisting of the Supplemental Final EIS and Record of Decision (ROD) pursuant to Pub. L. 112-141, 126 Stat. 405, Section 1319(b). However, Caltrans has reconsidered this decision and will no longer be issuing a single document that consists of the Supplemental Final Environmental Impact Statement and Record of Decision. Rather, a separate Record of Decision document is intended to be issued in early 2020, subsequent to Caltrans approval of the Final Supplemental EIR/EIS and Final Project Report.

1.1.1 Existing Facility

SR-241 is a tolled facility, starting at the Oso Parkway interchange, in south Orange County, to its terminus at SR-91. There are two mainline toll stations, including one at Windy Ridge, south of the SR-91 interchange. Approximately half of the ramps are tolled as well, depending on the direction of travel and proximity to the mainline stations. Toll stations have both FasTrak and license plate readers, and no cash is accepted. The toll-pricing structure on SR-241 is the same for all vehicle types, regardless of occupancy. SR-241 is owned and maintained by Caltrans, with the F/ETCA operating the toll facilities.

The *91 Express Lanes* is a two-lane tolled facility, in each direction, located in the median of SR-91, from SR-55, to the Orange/Riverside County line (east of the SR-241 interchange).

To the west and east of the *91 Express Lanes* termini, there are high-occupancy vehicle (HOV) lanes on SR-91 that extend from the Interstate 110 (I-110) freeway in Gardena to the west and to the Madison Street interchange in the City of Riverside to the east. The Orange County Transportation Authority (OCTA) operates the *91 Express Lanes*. The Riverside County Transportation Commission (RCTC) completed construction of the SR-91 Corridor Improvement Project (CIP) Initial Phase. The SR-91 CIP Initial Phase extended the tolled express lanes on SR-91 between the Orange County/Riverside County line and Interstate 15 (I-15) and opened to traffic on March 20, 2017. These new SR-91 Express Lanes are operated by RCTC.

The *91 Express Lanes* require all drivers to have a FasTrak transponder to pay for the toll. There is no ingress/egress except at the endpoints, so there is only a single toll

station in the middle of the tolled segment. Toll rates vary by day-of-week and time-of-day, and are set in advance by OCTA, using historical traffic patterns. These rates remain the same for several months until they are updated. OCTA maintains a toll policy that describes the criteria for changing the tolls.[1] RCTC has adopted a similar toll policy for the SR-91 Express Lanes in the County of Riverside.

Vehicles on the *91 Express Lanes* with three or more persons can use the facility toll-free (although they still are required to have a transponder), except when traveling eastbound on Monday through Friday between the hours of 4:00 PM and 6:00 PM. During that peak time, when traveling through the 3+ lane reader, drivers receive a 50 percent discount on the posted toll. The discount policy also applies to zero emission vehicles, motorcycles, vehicles with disabled plates and disabled veterans.

The SR-241/SR-91 interchange connects all lanes of the northbound and southbound SR-241 to the non-tolled, general purpose lanes of eastbound and westbound SR-91.

1.1.2 Project Background/History

The proposed median-to-median connector is a later phase of the Eastern Transportation Corridor (ETC) project, previously approved in 1994. It was originally evaluated as a SR-241/SR-91 HOV direct connector in the 1991 ETC Draft Environmental Impact Report/Environmental Impact Statement (Draft EIR/EIS), 1992 ETC Final EIR, and the 1994 ETC Final EIS (all of which studied a broader project area with improvements on State Route 133 [SR-133], SR-241, and State Route 261 [SR-261]).

The Preferred Alternative selected for the ETC Final EIR and Final EIS included a single alignment called the North Leg through Gypsum and Blind Canyons transitioning to the East Leg south of Santiago Canyon Road. The East Leg crosses Loma Ridge near Rattlesnake Canyon, extends southeasterly toward Siphon Reservoir where the ETC interchanges with the Foothill Transportation Corridor (FTC) and then extends southerly along the Orange County Great Park to the I-5/SR-133 interchange. Construction of SR-241 began in 1996 and was completed in 1998.

[1] Orange County Transportation Authority. *91 Express Lanes*. Website: http://www.91expresslanes.com/policies.asp (accessed May 20, 2015).

The Systems Management Concept (SMC)[1] for the ETC projected that each Build Alternative would be staged, incorporating general purpose traffic and eventually HOV lanes, to meet the forecasted demand. Under the SMC, ETC construction would be completed in one stage, with three or more phases.

To implement this later phase of the ETC, this Supplemental EIR/EIS has been prepared to:

- Focus on the northern end of the original project;
- Address changes to environmental conditions and regulatory requirements;
- Address the extended Project Limits on SR-91 to the east; and
- Comply with 23 CFR 771.129(b): "*A written evaluation of the final EIS will be required before further approvals may be granted if major steps to advance the action (e.g., authority to undertake final design, authority to acquire a significant portion of the right-of-way, or approval of the plans, specifications, and estimates) have not occurred within three years after the approval of the final EIS."* Because the SR-241/SR-91 Express Lanes Connector design was postponed longer than 3 years after the ETC Final EIS approval, the median-to-median connector is required to be re-evaluated in compliance with NEPA.

This Supplemental EIR/EIS includes a No Build and only one Build Alternative for the median-to-median connector for the following reasons:

- The median-to-median connector is a component of a previously approved project and alternative selected during the 1992 EIR Certification and 1994 Record of Decision (ROD) for the original ETC project;
- Various alternatives were studied for the previously approved project that included consideration of a reasonable range of potentially feasible alternatives; and
- There are limited locations for a median-to-median connector between SR-241 and SR-91.

[1] The SMC defines the environment in which the freeway is to operate and the needs of the users. It is a tool by which regions, agencies, and traffic management centers identify the optimal solution on their preferred approaches, capabilities, and constraints.

1.1.3 Related Projects

1.1.3.1 SR-91 Corridor Improvement Project

On October 23, 2012, the ROD for the Initial Phase of the SR-91 CIP EIR/EIS was signed by Caltrans. The SR-91 CIP Initial Phase was implemented with the cooperation of FHWA, Caltrans, and RCTC. The Initial Phase included extending the existing express lanes in the County of Orange east from the Orange/Riverside County line to I-15 in the City of Corona. The existing HOV lanes were converted to tolled express lanes. Direct tolled express lane connectors were constructed on southbound and northbound I-15 near the Ontario Avenue interchange through the SR-91/I-15 interchange to connect to the eastbound and westbound SR-91 tolled express lanes. Auxiliary lanes were added at various locations. The Initial Phase of the SR-91 CIP was opened to traffic on March 20, 2017.

Now that the Initial Phase of the SR-91 CIP has been constructed, median express lanes exist on SR-91 between SR-55 and I-15 and have replaced the existing HOV lanes between the Orange/Riverside County line and I-15. The Ultimate Phase of the SR-91 CIP includes one general purpose lane on SR-91 in each direction, between the junction of SR-241 and SR-91 and Pierce Street in the City of Riverside and is planned for completion by 2035. This phase would also add an additional toll lane on SR-91 in each direction between I-15 and SR-241.

1.1.3.2 SR-91 Corridor Operations Project

In 2018, RCTC, in partnership with Caltrans, OCTA, F/ETCA, and the City of Corona, began engineering and environmental studies to support the 91 Corridor Operations Project (91 COP). RCTC is leading development of the 91 COP.

The 91 COP would add an auxiliary lane on westbound SR-91 from the Green River Road on-ramp to the southbound SR-241 connector. The 91 COP is a component of the Ultimate Phase of the 91 CIP. RCTC, in coordination with Caltrans District 8, would implement this component prior to or concurrent with the Proposed Project. The manner in which the Proposed Project is being constructed would require the 91 COP to be shifted northerly clearing the median to allow for the Proposed Project.

1.2 Purpose and Need

1.2.1 Purpose of the Proposed Project

In addition to the originally intended objectives of the ETC, changed circumstances at the SR-241/SR-91 interchange have led to the following objectives for the Proposed Project:

- Implement the build out of the ETC, as approved in 1994;
- Attain compatibility with the SR-91 mainline and SR-91 Express Lanes;
- Improve traffic flow and operations by reducing weaving across multiple general purpose lanes between the SR-91 Express Lanes and the SR-241 general purpose lane connectors; and
- Enhance the efficiency of the tolled system, thereby reducing congestion on the non-tolled system on SR-91.

1.2.2 Need for the Proposed Project

There is a need for improved access between SR-241 and SR-91. Roadway deficiencies are described below:

- Demand exceeds capacity on the northbound SR-241 connector to eastbound SR-91 and on the westbound SR-91 connector to southbound SR-241
- Northbound vehicles on SR-241 cannot access the eastbound SR-91 Express Lane
- Westbound SR-91 Express Lanes motorists cannot access southbound SR-241.
- The weaving between the general purpose connectors and the median lanes is an issue because it degrades the level of service due to increased vehicle density. In addition, the weaving operations contribute to sideswipe accidents.

1.2.2.1 Capacity, Transportation Demand, and Safety

Freeway traffic flow can be defined in terms of level of service (LOS). For freeways, there are six defined LOS, ranging from LOS A to LOS F. LOS A represents free traffic flow with low traffic volumes and high speeds, and LOS F represents traffic volumes that exceed the facility capacity and result in forced flow operations at low speeds, as shown on Figure 1.3.

The information in this section is based on the *Traffic Analysis Report* for the Proposed Project (July 2015). The Study Area was chosen to be wide enough to capture the changes in traffic operations caused by the Proposed Project. The freeway network includes SR-91 from west of the Weir Canyon Road interchange in Anaheim Hills to east of the Serfas Club Drive/Auto Center Drive interchange in the City of Corona. The network also includes SR-241 north of the Santiago Canyon Road interchange and State Route 71 (SR-71) south of the Butterfield Ranch Road interchange.

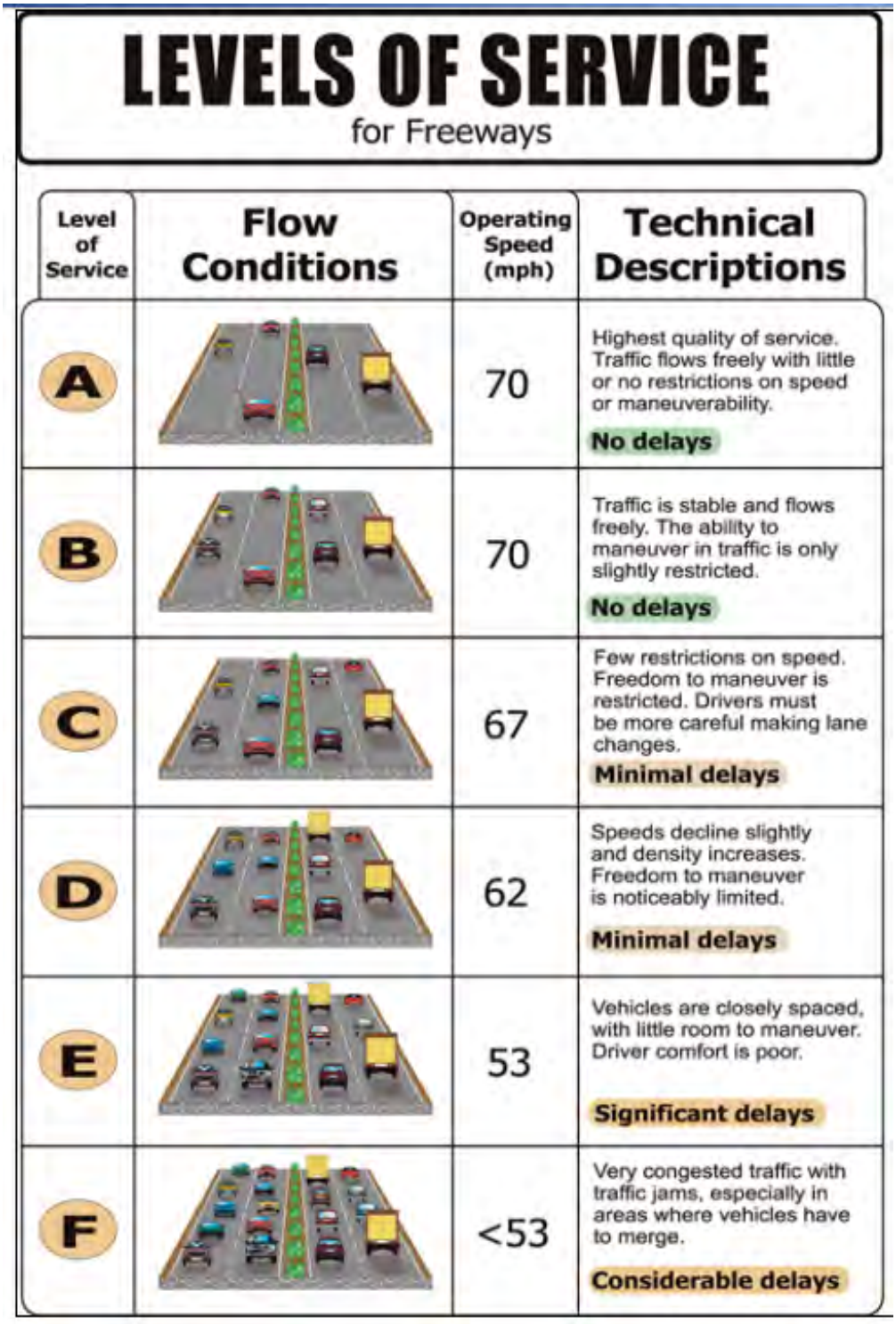


Figure 1.3 LOS Thresholds for a Basic Freeway Segment

Data collection for the *Traffic Analysis Report* began in 2013; therefore, this date is used for the Existing Conditions for traffic analysis. Due to population growth, traffic demand would increase between 2013 and 2015 by approximately 2 percent, which would reduce the average speed in the Study Area by a nominal amount in the peak hours due to over-saturated conditions that will remain on the general purpose lanes.

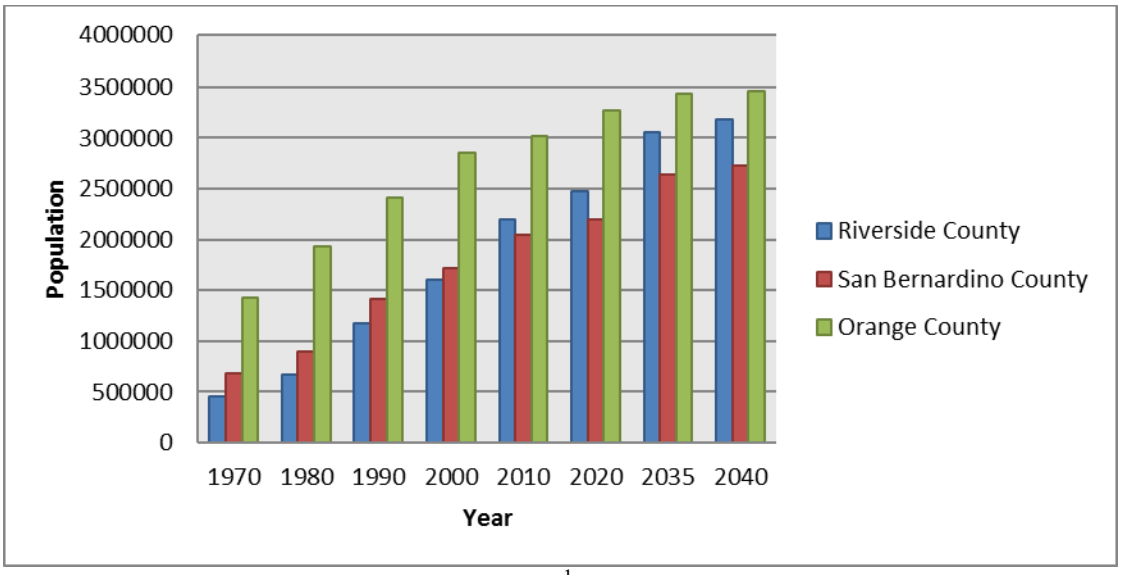
As described in this section, SR-91 is continuing to experience increased congestion as a result of population growth in the Inland Empire and the increase in jobs in the County of Orange.[1] As a result of population growth, the numbers of vehicles on SR-91 are expected to increase by approximately 50 percent by 2035, which would result in continuing congestion and delays on SR-91.[2]

Population Projections

The Proposed Project would improve connectivity between the Counties of Orange, Riverside, and San Bernardino. The Inland Empire consists of both Riverside and San Bernardino Counties, and is expected to experience greater growth as a result of available land area in comparison to coastal counties. SCAG projects that between 2012 and 2040, the population of the County of Riverside will grow approximately 42 percent, the population of the County of San Bernardino will grow approximately 32 percent, and the population of the County of Orange will grow approximately 13 percent. Figure 1.4 illustrates the population growth patterns from 1970 to 2040 for the Counties of Orange and Riverside based on both historical U.S. Census data and SCAG projections. Figure 1.5 illustrates the population growth patterns in the cities of Anaheim, Corona, Orange, Riverside, Yorba Linda, Chino, and Chino Hills from 1970 to 2040.

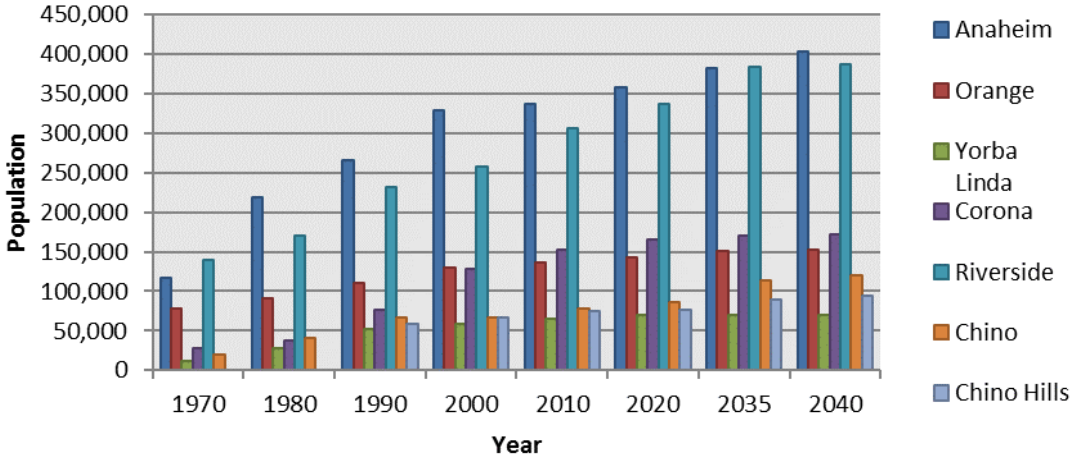
1 Southern California Association of Governments (SCAG). 2016–2040 Draft Regional Transportation Plan/Sustainable Community Strategy Growth Forecast Appendix (December 2015). Website: http://www.scag.ca.gov/Documents/2016DraftGrowthForecastByJurisdiction.pdf (accessed March 2, 2016).

2 SR-91 CIP Traffic Study Report (July 2010).



Sources: United States Census Bureau (Years 1990–2010)[1]; Southern California Association of Governments (Years 2020–2040).

Figure 1.4 County Population Growth Patterns – 1970 to 2040



Sources: United States Census Bureau (Years 1970–2010, with the exception of the City of Chino and the City of Chino Hills for the Years 1970–1980); Southern California Association of Governments (Years 2020–2040); Department of Finance (Years 1970–1980 for the City of Chino and the City of Chino Hills).

Figure 1.5 City Population Growth Patterns – 1970 to 2040

[1] United States (U.S.) Census Bureau. California Population of Counties by Decennial Census: 1900 to 1990. Website: http://www.census.gov/population/cencounts/ca190090.txt (accessed January 26, 2015).

City of Anaheim

According to the 2000 U.S. Census, the population of the City of Anaheim increased by 23 percent between 1990 and 2000. However, between 2000 and 2010, the population of the City of Anaheim increased by only 2.5 percent. In 2010, the population of the City of Anaheim was 337,354 persons, which accounted for approximately 11 percent of the total population in the County of Orange.

According to SCAG population growth projections from the 2016–2040 Draft RTP/SCS, the total population in the City of Anaheim is expected to increase by approximately 20 percent, to more than 403,400 residents between 2010 and 2040.[1]

City of Orange

The population within the City of Orange grew by approximately 21 percent between 1980 and 1990, and by approximately 17 percent between 1990 and 2000. Population growth slowed considerably to about 5 percent between 2000 and 2010. Similarly, SCAG population growth projections from the 2016–2040 Draft RTP/SCS expect the City of Orange to reach a population of 153,000 by 2040, which represents an increase of approximately 12 percent above the population in 2010.[2]

City of Yorba Linda

The population of the City of Yorba Linda increased dramatically between 1980 and 1990 (86 percent), from 28,251 to 42,422 persons, exceeding the growth rates in many of the other cities in north Orange County and the County of Orange overall. The total population in the City of Yorba Linda as reported in the 2010 U.S. Census was 64,423 persons. The main factor limiting additional population growth in Yorba Linda is the relatively small amount of available land for residential development. Nevertheless, according to SCAG population growth projections from the 2016–2040 Draft RTP/SCS, the total population in the City of Yorba Linda is expected to continue to increase to more than 70,500 residents by 2040.[3] Given that the City of Yorba Linda is relatively built out, future housing growth will primarily be accommodated on the City's periphery.

---

1 U.S. Census Bureau. California Population of Counties by Decennial Census: 1900 to 1990. Website: http://www.census.gov/population/cencounts/ca190090.txt (accessed January 26, 2015).

2 SCAG. 2016–2040 Draft Regional Transportation Plan/Sustainable Community Strategy Growth Forecast Appendix (December 2015). Website: http://www.scag.ca.gov/Documents/2016DraftGrowthForecastByJurisdiction.pdf (accessed March 2, 2016).

3 Ibid.

City of Corona

According to the U.S. Census, between 1990 and 2000, the population of the City of Corona increased over 64 percent from 76,095 to 124,966 persons, which made it the fastest-growing city in the region over that time period. This increase was more than twice the percentage increase for the County of Riverside (32 percent) for the same period. In 2010, the City of Corona had 153,179 residents. According to SCAG population growth projections from the 2016–2040 Draft RTP/SCS, by 2040, the population of the City of Corona is projected to increase approximately 12 percent, to almost 172,300 people.[1]

City of Riverside

According to the 2010 U.S. Census, the City of Riverside had over 305,500 residents in 2010. Between 2000 and 2010, the population in the County of Riverside increased by 18.2 percent. SCAG population growth projections from the 2016–2040 Draft RTP/SCS estimate that the population of the City of Riverside will increase approximately 26 percent by 2040, to more than 386,600 residents.[2]

City of Chino

According to the 2010 U.S. Census, the City of Chino had nearly 78,000 residents in 2010. Between 2000 and 2010, the population of in the City of Chino increased by approximately 16 percent. SCAG population growth projections from the Draft 2016-2040 RTP/SCS estimate that the population in the City of Chino will increase approximately 54 percent by 2040, to 120,400 residents.[3]

City of Chino Hills

According to the 2010 U.S. Census, the City of Chino Hills had nearly 75,000 residents in 2010. Between 2000 and 2010, the population of in the City of Chino Hills increased by approximately 12 percent. SCAG population growth projections from the Draft 2016-2040 RTP/SCS estimate that the population in the City of Chino Hills will increase approximately 26 percent by 2040, to 94,900 residents.[4]

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1 SCAG. 2016–2040 Draft Regional Transportation Plan/Sustainable Community Strategy Growth Forecast Appendix (December 2015). Website: http://www.scag.ca.gov/Documents/2016DraftGrowthForecastByJurisdiction.pdf (accessed March 2, 2016).

2 Ibid.

3 Ibid.

4 Ibid.

Demand

As shown in Table 1.1, as a result of population growth, vehicle demand (the number of vehicles wanting to move through the Study Area) during the peak periods is projected to increase by approximately 45 percent in the AM peak period (from 82,377 to 119,605 vehicles) and approximately 50 percent during the PM peak period (from 111,837 to 168,494 vehicles) between the years 2013 and 2040. The peak period is defined as the entire morning or evening commute period: 6:00 AM to 9:00 AM and 3:00 PM to 7:00 PM.

Table 1.1 Total Demand for Existing (2013), Opening (2017 data), and Design (2040) Years

	AM Peak Period			PM Peak Period		
	2013	2017	2040	2013	2017	2040
Total Demand (no. of vehicles)	82,377	100,741	119,605	111,837	141,937	168,494

Source: *Traffic Analysis Report* (June 2015).

Travel Time/Vehicle Speed

Existing (2013) Conditions[1]

In existing (2013) conditions, heavy peak hour flows occur in the westbound direction on SR-91 in the morning and in the eastbound direction in the evening. Table 1.2 shows speeds and travel times during peak hours for the map points shown in Figure 1.6.

As shown in Table 1.2, during the AM peak hours (between 6:00 and 8:00 AM), westbound traffic traveling on SR-91 is congested, with speeds at 24 to 31 miles per hour (mph) between SR-71 and the County Line (Map Points E to D) and at 37 to 38 mph between east of Serfas Club Drive/Auto Center Drive and the County Line (Map Points F to D). Therefore, travel times in these areas are almost two times longer than non-peak hours with free-flowing traffic (assuming a speed of 65 to 70 mph for free-flowing traffic).

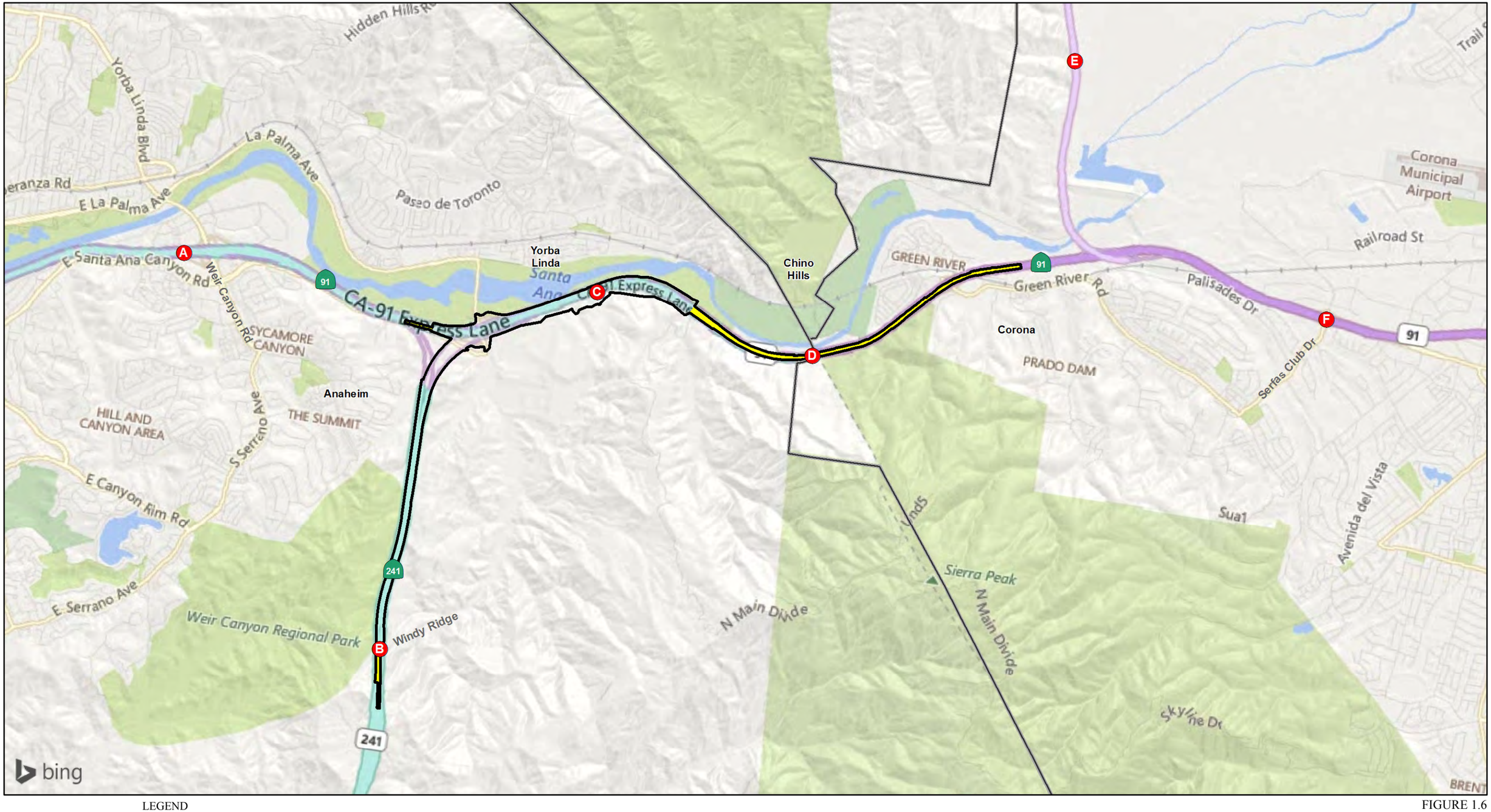
[1] For transportation/traffic, air quality, noise, and energy, 2017 No Build conditions were used as the environmental baseline as the SR-91 CIP Initial Phase was planned for completion in 2017 and will substantially increase traffic volumes in the Project Area. Refer to Chapter 3 for a discussion of environmental baseline. The SR-91 CIP Initial Phase was opened to traffic on March 20, 2017.

Table 1.2 Existing (2013) AM and PM Peak Hour Travel Speed and Travel Times

	Segment Description	Map Points	AM Peak Hours						PM Peak Hours							
			6:00–7:00		7:00–8:00		8:00–9:00		3:00–4:00		4:00–5:00		5:00–6:00		6:00–7:00	
			Speed (mph)	Time (mins)	Speed (mph)	Time (mins)	Speed (mph)	Time (mins)	Speed (mph)	Time (mins)	Speed (mph)	Time (mins)	Speed (mph)	Time (mins)	Speed (mph)	Time (mins)
Westbound	SR-91 east of Serfas Club Drive/Auto Center Drive to SR-91 County Line	F to D	38	4.9	37	5.1	45	4.2	68	2.8	67	2.8	67	2.8	68	2.7
	SR-91 County Line to SR-91 northbound SR-241 merge	D to C	57	2.7	52	3.0	58	2.7	62	2.5	62	2.5	61	2.5	61	2.5
	SR-91 northbound SR-241 merge to SR-91 west of Weir Canyon Road	C to A	67	3.5	67	3.5	68	3.5	64	3.7	65	3.7	65	3.7	64	3.7
	SR-71 north of SR-91 to SR-91 County Line	E to D	24	10.9	31	8.5	56	4.8	53	5.0	45	5.9	37	7.1	46	5.7
	SR-241 Windy Ridge to SR-91 west of Weir Canyon Road	E to A	64	7.2	64	7.2	64	7.2	64	7.2	60	7.7	48	9.7	36	12.9
Eastbound	SR-91 west of Weir Canyon Road to northbound SR-241 merge	A to C	68	3.5	67	3.5	67	3.5	28	8.5	16	15.0	13	18.6	13	18.0
	SR-91 northbound SR-241 merge to SR-91 County Line	C to D	68	2.3	67	2.3	67	2.3	18	8.7	21	7.5	20	7.9	22	7.0
	SR-91 County Line to SR-91 east of Serfas Club Drive/Auto Center Drive	D to F	67	2.8	65	2.8	65	2.8	18	10.5	21	8.8	20	9.1	29	6.4
	SR-241 Windy Ridge to SR-91 northbound SR-241 merge	B to C	63	5.8	63	5.8	63	5.8	29	12.8	20	17.9	16	22.5	14	26.7
	SR-71 north of SR-91 to SR-91 east of Serfas Club Drive/Auto Center Drive	E to F	30	10.9	38	8.6	59	5.5	29	11.3	27	12.1	24	13.6	34	9.4
	SR-91 west of Weir Canyon Road to SR-241 Windy Ridge	A to B	64	7.1	64	7.2	64	7.2	56	8.1	30	15.4	25	18.4	26	17.6
	SR-91 County Line to SR-71 north of SR-91	D to E	61	5.0	60	5.1	60	5.1	29	10.7	34	9.0	32	9.5	31	9.8

Source: *Traffic Analysis Report* (June 2015).
mph= miles per hour
mins = minutes
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241

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LEGEND

- Project Location
- Advance Signage Areas
- Existing (2013) Traffic Data Map Points

0 1650 3300
FEET

SOURCE: Bing (2014)

I:\RBF1101\GIS\ExistingTrafficData2013_EIREIS.mxd (4/7/2016)

FIGURE 1.6

SR-241/SR-91 Express Lanes Connector

Existing (2013) Traffic Data Map

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During the PM peak hours, eastbound speeds range from 13 to 34 mph. There is a bottleneck for vehicles traveling from northbound SR-241 to eastbound SR-91 in the PM peak period. Between SR-241 at Windy Ridge to the SR-91 northbound SR-241 merge (Map Points B to C), speeds are as low as 14 to 16 mph between 5:00 and 7:00 PM. Eastbound SR-91 between west of Weir Canyon Road to the northbound SR-241 merge (Map Points A to C) is also congested in the PM peak hours, with speeds at 13 to 16 mph between 4:00 and 7:00 PM. Therefore, travel times in these areas are almost four times longer than non-peak hours with free-flowing traffic.

Changes in Opening Year and Design Year

The Proposed Project was originally planned for opening in 2017 and was evaluated as such in the *Traffic Analysis Report* (July 2015). However, due to design modifications and the need to avoid conflicts with the SR-91 CIP, the revised planned opening year was 2020 at the time of public review of the Draft Supplemental EIR/EIS (November 2016). As discussed in the *Traffic Analysis Report* (July 2015) and the *Traffic Analysis Report Errata Sheet* (July 2016), the difference in traffic operations between 2017 and 2020 in the Study Area would be nominal in the peak hours due to over-saturated conditions that will remain on the general purpose lanes.

Although the revised opening year was 2020, all of the tables and analysis referred to 2017 as the opening year because this was the year for which modeling was completed for the Draft Supplemental EIR/EIS. Traffic forecast experts reviewed modeling data and stated that the changes from 2017 to 2020 would be nominal; therefore, there was no need to re-model the numbers for the revised opening year. The Proposed Project was planned to begin construction in 2018 and to open in 2020. The year 2040 was chosen to represent the long-term horizon year.

On January 9, 2017, OCTA submitted a comment letter on the Draft Supplemental EIR/EIS with the following comment:

> "Given the complex nature of having multiple tolled facilities operated by different agencies, OCTA suggests that the analysis in the environmental document be updated to include traffic volume data anticipated to be available in Spring 2017 with the opening of the CIP. This would help refine the existing, opening year, and 2040 conditions analysis (throughput speeds, and travel time)."[1]

[1] Comment L-6-4, Table 5.4, Chapter 5 of this Final Supplemental EIR/EIS.

In a meeting between F/ETCA and OCTA staff on September 13, 2017, F/ETCA agreed to conduct an analysis that included the traffic data from the SR-91 CIP for the year 2025. The Final Supplemental EIR/EIS was put on hold at this time, in order to complete this analysis.

Follow-up letters were received from OCTA and RCTC, additional meetings were held, and the three transportation agencies agreed on the methodology, baseline conditions, and Study Area (SR-91 between SR-55 and I-15) for the traffic analysis.

A Traffic Analysis was completed in July 2019 (2019 Traffic Analysis[1]) in response to these comments and used an opening year of 2025. When compared to data in Section 3.5, Table 3.5.11 of this Draft Supplemental EIR/EIS, the 2019 Traffic Analysis supports the findings of the *Traffic Analysis Report* (July 2015) that the Build Alternative would increase vehicle miles traveled (indicating increased throughput), decrease average delay, and increase average speed when compared to the No Build Alternative. Detailed results are provided in Chapter 5, Table 5.4 and Table 5.4a.

The new opening year for the Proposed Project is 2023 due to the schedule delay described above. The 2019 Traffic Analysis shows that the conclusions would be the same as the analysis in this Final Supplemental EIR/EIS; hence, there is no need to revise the analysis for the new opening year of 2023.

The new horizon (design) year for the Proposed Project is 2043 (minimum 20-year planned operation period per the Caltrans *Highway Design Manual* [HDM]). The 2040 horizon year volume forecasts were developed from the original 2035 forecasts by applying a growth rate calculated from the SR-91 CIP Final Traffic Study demands (2015) and the SR-91/SR-241 Express Lane Direct Connector Traffic and Revenue Study future demands (2035). The average annual growth rates varied between 0.8 percent annually to 1.0 percent annually. The project would still provide the same benefits to the corridor if this minor growth rate was used to develop 2043 volumes; therefore, there is no need to project traffic volumes in this corridor beyond the year 2040. The difference in forecasted numbers would be minimal, and therefore, this Final Supplemental EIR/EIS continues to use 2017 numbers (for opening year) and 2040 numbers (for design horizon year), as was done for the Draft Supplemental EIR/EIS.

[1] Stantec Consulting Services, Inc. (July 2019). *Traffic Analysis for Response to Comments on the SR 241/SR 91 Express Lanes Connector Draft Supplemental EIR/EIS.*

Baseline

Two different sets of traffic data were assessed to determine how traffic volumes will change between 2013 Existing Conditions and the existing conditions at the start of project operations (discussed below as the Future 2017 No Build Condition). For peak-period traffic, Table 1.1, above, includes a summary of the total demand entering the Study Area network during the AM and PM peak periods. That table illustrates that the change in traffic volume between the Existing Conditions (2013) and the Existing Conditions (2017) is projected to be 22 to 27 percent. Given the substantial change in traffic volumes due to the SR-91 CIP Initial Phase new express lanes, and to a lesser extent background growth, a comparison between the 2017 Build Conditions and the 2013 Existing Conditions would not be accurate. The traffic volume change due to the SR-91 CIP Initial Phase has a major effect on operations, with or without the Proposed Project. An analysis comparing the Proposed Project on 2013 traffic conditions (without the SR-91 CIP Initial Phase) would not be appropriate, because the SR-91 CIP Initial Phase was already under construction during preparation of the Traffic Analysis [July 2015] for the Proposed Project. Therefore, the comparison between the 2017 Build Conditions and 2017 Existing Conditions (which included the SR-91 CIP Initial Phase) was used as the basis for evaluating impacts related to traffic/transportation, air quality, noise, and energy. The use of Existing Conditions at the start of project operations in 2017 as the baseline year for analysis of impacts provides the most accurate picture possible of traffic conditions prior to the opening of the Proposed Project to traffic. For other environmental topics, the Existing conditions at the start of environmental technical studies (2013) are considered appropriate for the baseline.

Future (2017 and 2040) No Build Conditions

Based on the *Traffic Analysis Report*, and later shown in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, Tables 3.5.3 and 3.5.4, in 2017 and 2040, heavy peak hour flows will continue to occur in the westbound direction in the morning and in the eastbound direction in the evening in the traffic Study Area, due to many commuters traveling between communities in Riverside/San Bernardino Counties and work places in Los Angeles/Orange Counties.[1] In 2017, during the AM peak hours, vehicle speeds on the westbound SR-91 general purpose lanes would range from 10 to 26 mph between Serfas Club Drive/Auto Center Drive to the County Line (Map Points F to D). During the PM peak hours, eastbound speeds would range from 10 to 23 mph between west of Weir Canyon Road to the SR-241 merge (Map

[1] This is supported by 2010 United States Census data; please refer to Table 3.3.4 of this document.

Points A to C). Therefore, travel times in these areas are almost four times longer than non-peak hours with free-flowing traffic.

In 2017, vehicle speeds on the *91 Express Lanes* would range from 65 to 70 mph throughout the Study Area in both the westbound and eastbound directions.

In 2040, during the AM peak hours, vehicle speeds on the westbound SR-91 general purpose lanes would range from 15 to 33 mph between Serfas Club Drive/Auto Center Drive to the County line (Map Points F to D). During the PM peak hours, eastbound speeds would range from 12 to 60 mph between west of Weir Canyon Road to the SR-241 merge (Map Points A to C). Between west of Weir Canyon Road to Gypsum Canyon Road, vehicle speeds would range from 12 to 24 mph. The speed increases east of Gypsum Canyon Road due to the additional general purpose lane added by the Ultimate SR-91 CIP.

In 2040, vehicle speeds on the *91 Express Lanes* would range from 65 to 70 mph throughout the Study Area in both the westbound and eastbound directions.

Future (2017 and 2040) Build Conditions

In the AM peak period in 2017, all of the travel times would either decrease (between 3.3 and 4.5 minutes) or stay the same in the westbound direction on SR-91 in the Build Conditions. In addition, the travel time on southbound SR-71 north of SR-91 would also decrease (between 8.2 to 11.2 minutes) in the Build Conditions. In the PM peak period in 2017, the travel time for the SR-91 eastbound general purpose lanes would slightly increase in the Build Conditions (between 1 to 2.5 minutes). The travel time for SR-241 northbound to SR-91 eastbound via the general purpose lane ramp would also increase in the Build Conditions by approximately 1.5 minutes; however, the travel time for SR-241 northbound to SR-91 eastbound via the new Express Lane ramp would decrease by 2.5 minutes. The increases in travel times for the SR-91 eastbound general purpose lanes are considered nominal given the increase in combined throughput that would be experienced in the same area (please refer to the following Volume Served section).

In the AM peak period in 2040, travel times for most of the segments would either stay the same or decrease in the westbound direction on SR-91 in the Build Conditions due to project improvements. The increases in travel times for the SR-91 eastbound general purpose lanes are considered nominal given the increase in combined throughput that would be experienced in the same area.

In the PM peak period in 2040, all of the travel times for most of the segments would either stay the same or decrease in the Build Conditions. The decrease in travel time is due to the shift of trips from the SR-241 northbound to the SR-91 eastbound general purpose ramp over to the *91 Express Lanes* ramp.

Volume Served

Traffic volumes represent the number of vehicles on the roadway. Vehicle throughput on a freeway is the number (volume) of vehicles that travel through the system over a given period such as an hour. It is important to note that freeway traffic volumes are different than freeway traffic demands. Vehicle demand is the number of vehicles wanting to enter the system over a given period of time. With congestion, not all traffic can be served, so traffic demands are invariably higher than traffic volumes and queuing will occur. Along a congested corridor such as SR-91, this issue affects all freeway traffic in the corridor, during both peak periods.

The percent of unserved traffic is the percent of vehicles that wish to move through the Study Area and that cannot move through the Study Area during the peak traffic periods.

Existing (2013) Conditions

Table 1.3 shows the traffic demand, throughput, and percent of unserved traffic in the traffic Study Area for the existing peak periods. As shown in Table 1.3, demand is higher than throughput in the westbound direction in the AM peak period and in the eastbound direction in the PM peak period. This is indicative of a congested freeway system, with all vehicle demand not being served by the facility. In the Existing Conditions, the percent of unserved traffic is up to 3.3 percent in the westbound direction during the AM peak period east of Serfas Club/Auto Center Drive and up to 6.1 percent in the eastbound direction in the PM peak period between the SR-241 ramp (northbound SR-241 to eastbound SR-91) and Green River Road.

Future (2017 and 2040) No Build Conditions

As seen in Table 1.4, in the 2017 No Build Conditions, the percent of unserved traffic is projected to increase to as high as 17.4 percent in the westbound direction in the AM peak period between Green River Road and the SR-241 ramp (westbound SR-91 to southbound SR-241) and as high as 37.7 percent in the eastbound direction in PM peak period west of Weir Canyon Road.

Table 1.3 Existing (2013) Peak Period Vehicle Throughput Comparison

Location	Demand Volume			Throughput Volume			Percent Unserved		
	GP Lanes	Express Lanes	Overall	GP Lanes	Express Lanes	Overall	GP Lanes	Express Lanes	Overall
Westbound AM (6:00 AM–9:00 AM)									
East of Serfas Club/Auto Center Drive	22038	5454	27492	21162	5436	26598	4.0%	0.3%	3.3%
Between Serfas Club/Auto Center Drive and SR-71	24026	5454	29480	23672	5436	29108	1.5%	0.3%	1.3%
Between SR-71 and Green River Road	24334	5454	29788	23999	5436	29435	1.4%	0.3%	1.2%
Between Green River Road and SR-241 Ramp (WB to SB)	27008	5454	32462	27927	5436	33363	-3.4%	0.3%	-2.8%
Between SR-241 GP Ramp (WB to SB) and Gypsum Canyon Road	20984	6888	27872	21231	6209	27440	-1.8%	9.9%	1.6%
Between Gypsum Canyon Road and SR-241 Ramp (NB to WB)	20438	6888	27326	20788	6209	26997	-1.7%	9.9%	1.2%
Between SR-241 Ramp (NB to WB) and Weir Canyon Road	21297	6888	28185	21632	6209	27841	-1.6%	9.9%	1.2%
West of Weir Canyon Road	21847	6888	28735	22043	6209	28252	-0.9%	9.9%	-1.7%
Eastbound PM (3:00 PM–7:00 PM)									
West of Weir Canyon Road	30649	11017	41666	30099	10978	41077	1.8%	0.4%	1.4%
Between Weir Canyon Road and SR-241 Ramp (EB to SB)	27226	11017	38243	27118	10978	38096	0.4%	0.4%	0.4%
Between SR-241 Ramp (EB to SB) and Gypsum Canyon Road	26357	11017	37374	25755	10978	36733	2.3%	0.4%	1.7%
Between Gypsum Canyon Road and SR-241 Ramp (NB to EB)	28281	11017	39298	27432	10978	38410	3.0%	0.4%	2.3%
Between SR-241 Ramp (NB to EB) and Green River Road	37661	11017	48678	34718	10978	45696	7.8%	0.4%	6.1%
Between Green River Road and SR-71	35018	11017	46035	34177	10978	45155	2.4%	0.4%	1.9%
Between SR-71 and Serfas Club/Auto Center Drive	33432	5835	39267	33319	5662	38981	0.3%	3.0%	0.7%
East of Serfas Club/Auto Center Drive	33628	5835	39463	33628	5662	39290	0%	3.0%	0.4%

Source: *Traffic Analysis Report* (June 2015).
EB = eastbound
GP = general purpose
SB = southbound
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241
WB = westbound

Table 1.4 Opening Year (2017) No Build Peak Period Vehicle Throughput Comparison

Location	Demand Volume			Throughput Volume			Percent Unserved		
	GP Lanes	Express Lanes	Overall	GP Lanes	Express Lanes	Overall	GP Lanes	Express Lanes	Overall
Westbound AM (6:00 AM–9:00 AM)									
East of Serfas Club/Auto Center Drive	22367	9185	31552	21575	9143	30718	3.5%	0.5%	2.6%
Between Serfas Club/Auto Center Drive	25820	9185	35005	24038	9143	33180	6.9%	0.5%	5.2%
Between SR-71 and Green River Road	26530	9185	35715	21917	9143	31059	17.4%	0.5%	13.0%
Between Green River Road and SR-241 Ramp (WB to SB)	33680	9185	42865	26256	9143	35398	22.0%	0.5%	17.4%
Between SR-241 GP Ramp (WB to SB) and Gypsum Canyon Road	26790	8040	34830	21368	7421	28789	20.2%	7.7%	17.3%
Between Gypsum Canyon Road and SR-241 Ramp (NB to WB)	25631	8040	33671	20951	7421	28372	18.3%	7.7%	15.7%
Between SR-241 Ramp (NB to WB) and Weir Canyon Road	26493	8040	34533	21738	7421	29159	17.9%	7.7%	15.6%
West of Weir Canyon Road	26041	8040	34081	22091	7421	29512	15.2%	7.7%	13.4%
Eastbound PM (3:00 PM–7:00 PM)									
West of Weir Canyon Road	44952	12164	57116	23492	12079	35570	47.7%	0.7%	37.7%
Between Weir Canyon Road and SR-241 Ramp (EB to SB)	43963	12164	56127	25622	12079	37701	41.7%	0.7%	32.8%
Between SR-241 Ramp (EB to SB) and Gypsum Canyon Road	42981	12164	55145	25006	12079	37084	41.8%	0.7%	32.8%
Between Gypsum Canyon Road and SR-241 Ramp (NB to EB)	46765	12164	58929	28490	12079	40569	39.1%	0.7%	31.2%
Between SR-241 Ramp (NB to EB) and Green River Road	56264	12160	684424	37201	10845	48046	33.9%	10.8%	29.8%
Between Green River Road and SR-71	47246	12160	59406	33517	10845	44363	29.1%	10.8%	25.3%
Between SR-71 and Serfas Club/Auto Center Drive	46179	12160	58339	35152	10845	45997	23.9%	10.8%	21.2%
East of Serfas Club/Auto Center Drive	41019	12160	53179	32247	10845	43092	21.4%	10.8%	19.0%

Source: *Traffic Analysis Report* (June 2015).
EB = eastbound
GP = general purpose
SB = southbound
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241
WB = westbound

As shown in Table 1.5, without improvements, by 2040, the percent of unserved traffic is projected to increase to as high as 16.7 percent in the westbound direction in the AM peak period between the SR-241 ramp (westbound SR-91 to southbound SR-241) and Gypsum Canyon Road and as high as 40.1 percent in the eastbound direction in the PM peak period west of Weir Canyon Road.

Future (2017 and 2040) Build Conditions

As shown in Section 3.5, Table 3.5.3, in the 2017 AM peak period, the Build Alternative would allow the corridor to serve more vehicles (about 2 percent) and more vehicles would be able to enter the Study Area. This represents a considerable improvement in the overall efficiency of the system. In the 2017 PM peak period, the Build Alternative is not projected to have a noticeable effect on the general purpose lanes in comparison to the No Build Alternative.

As shown in Section 3.5, Table 3.5.4, in the 2040 AM peak period, the Build Alternative would increase the volume served on SR-91 westbound by 1 percent east of the *91 Express Lanes* merge and diverge area (access to and from the express lanes near Green River Road) and by 47 percent west of the merge and diverge area along SR-241 southbound. In the 2040 PM peak period, the Build Alternative would be able to serve slightly more vehicles. With the Proposed Project, there would be an improvement in the overall efficiency of the system.

Safety

The discussion in this section is based on information from the *Draft Project Report* (October 2016). Accident data was provided by Caltrans District 12 and encompassed a 3-year period from January 1, 2016, through December 31, 2018. The data included the following locations within the Project Area: the SR-91 Mainline, the SR-241 Mainline, and the SR-91 ramps at Gypsum Canyon Road.

SR-91 Mainline

The westbound SR-91 actual accident rates are lower than the statewide average accident rates. The fatal and injury accident rate is above the statewide average accident rate from PM 17.75–17.90 due to the high number of collisions involving injuries. The highest concentration of accidents occurred at the following three segments, each ranging between 20 and 31 accidents over the course of the 3-year span:

- PM 15.95 and 16.20

Table 1.5 Design Year (2040) No Build Peak Period Vehicle Throughput Comparison

Location	Demand Volume			Throughput Volume			Percent Unserved		
	GP Lanes	Express Lanes	Overall	GP Lanes	Express Lanes	Overall	GP Lanes	Express Lanes	Overall
Westbound AM (6:00 AM–9:00 AM)									
East of Serfas Club/Auto Center Drive	27218	9185	36403	25992	9135	35127	4.5%	0.5%	3.5%
Between Serfas Club/Auto Center Drive	31564	9185	40749	30055	9135	39191	4.8%	0.5%	3.8%
Between SR-71 and Green River Road	32331	9185	41516	28451	9135	37586	12.0%	0.5%	9.5%
Between Green River Road and SR-241 Ramp (WB to SB)	41137	9185	50322	33034	9135	42169	19.7%	0.5%	16.2%
Between SR-241 GP Ramp (WB to SB) and Gypsum Canyon Road	33614	8040	41654	27200	7518	34718	19.1%	6.5%	16.7%
Between Gypsum Canyon Road and SR-241 Ramp (NB to WB)	32124	8040	40164	27028	7518	34546	15.9%	6.5%	14.0%
Between SR-241 Ramp (NB to WB) and Weir Canyon Road	33188	8040	41228	28005	7518	35523	15.6%	6.5%	13.8%
West of Weir Canyon Road	32492	8040	40532	28228	7518	35746	13.1%	6.5%	11.8%
Eastbound PM (3:00 PM–7:00 PM)									
West of Weir Canyon Road	55164	12164	67328	28247	12079	40326	48.8%	0.7%	40.1%
Between Weir Canyon Road and SR-241 Ramp (EB to SB)	54771	12164	66935	31232	12079	43311	43.0%	0.7%	35.3%
Between SR-241 Ramp (EB to SB) and Gypsum Canyon Road	53563	12164	65727	30457	12079	42536	43.1%	0.7%	35.3%
Between Gypsum Canyon Road and SR-241 Ramp (NB to EB)	58054	12164	70218	34548	12079	46627	40.5%	0.7%	33.6%
Between SR-241 Ramp (NB to EB) and Green River Road	68537	12160	80697	45851	10863	56714	33.1%	10.7%	29.7%
Between Green River Road and SR-71	35516	12160	47676	24751	10863	35614	30.3%	10.7%	25.3%
Between SR-71 and Serfas Club/Auto Center Drive	46089	12160	58249	35080	10863	45943	23.9%	10.7%	21.1%
East of Serfas Club/Auto Center Drive	39790	12160	51950	31361	10863	42224	21.2%	10.7%	18.7%

Source: *Traffic Analysis Report* (July 2015).
EB = eastbound
GP = general purpose
SB = southbound
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241
WB = westbound

- PM 16.95 and 17.25
- PM 17.50 and 17.75

The eastbound SR-91 total actual accident rate is above the statewide average rate. The highest concentration of accidents occurred at the following three segments, each ranging between 72 and 92 accidents over the course of the 3-year span:

- PM 16.20 and 16.45
- PM 16.45 and 16.70
- PM 16.70 and 16.95

The highest percentage of reported accidents for the westbound and eastbound SR-91 segments listed above are rear-end type collisions, followed by sideswipe collisions. Rear-end collisions are typically associated with congested traffic conditions when a roadway has exceeded traffic capacity. Sideswipe collisions are attributed to lane weaving in congested areas. The collision history does not correlate to any existing nonstandard features.

The Proposed Project would provide increased capacity and reduced traffic congestion. Although mandatory design exceptions are proposed along the eastbound SR-91 mainline, they are either existing conditions which are being maintained or maintained and improved. Advisory design exceptions are not being introduced to the SR-91 mainline. The Proposed Project is not anticipated to contribute to any increase in the number or severity of collisions.

SR-241 Mainline

The actual accident rate on northbound SR-241 is above the statewide average rate. The highest concentration of accidents occurred at the following three segments, each ranging between 20 and 40 accidents over the course of the 3-year span:

- PM 37.85 and 38.01
- PM 38.10 and 38.35
- PM 38.35 and 38.60

The highest percentage of reported accidents for the SR-91 segments listed above is for rear-end type collisions, followed by sideswipe collisions. Rear-end collisions are typically associated with congested traffic conditions when a roadway has exceeded traffic capacity. Sideswipe collisions are attributed to lane weaving in congested areas. The collision history does not correlate to any existing nonstandard features.

The highest percentage of reported accidents for northbound SR-241 are rear-end type collisions, followed by sideswipe collisions. Rear end and sideswipe collisions can be attributed to the steep downhill topography of the northbound SR-241, which requires significant breaking and weaving onto the SR-91 and which creates a scenario for potential future collisions.

The Proposed Project does not introduce any design exceptions to SR-241, and would reducing the merge and weaving conditions by adding additional capacity in the form of the direct connector as well as a physical separation between the northbound SR-241 to westbound SR-91 and the northbound SR-241 to eastbound SR-91 general purpose lane connectors.

The actual accident rates for southbound SR-241 are lower than the statewide average accident rates. Of the five segments, only two segments had accidents, with only a single incident occurring at each segment over the course of the 3-year span.

SR-91 Westbound and Eastbound Ramps (at Gypsum Canyon Road)

The actual accident rates at the SR-91/Gypsum Canyon Road ramps are lower than the statewide average accident rates. Of the six ramps, only three ramps had accidents, with only a single incident occurring at each ramp over the course of the 3-year span.

The Proposed Project's geometry at the ramps includes a number of design features. Although the proposed design features do not typically correlate to an increased number or severity of collisions, the proposed geometry conforms with comfortable speed design and includes safety features to minimize potential collisions at the ramps.

The eastbound SR-91 total actual accident rate is above the statewide average rate from PM 16.20–16.95 due to a higher number of collisions and collisions involving injuries. The highest concentration of accidents occurred at the following three segments, each ranging between 40 and 82 accidents over the course of the 3-year span:

- PM 16.20 and 16.45
- PM 16.45 and 16.70
- PM 16.70 and 16.95

The highest percentage of reported accidents for the westbound and eastbound SR-91 segments listed above are rear-end type collisions, followed by sideswipe collisions. Rear-end collisions are typically associated with congested traffic conditions when a roadway has exceeded traffic capacity. Sideswipe collisions are attributed to lane weaving in congested areas. The collision history does not correlate to any existing nonstandard features.

The Proposed Project would provide increased capacity and reduced traffic congestion. Although mandatory design exceptions are proposed along the eastbound SR-91 mainline, they are either existing conditions which are being maintained or maintained and improved. Advisory design exceptions are not being introduced to the SR-91 mainline. The Proposed Project is not anticipated to contribute to any increase in the number or severity of collisions.

SR-241 Mainline

The actual accident rates on northbound SR-241 are generally lower than the statewide average accident rates. However, that total accident rate is above the statewide average rate from PM 37.85–38.10 due to a higher number of collisions and collisions involving injuries. The fatality and injury rate is also above the statewide average rate from PM 37.85–38.10 and only slightly above the statewide average from PM 38.10–38.35 and PM 38.35–38.60. In total, SR-241 in the Project Area had only three collisions, which makes it difficult to draw a correlation between the collisions and an existing deficiency.

The highest percentage of reported accidents for northbound SR-241 are rear-end type collisions, followed by sideswipe collisions. Rear end and sideswipe collisions can be attributed to the steep downhill topography of the northbound SR-241, which requires significant breaking and weaving onto the SR-91 and which creates a scenario for potential future collisions.

The Proposed Project does not introduce any design exceptions to SR-241, and would reduce the merge and weaving conditions by adding additional capacity in the form of the direct connector as well as a physical separation between the northbound SR-241 to westbound SR-91 and the northbound SR-241 to eastbound SR-91 general purpose lane connectors.

The actual accident rates for southbound SR-241 are lower than the statewide average accident rates. Of the five segments, only two segments had accidents, with only a single incident occurring at each segment over the course of the 3-year span.

SR-91 Westbound and Eastbound Ramps (at Gypsum Canyon Road)

The actual accident rates at the SR-91/Gypsum Canyon Road ramps are lower than the statewide average accident rates. Of the six ramps, only three ramps had accidents, with only a single incident occurring at each ramp over the course of the 3-year span.

The Proposed Project's geometry at the ramps includes a number of design features. Although the proposed design features do not typically correlate to an increased number or severity of collisions, the proposed geometry conforms with comfortable speed design and includes safety features to minimize potential collisions at the ramps.

1.2.2.2 Roadway Deficiencies

Roadway deficiencies are described below. These deficiencies negatively affect traffic flow and worsen an already congested SR-91 during peak hours. They also affect traffic flow on northbound SR-241.

Northbound vehicles on SR-241 cannot access the eastbound *91 Express Lanes*. Access from northbound SR-241 to eastbound SR-91 is provided by means of a two-lane connector that merges with the SR-91 general purpose lanes.

Westbound SR-91 Express Lane motorists cannot access southbound SR-241. Access from westbound SR-91 to southbound SR-241 is provided by means of a two-lane connector that diverges from the general purpose lanes.

Long queues of vehicles are frequent on the northbound SR-241 connector to the eastbound SR-91 general purpose lanes during PM peak hours (also refer to the percent unserved in general purpose lanes, Table 1.3, between Gypsum Canyon Road and the SR-241 ramp [northbound SR-241 to eastbound SR-91]). The demand exceeds capacity and, as a result, motorists travel in the lane designated for westbound SR-91 and then change lanes right before the two connectors separate into the lane designated for eastbound SR-91 (i.e., inappropriately "queue jump") during congested traffic periods, which causes unsafe conditions. A barrier is needed between the existing northbound SR-241/eastbound SR-91 and the northbound SR-241/westbound SR-91 general purpose connectors to prevent vehicles traveling on the westbound SR-91 general purpose connector to "queue jump" into the eastbound SR-91 general purpose connector.

1.2.2.3 Social Demands or Economic Development

Regional Plans

Growth management and control plans and programs in the Study Area include the SCAG RTP/Sustainable Communities Strategy (SCS), the Orange County Congestion Management Program (CMP), Master Plan of Arterial Highways (MPAH), and the Long Range Transportation Plan (LRTP).

Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, established the objective of reducing greenhouse gas (GHG) emissions in California to 1990 levels by 2020. AB 32 delegated to the California Air Resources Board (ARB) the responsibility to develop regulations to achieve the GHG emissions reduction goal. In the AB 32 Scoping Plan, ARB adopted a set of control strategies for different industries and sectors to achieve the required GHG emissions reduction goal. The AB 32 Scoping Plan identifies a five million metric ton reduction in GHG emissions reduction from regional transportation sources throughout the State. In addition, the AB 32 Scoping Plan identified other substantial GHG emissions reductions required to be achieved from California's motor vehicle emissions standards.

Subsequent to the enactment of AB 32, the Legislature adopted Senate Bill (SB) 375, the Sustainable Communities and Climate Protection Act of 2008, to establish detailed requirements for reducing regional transportation GHG emissions through the regional transportation planning process, applicable to local, regional and State transportation projects. ARB adopted regional GHG reduction targets for each Metropolitan Planning Organization (MPO) in California (e.g., SCAG) through a SCS adopted by the MPO. The SCS is a GHG reduction plan that is coordinated with the RTP prepared by the MPO that is consistent with the regional housing needs that are also determined by the MPO.

The SCAG Region incorporated its SCS into the 2012–2035 and the 2016–2040 RTP/SCS to ensure consistency between the region's transportation plan and land use strategies to reduce GHG emissions from motor vehicles. The SCAG 2012–2035 RTP/SCS includes a strong commitment to reduce emissions from transportation sources to comply with AB 32 and SB 375, improve public health, and meet the National Ambient Air Quality Standards as set forth by the federal Clean Air Act. As such, both the 2012–2035 and the 2016–2040 RTP/SCS include transportation and land use strategies to reduce air emissions, including GHG emissions. These programs are designed to reduce congestion, increase access to public transportation, reduce trips and shorten trips, and enhance coordination between land use and

transportation decisions. The RTP/SCS also contains a regional commitment for the broad deployment of zero- and near-zero emission transportation technologies in the 2023–2035 time frame and clear steps to move toward this objective. Both the 2012–2035 and the 2016–2040 RTP/SCS put forth an aggressive strategy for technology development and deployment to achieve this objective. This strategy will have many co-benefits, including energy security, cost certainty, increased public support for infrastructure, greenhouse gas reduction, and economic development. Regional freeway projects outlined in the RTP/SCS include improvements to SR-241 and SR-91 in the Study Area. These freeway improvements in concert with rail, transit, and active transportation improvements, and land use planning programs will meet federal air quality standards and comply with AB 32 and SB 375.

The Orange County CMP was required as a result of AB 471, and as subsequently modified by AB 1791, which requires urbanized cities with a population of 50,000 or more to adopt a CMP. The program requirement became effective when Proposition 111, which increased the State Gas Tax by nine cents over a 5-year period, was enacted by the voters in June 1990. The CMP also contributes to federal Congestion Management System (CMS) requirements, which work towards a systematic process to manage congestion and provide information to decision-makers on transportation system performance and alternative strategies for alleviating congestion and enhancing the mobility of persons and goods. This database of information on congestion can then be used for selecting and implementing cost-effective strategies to manage new and existing facilities. The CMS also establishes performance measures to identify and monitor the extent of both recurring and non-recurring congestion and the effectiveness of congestion reduction and mobility enhancement strategies. The goals of Orange County's CMP are to support regional mobility and air quality objectives by reducing traffic congestion; to provide a mechanism for coordinating land use and development decisions that support the regional economy; and to determine gas tax fund eligibility. To meet these goals, the CMP contains a number of policies designed to monitor and address system performance issues. OCTA developed the policies that constitute Orange County's CMP in coordination with local jurisdictions, Caltrans, and the South Coast Air Quality Management District (SCAQMD). Required elements identified in the CMP in the Study Area include highway level of service standards, transit service, transportation demand management, Land Use Impact Analysis, and Capital Improvement Programs (CIP). Although the passage of AB 2419 (statutes of 1996) provided an opportunity to opt out of the CMP process, OCTA's Board of Directors elected to continue with it, and

the CMP remains relevant as a requirement for local jurisdictions to receive Measure M2 funds.

The MPAH was established by the County of Orange in 1956. The purpose of this plan is to ensure that a regional highway network would be planned, developed, and preserved in order to improve the County of Orange's existing freeway system. Improvements included as part of the Proposed Project are consistent with street classifications and proposed interchange locations identified by the MPAH.

The LRTP established by the OCTA outlines a vision for multimodal transportation improvements throughout the County of Orange. These projects, programs, and improvements are designed to address the transportation needs of the County of Orange residents, commuters, and visitors for the next 25 years. OCTA prepares the LRTP every four years to account for new planning efforts, as well as changes in demographics, economic conditions, and available sources of transportation funding and submits the LRTP to SCAG for inclusion into the RTP/SCS. The Proposed Project is included in the 2014 LRTP's Preferred Plan Freeway Projects.

Local Plans

The Land Use Elements in the General Plans for the jurisdictions in the Study Area identify the future planned land uses. A description of General Plan land uses by jurisdiction is provided in Table 1.6. The data were compiled into general land use designations for consistency throughout the various jurisdictions.

Much of the developable land in the Study Area and vicinity is either already developed or has development entitlements. Although the area in the southeast quadrant of the SR-241/SR-91 interchange is covered under the Mountain Park Specific Plan (MPSP), in August 2014, the Irvine Company permanently dedicated to the County of Orange the final 2,500 acres of land in the area of the City of Anaheim's MPSP as permanent open space. Therefore, no further development under the MPSP will occur.

Several infrastructure projects are underway in the land use Study Area and vicinity along SR-91, the Burlington Northern Santa Fe (BNSF) Railway, and along the Santa Ana River. As discussed in Section 1.1.1, the SR-91 CIP Initial Phase contributes to the need for a direct connection between the SR-241 and the *91 Express Lanes*.

Table 1.6 General Plan Land Use

Jurisdiction	General Plan Land Use
County of Orange	Unincorporated County of Orange land in the Study Area is designated in the County General Plan as Open Space/Recreation, which provides for limited land uses that do not require substantial urban infrastructure.
County of Riverside	The most common County of Riverside General Plan designations in the Study Area are Rural and Open Space land use designations. Other land use designations include residential and commercial.
City of Anaheim	The land uses in and adjacent to the Study Area are designated Residential and Open Space/Recreation. The Open Space/Recreation designation in the City of Anaheim's General Plan is for areas intended to remain in natural open space, utility easements that provide recreational access, landscaped freeway remnant parcels, and land areas surrounding major water features. The City's General Plan designates these areas south of SR-91 and on each side of SR-241 for residential uses. The MPSP generally guides development in this part of the City; however, the final 2,500 acres of land in the area of the City's MPSP was dedicated to the County of Orange as permanent open space in August 2014.
City of Yorba Linda	The City of Yorba Linda's land use designations in the Study Area consist of Residential, Open Space/Recreation, Industrial, and Commercial/Office uses.
City of Orange	The City of Orange's General Plan designates the area southwest of the SR-241/ SR-91 interchange for both Residential and Open Space/Recreational uses.
City of Corona	The planned land uses along SR-91 in the City of Corona include Residential, Mixed-Use, Industrial, Commercial, and Open Space/Recreation.

Source: Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy GIS Data (2012).
GIS = geographic information system
MPSP = Mountain Park Specific Plan
SR-91 = State Route 91
SR-241 = State Route 241

1.2.2.4 Modal Interrelationships and System Linkages

Information concerning related projects provides contextual information for the Proposed Project and identifies how the transportation agencies have coordinated transportation planning efforts. The Proposed Project would be implemented in a manner that is consistent with other programmed and planned improvements such as the SR-91 CIP. The Proposed Project is designed to connect directly to the *91 Express Lanes* and would be compatible with the approved SR-91 CIP for both the initial and ultimate configurations.

The Proposed Project is an important linkage between tolled systems in the County of Orange and would close an important gap between SR-241 and SR-91 and provide a direct linkage from and to tolled facilities. The proposed connectivity between SR-241 and SR-91 was always included in the regional transportation plans as part of the ETC project.

The existing public transit linkages between the counties of Riverside and Orange are bus and commuter rail. Metrolink commuter rail services between the counties of Riverside and Orange operate on railroad tracks owned by BNSF. Metrolink commuter rail service between the two counties is nearing capacity on existing

equipment. As identified in the Major Investment Study Locally Preferred Strategy (MIS LPS), all transit components in the SR-91 CIP Study Area (which overlap with the Proposed Project Study Area) were to be maximized as part of all future transportation improvements. As part of the MIS process, Caltrans, OCTA, and RCTC are evaluating transit improvements in the Project Area through coordination with elected officials, interested stakeholders, and other public outreach. Buses would benefit from the lack of congestion on tolled lanes. The Proposed Project would substantially improve conditions on the tolled lanes, providing opportunities for expansion of future bus services.

Express bus service operating on SR-91 provides connections from the County of Riverside to employment centers in the cities of Anaheim, Costa Mesa, Fullerton, and Irvine in the County of Orange. OCTA Route 794 operates between the Galleria at Tyler in Riverside (near the La Sierra Metrolink station) to South Coast Metro in Costa Mesa. Riverside Transit Agency (RTA) Route 216 operates between the Riverside Downtown Terminal and the Village at Orange. Increase in vehicle throughput on SR-91 in the Project Area would improve bus service.[1] Increase in vehicle throughput on SR-91 in the Project Area would improve bus service.

1.2.2.5 Air Quality Improvements

The Proposed Project is identified in the 2019 FTIP as a proposed Transportation Control Measure. The Proposed Project provides a regional benefit to air quality by (1) reducing the traffic delay in the general purpose lanes[1] on SR-91 through the elimination of weaving movements, especially during peak hours; (2) maintaining the attractiveness of toll facilities/managed lanes through increasing the efficiency of facility-to-facility transition;[2] and (3) providing additional capacity for HOVs and buses.

1.3 Independent Utility and Logical Termini

The project limits for the Proposed Project were defined based on providing a logical and independent set of improvements. Logical termini are defined as rational end points for transportation improvement and analysis of the potential environmental impacts of a proposed project. A project is defined as having independent utility if it

1 Orange County Transportation Authority. Website: http://www.octa.net/Bus/Routes-and-Schedules/eBusbook/eBusbook-February-2016/.

2 Riverside Transit Agency. Website: http://www.riversidetransit.com/index.php/riding-the-bus/maps-schedules.

meets the project purpose in the absence of other improvements in the project segment or in other parts of the corridor.

1.3.1 Logical Termini

The Proposed Project provides logical termini for the proposed improvements to SR-241 and SR-91 because it provides for direct connections between major transportation facilities (the tolled lanes on SR-241 and the *91 Express Lanes*), which themselves are destinations of major traffic volumes. The Proposed Project would tie into the northern terminus of SR-241 and the western limits of the SR-91 CIP Initial Phase. Because it would provide connections to toll lanes on existing freeways in the Study Area (i.e., direct connection from SR-241 toll lanes to the *91 Express Lanes*), those connection points are logical termini for the express lanes connector.

1.3.2 Independent Utility

The Proposed Project would have independent utility. It would provide benefits to the traveling public without requiring or being dependent on the provision of additional future improvements on SR-91, SR-241, or other freeways or arterials. The Proposed Project would benefit travelers as they advance between the tolled express lanes on SR-91 and SR-241. The Proposed Project is being designed to connect to the SR-91 CIP Initial Phase, which has been constructed; however, it is not dependent on the SR-91 CIP Initial Phase. If the SR-91 CIP Initial Phase had not been constructed, the Proposed Project connector would still be needed to provide a direct connection from SR-241 to the existing *91 Express Lanes*. The Build Alternative represents a reasonable expenditure even if no additional transportation improvements are made in the corridor. This Build Alternative can be implemented in the absence of any additional improvements, and it does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements in the SR-241/SR-91 corridor. Because the Build Alternative meets the project purpose regardless of other proposed improvements in the SR-241/SR-91 corridor, the Proposed Project would have independent utility.

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Chapter 2 Project Alternatives

2.1 Project Description

This section describes the proposed action and the alternatives developed to meet the Purpose and Need of the Proposed Project, while avoiding or minimizing environmental impacts. The alternatives are the Build Alternative and the No Build Alternative.

The Proposed Project, located at the junction of State Route 241 (SR-241) and State Route 91 (SR-91) in the cities of Anaheim, Yorba Linda, and Corona, and the counties of Orange and Riverside, would provide improved access between SR-241 and SR-91, and is proposed to be a tolled facility. The proposed median-to-median connector project encompasses 12-ORA-241 (Post Mile [PM] 36.1/39.1), 12-ORA-91 (PM 14.7/18.9), and 08-RIV-91 (PM 0.0/1.5) for a total length of approximately 8.7 miles (mi).

The improvements for the connector include 5.9 mi in the cities of Anaheim and Yorba Linda and unincorporated Orange County, from south of Windy Ridge Wildlife Undercrossing on SR-241 to Coal Canyon Undercrossing on SR-91. The remaining 2.8 mi of the Proposed Project include signage improvements (advance signage) in the cities of Anaheim (1.2 mi), Yorba Linda (0.1 mi), and Corona (1.5 mi) and unincorporated Orange and Riverside counties, with exact placement of the signage pending the Final Design process. Approximately 0.34 mi of restriping only (no physical improvements) would occur from Coal Canyon Undercrossing east on SR-91 in order to tie in with the current Riverside County Transportation Commission (RCTC) striping. The Proposed Project is mostly within existing California Department of Transportation (Caltrans) right-of-way, with one partial acquisition required adjacent to eastbound SR-91. Construction access and staging areas would occur within existing Caltrans right-of-way. The area where the partial acquisition would be located, adjacent to eastbound SR-91, would be used for construction access but not for construction staging.

The objectives of the Proposed Project are to implement the buildout of the Eastern Transportation Corridor (ETC), attain compatibility with the SR-91 mainline and *91 Express Lanes* configuration, improve operations and traffic flow between the *91 Express Lanes* and the SR-241 general-purpose connectors, help achieve the Regional Mobility Plan goals of reducing emissions from transportation sources,

and enhance the efficiency of the tolled system, thereby reducing congestion on the non-tolled system on the SR-91. The Proposed Project is needed to provide a direct connection between SR-241 and the *91 Express Lanes* to accommodate the buildout of the ETC as well as existing and future transportation demand.

2.2 Project Alternatives

The proposed median-to-median connector is a later phase of the ETC project, previously approved in 1994. It was originally evaluated as a SR-241/SR-91 high-occupancy vehicle (HOV) direct connector in the 1991 ETC Draft Environmental Impact Report/Environmental Impact Statement (Draft EIR/EIS), 1992 ETC Final EIR, and the 1994 ETC Final EIS (all of which studied a broader Project Area with improvements on State Route 133 [SR-133], SR-241, and State Route 261 [SR-261]).

To implement this later phase of the ETC, this Supplemental EIR/EIS has been prepared to:

- Focus on the northern end of the original project;
- Address changes to environmental conditions and regulatory requirements; and
- Address the extended Project Limits on SR-91 to the east; and
- Comply with 23 Code of Federal Regulations (CFR) 771.129(b): "*A written evaluation of the final EIS will be required before further approvals may be granted if major steps to advance the action (e.g., authority to undertake final design, authority to acquire a significant portion of the right-of-way, or approval of the plans, specifications, and estimates) have not occurred within three years after the approval of the final EIS."* Because the SR-241/SR-91 Express Lanes Connector design was postponed longer than 3 years after the ETC Final EIS approval, the median-to-median connector is required to be re-evaluated in compliance with National Environmental Policy Act (NEPA).

This Supplemental EIR/EIS includes a No Build and only one Build Alternative (Preferred Alternative) for the median-to-median connector for the following reasons:

- The median-to-median connector is a component of a previously approved project and alternative selected during the 1992 EIR Certification and 1994 Record of Decision (ROD) for the original ETC project;
- Various alternatives were studied for the previously approved project that included consideration of a reasonable range of potentially feasible alternatives; and

- There are limited locations for a median-to-median connector between SR-241 and SR-91.

2.2.1 Build Alternative (Two-Lane Tolled Express Lanes Connector): Identification of a Preferred Alternative

The Build Alternative would construct a two-lane tolled express lane median-to-median connector between SR-241 and SR-91, which would connect lanes from the median of northbound SR-241 to the existing eastbound median *91 Express Lanes* and the reverse movement from the westbound median *91 Express Lanes* to the median of southbound SR-241. The connector would be tolled. The Build Alternative is shown in Figure 2.1.

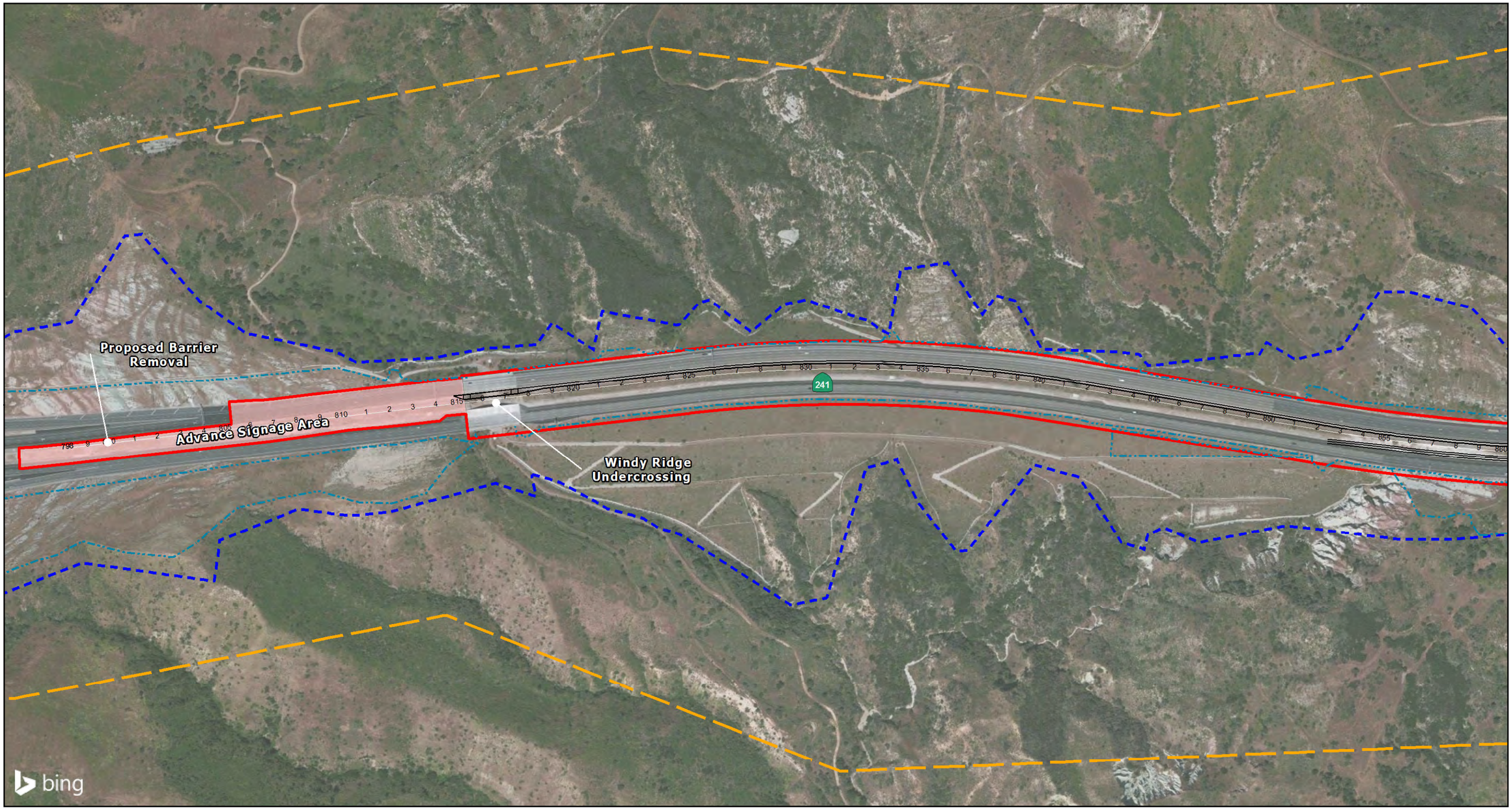
The Build Alternative would merge into the existing Orange County Transportation Authority (OCTA) *91 Express Lanes* at Coal Canyon Undercrossing. The RCTC's SR-91 Corridor Improvement Project (CIP) Initial Phase extended the express lanes on SR-91 east to Interstate 15 (I-15) and opened to traffic on March 20, 2017. The Build Alternative is compatible with the approved SR-91 CIP for both the initial and ultimate configurations, including the number and widths of the express lanes, express auxiliary lanes, and general-purpose lanes.

On March 24, 2016, the Project Development Team evaluated the Build Alternative and the No Build Alternative to develop a recommendation to Caltrans for the Preferred Alternative. Due to the fact that there was only one Build Alternative, no systematic criteria were developed to compare the Build Alternative to the No Build Alternative. However, the reasons for selecting the Build Alternative as the Preferred Alternative include:

- Meeting the project Purpose and Need
- Consistency with the planned facility
- Consistency with regional transportation and air quality planning

In addition, the environmental impacts of the Build Alternative were in an acceptable range (all adverse environmental impacts can be avoided, minimized, or mitigated) when compared to the No Build Alternative. The Build Alternative would implement the selected alternative in the ETC Final EIR and ROD for the Final EIS.

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LEGEND

- Project Area (Physical Improvements)
- Advance Signage Areas
- ETC EIR/EIS Project Area
- Existing Caltrans Right-of-Way
- Proposed Right-of-Way
- Existing Wildlife Fencing
- Proposed Roadway
- Proposed Grading Limits (Slope and Access Road)
- Proposed Bridge Structure
- Proposed Retaining Wall
- Station Line
- Proposed Construction Access
- Proposed Construction Staging Area
- Proposed Biofiltration Swale
- Proposed Media Filter
- Proposed Storm Drain Pipe
- Proposed Storm Drain Swale
- Proposed Storm Drain Structure

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SOURCE: Bing (2014); RBF (3/2016)

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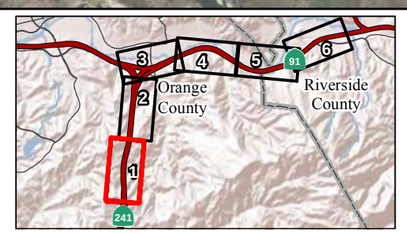
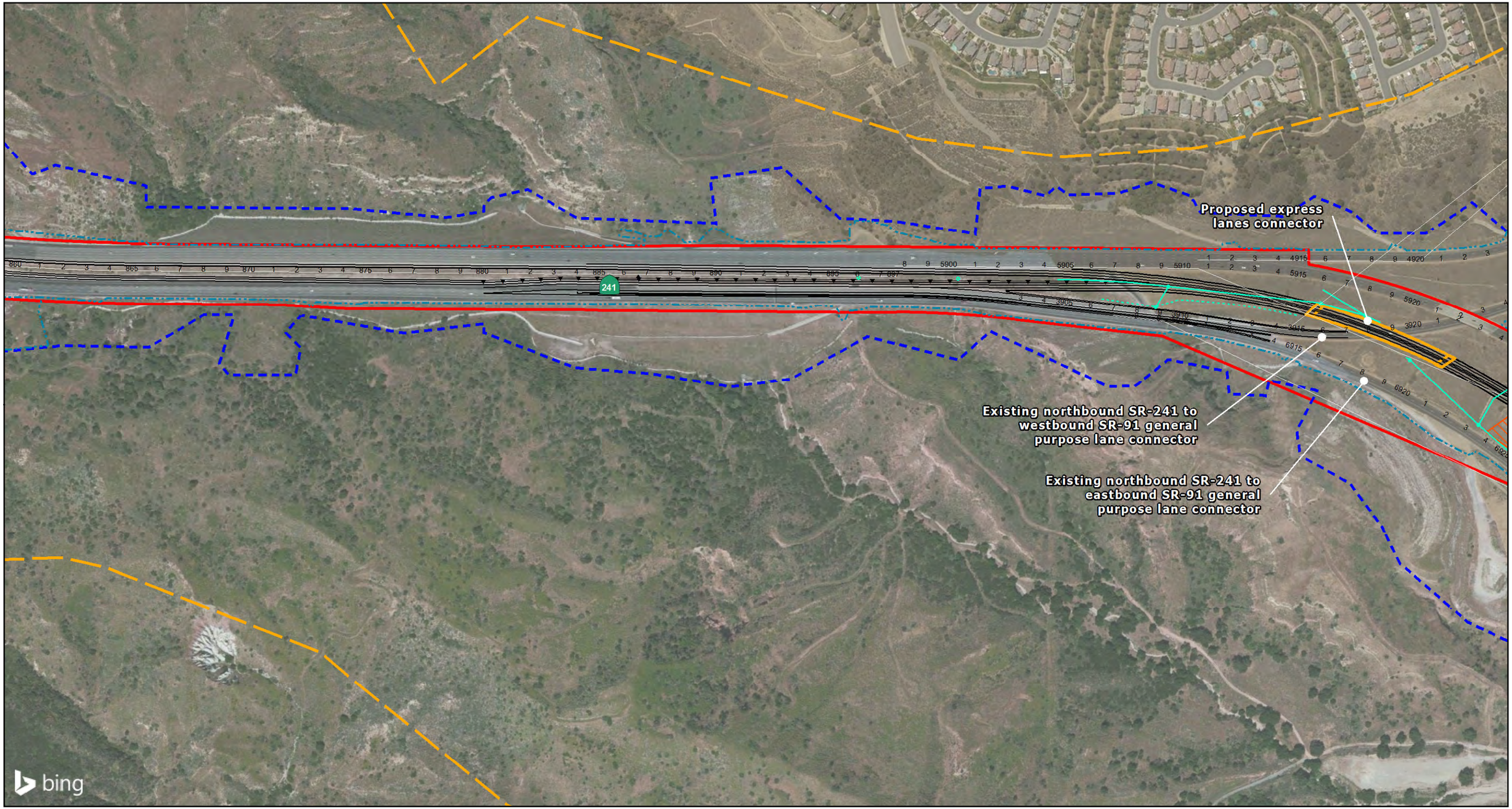


FIGURE 2.1
Sheet 1 of 6

SR-241/SR-91 Express Lanes Connector
Build Alternative (Preferred Alternative)

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LEGEND

- Project Area (Physical Improvements)
- Advance Signage Areas
- ETC EIR/EIS Project Area
- Existing Caltrans Right-of-Way
- Proposed Right-of-Way
- Existing Wildlife Fencing
- Proposed Roadway
- Proposed Grading Limits (Slope and Access Road)
- Proposed Bridge Structure
- Proposed Retaining Wall
- Station Line
- Proposed Construction Access
- Proposed Construction Staging Area
- Proposed Biofiltration Swale
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- Proposed Storm Drain Pipe
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- Proposed Storm Drain Structure

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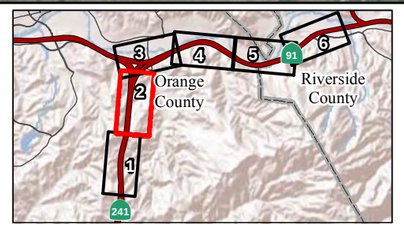


FIGURE 2.1
Sheet 2 of 6

SR-241/SR-91 Express Lanes Connector
Build Alternative (Preferred Alternative)

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Gypsum Canyon Rd

Advance Signage Area

Existing westbound SR-91 to southbound SR-241 general purpose lane connector

Existing northbound SR-241 to westbound SR-91 general purpose lane connector

Existing eastbound SR-91 to southbound SR-241 general purpose lane connector

Proposed express lanes connector

Existing northbound SR-241 to eastbound SR-91 general purpose lane connector

bing

LEGEND

- Project Area (Physical Improvements)
- Advance Signage Areas
- ETC EIR/EIS Project Area
- Existing Caltrans Right-of-Way
- Proposed Right-of-Way
- Existing Wildlife Fencing
- Proposed Roadway
- Proposed Grading Limits (Slope and Access Road)
- Proposed Bridge Structure
- Proposed Retaining Wall
- Station Line
- Proposed Construction Access
- Proposed Construction Staging Area
- Proposed Biofiltration Swale
- Proposed Media Filter
- Proposed Storm Drain Pipe
- Proposed Storm Drain Swale
- Proposed Storm Drain Structure

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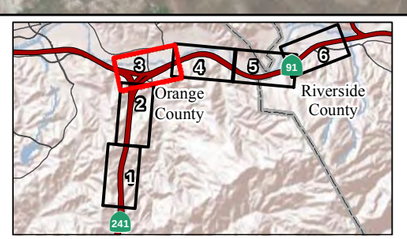
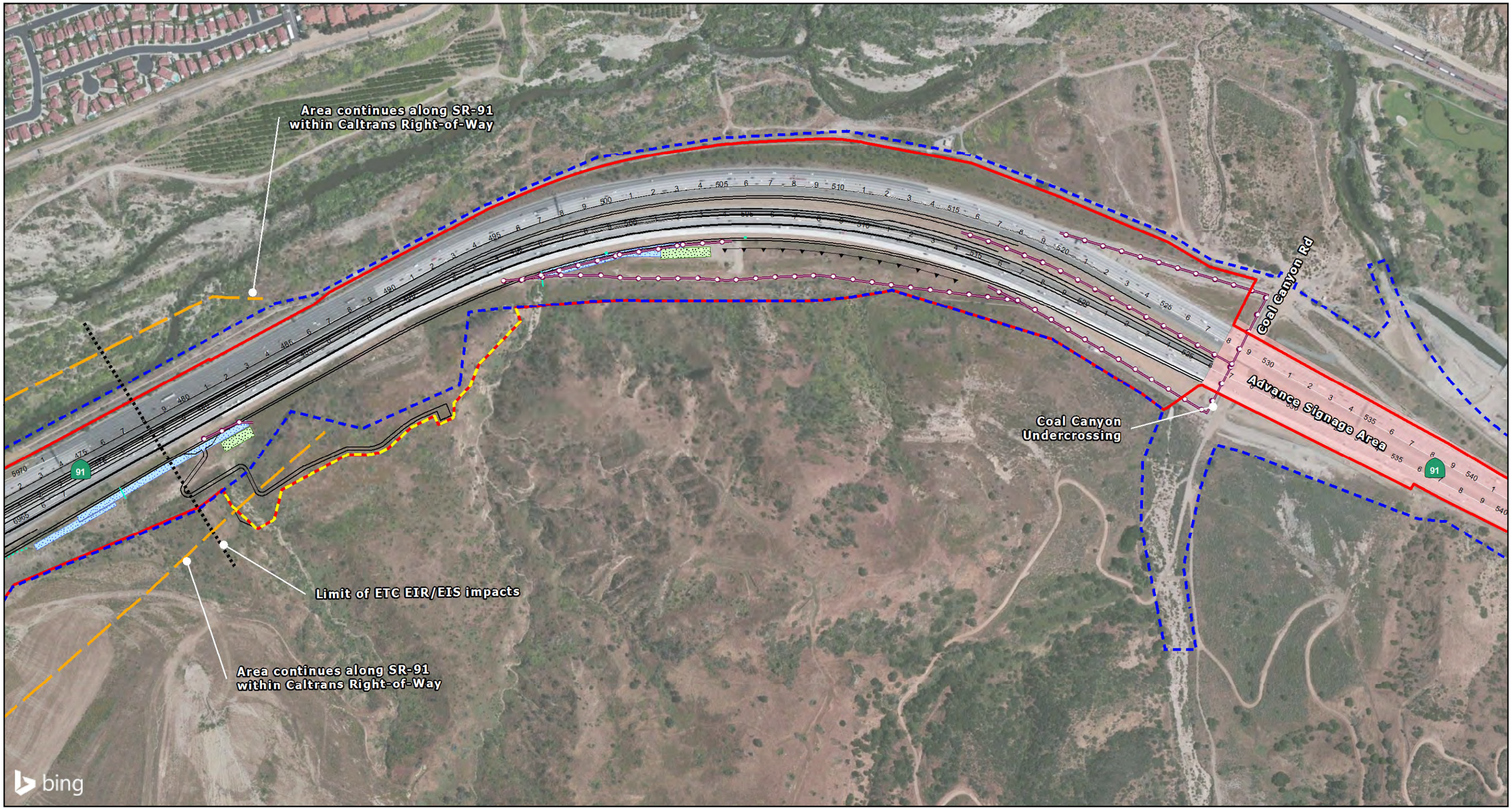


FIGURE 2.1
Sheet 3 of 6

SR-241/SR-91 Express Lanes Connector

Build Alternative (Preferred Alternative)

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LEGEND

- Project Area (Physical Improvements)
- Advance Signage Areas
- ETC EIR/EIS Project Area
- Existing Caltrans Right-of-Way
- Proposed Right-of-Way
- Existing Wildlife Fencing
- Proposed Roadway
- Proposed Grading Limits (Slope and Access Road)
- Proposed Bridge Structure
- Proposed Retaining Wall
- Station Line
- Proposed Construction Access
- Proposed Construction Staging Area
- Proposed Biofiltration Swale
- Proposed Media Filter
- Proposed Storm Drain Pipe
- Proposed Storm Drain Swale
- Proposed Storm Drain Structure

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SOURCE: Bing (2014); RBF (3/2016)

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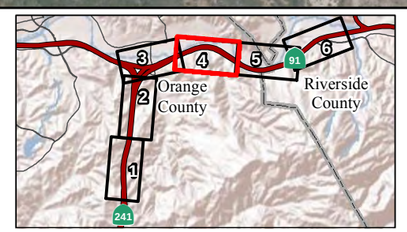
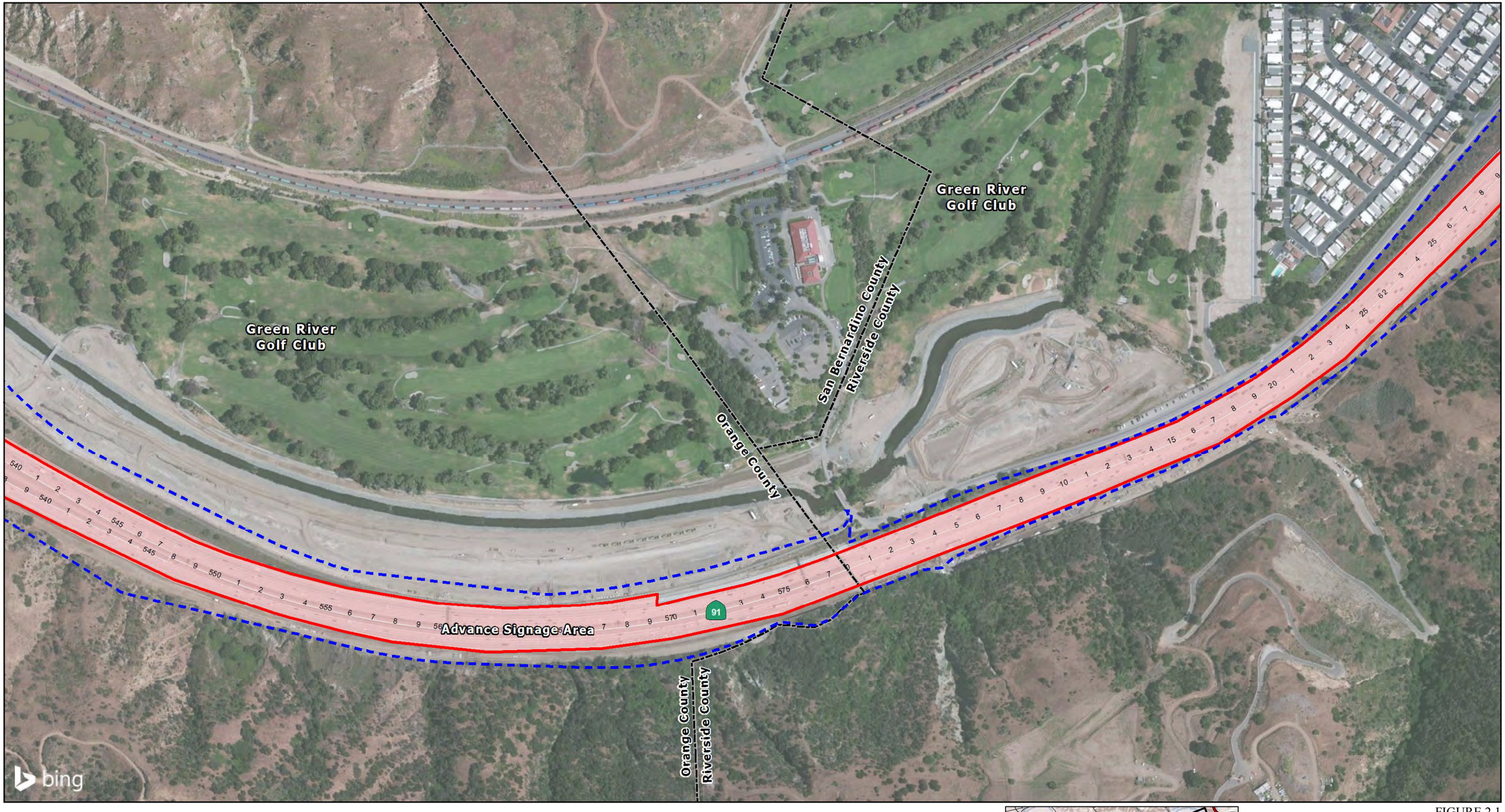


FIGURE 2.1
Sheet 4 of 6

SR-241/SR-91 Express Lanes Connector

Build Alternative (Preferred Alternative)

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LEGEND

- Project Area (Physical Improvements)
- Advance Signage Areas
- ETC EIR/EIS Project Area
- Existing Caltrans Right-of-Way
- Proposed Right-of-Way
- Existing Wildlife Fencing
- Proposed Roadway
- Proposed Grading Limits (Slope and Access Road)
- Proposed Bridge Structure
- Proposed Retaining Wall
- Station Line
- Proposed Construction Access
- Proposed Construction Staging Area
- Proposed Biofiltration Swale
- Proposed Media Filter
- Proposed Storm Drain Pipe
- Proposed Storm Drain Swale
- Proposed Storm Drain Structure

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SOURCE: Bing (2014); RBF (3/2016)

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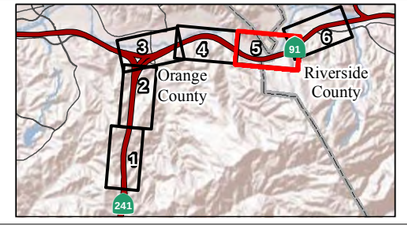


FIGURE 2.1
Sheet 5 of 6

SR-241/SR-91 Express Lanes Connector
Build Alternative (Preferred Alternative)

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LEGEND

- Project Area (Physical Improvements)
- Advance Signage Areas
- ETC EIR/EIS Project Area
- Existing Caltrans Right-of-Way
- Proposed Right-of-Way
- Existing Wildlife Fencing
- Proposed Roadway
- Proposed Grading Limits (Slope and Access Road)
- Proposed Bridge Structure
- Proposed Retaining Wall
- Station Line
- Proposed Construction Access
- Proposed Construction Staging Area
- Proposed Biofiltration Swale
- Proposed Media Filter
- Proposed Storm Drain Pipe
- Proposed Storm Drain Swale
- Proposed Storm Drain Structure

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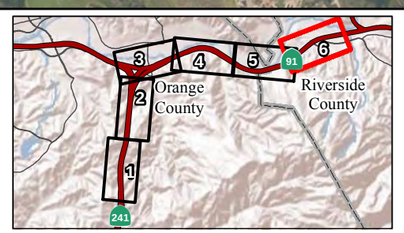


FIGURE 2.1
Sheet 6 of 6

SR-241/SR-91 Express Lanes Connector
Build Alternative (Preferred Alternative)

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While the Build Alternative meets the Proposed Project's Purpose and Need, the identification of it as the Preferred Alternative was also based upon the following factors:

- Various alternatives were studied for the previously approved project that included consideration of a reasonable range of potentially feasible alternatives; and
- There are limited locations for a median-to-median connector between SR-241 and SR-91.

2.2.1.1 Design Features of the Build Alternative (Preferred Alternative)

The Build Alternative and limits of the impact area are depicted on Figure 2.1. The footprint of the Proposed Project (Project Area) includes areas for grading and construction and reconstruction of roadway and bridge facilities. The construction area includes access roads, material storage areas, and areas for the construction of water quality best management practices (BMPs).

The Build Alternative includes implementation of permanent facilities and temporary facilities/activities. Permanent facilities include:

- New lanes and roadway alignment on northbound SR-241, southbound SR-241, eastbound SR-91, and westbound SR-91;
- Striped buffers and channelizers;
- Ramp realignment;
- Bridge structures and bridge widenings;
- Graded slopes;
- Guard railing/barriers;
- Retaining walls;
- Advance signage;
- Water Quality BMPs;
- Drainage system improvements;
- Landscaping; and
- Transportation System Management (TSM)/Transportation Demand Management (TDM) Features.

Temporary activities and facilities include:

- Temporary restriping;
- Construction barriers;
- Detours and closures;
- Construction access and staging areas; and
- Utilities.

The following sections describe the permanent and temporary features of the Build Alternative in detail.

2.2.1.2 Permanent Project Features

New Lanes and Roadway Alignment

Improvements on Southbound SR-241

On southbound SR-241, an additional lane and shoulder would be provided by widening Windy Ridge Wildlife Undercrossing into the existing median and improving the highway median for approximately 10,000 feet (ft) to the north (Figure 2.1, Sheet 1).

Improvements on Northbound SR-241

Starting approximately 3,700 ft north of the Windy Ridge Wildlife Undercrossing, an additional lane and shoulder would be provided by widening into the existing highway median for approximately 5,000 ft. The two express (northbound and southbound) connector lanes would converge in the existing SR-241 median on fill for approximately 800 ft. The connector then spans over the existing northbound SR-241 to the westbound SR-91 general-purpose lane connector and the SR-91/ Gypsum Canyon Road interchange on two new bridge structures approximately 570 ft and 1,590 ft in length, respectively, to merge in the median of SR-91 (Figure 2.1, Sheets 2 and 3).

Improvements on Eastbound SR-91

To accommodate the addition of the median-to-median connector, eastbound SR-91 would be realigned to the south (Figure 2.1, Sheets 3 and 4). The northbound SR-241 to eastbound *91 Express Lanes* connector would continue on eastbound SR-91, ending approximately 1,000 ft west of Coal Canyon Undercrossing. An eastbound auxiliary express lane would be constructed within the *91 Express Lanes*. The proposed auxiliary express lane would begin approximately 2,000 ft east of Gypsum Canyon Road Undercrossing to Coal Canyon Undercrossing joining the initial phase of the SR-91 CIP at Coal Canyon Undercrossing. These improvements would provide

a four-lane express lane facility, tapering down to three lanes between the connector and Coal Canyon Undercrossing. The number of existing eastbound SR-91 general-purpose lanes would be maintained within the project limits. The eastbound *91 Express Lanes* would have a 4 ft buffer on the right separating the general-purpose lanes, and a 4 ft buffer to the left separating the express connector lane. The buffers would transition to 0 ft to join the SR-91 CIP at the eastern terminus of the Project Limits (Figure 2.1, Sheets 3 and 4). Approximately 4,500 ft west of Coal Canyon Undercrossing, grading into an existing slope on the south side of SR-91 would be required to accommodate the realigned eastbound SR-91 lanes (Figure 2.1, Sheet 4). The grading would span approximately 1,300 ft along eastbound SR-91. A maintenance access road would be provided along the edge of slope grading. The purpose of the access road is to maintain the slope and facilitate a smooth and seamless transition where natural and built slopes intersect.

Improvements on Westbound SR-91

At the eastern terminus of the Project, the westbound *91 Express Lanes* would be restriped and the median widened to accommodate the addition of the express connector lane within the *91 Express Lanes* to the southbound SR-241 median-to-median connector. The connector lane would begin approximately 1,000 ft west of Coal Canyon Undercrossing and extend west for approximately 4,500 ft in the SR-91 median ending at the express lanes connector. The auxiliary express lane at the SR-91 CIP connection would be extended in the westbound direction ending 2,000 ft west of Coal Canyon Undercrossing. These improvements would provide a four-lane overlap section along westbound SR-91 for approximately 1,000 ft. This 1,000 ft overlap would accommodate weaving between traffic accessing the southbound SR-241 median-to-median connector and the westbound *91 Express Lanes*. The existing eastbound SR-91 lanes would be shifted to the south (Figure 2.1, Sheets 3 and 4).

Striped Buffers and Channelizers

The Build Alternative would provide a striped buffer with surface mounted channelizers to separate the SR-91 general-purpose lanes from the *91 Express Lanes* and a new striped buffer with surface mounted channelizers to separate the eastbound express lane connector lane from the *91 Express Lanes*. The eastbound express lane buffers would taper from 0 to 4 ft and the westbound express lane buffers would taper from 0 to 2 ft.

Ramp Realignment

The SR-91/Gypsum Canyon Road eastbound on and off-ramps and the northbound SR-241 to eastbound SR-91 general-purpose connector would be realigned to accommodate the SR-91 realignment due to the addition of the median-to-median connector. A design variation for this interchange is a roundabout configuration.

Bridge Structures and Bridge Widening

Two new overcrossing structures would be constructed as part of the express lanes connector and two existing bridges would be widened as follows:

- **SR-241/SR-91 Express Lanes Connector:** Two new structures would connect traffic from northbound SR-241 to eastbound SR-91 and from westbound SR-91 to southbound SR-241. Both directions of travel would be on one connector (Figure 2.1, Sheets 2 and 3).
- **Gypsum Canyon Undercrossing Widening:** On eastbound SR-91, the existing Gypsum Canyon Undercrossing would be widened to the south.
- **Windy Ridge Wildlife Undercrossing Widening:** On southbound SR-241, the Windy Ridge Wildlife Undercrossing would be widened to the east.

All structures would be constructed using a cast-in-place, pre-stressed, concrete box girder.

Graded Slopes

Manufactured fill slopes would not exceed a 4:1 ratio. Manufactured cut slopes would not exceed a 2:1 ratio. Graded slopes would be contoured consistent with the existing topography, and would be seeded with native plant species consistent with existing vegetation.

Guard Rails/Barriers

Additional pavement would be added on SR-241 between the existing lanes designated for the northbound SR-241 to the westbound SR-91general-purpose connector and the existing lanes designated for the northbound SR-241 to the eastbound SR-91 general-purpose connector to accommodate a barrier separation to prevent vehicles traveling in the northbound SR-241 to westbound SR-91 general-purpose connector lanes to "queue jump" into the eastbound SR-91 general-purpose connector lanes. This feature would improve traffic flow on the SR-241. Sufficient pavement width is proposed to accommodate a standard concrete barrier; however, initially, pavement delineation and signing will be implemented to delineate the separation. In the future, a standard concrete barrier will be installed if required.

As shown on Figure 2.1, Sheet 1, an existing barrier along the inside shoulder of north SR-241 (just south of the Windy Ridge Undercrossing) would be removed to allow for advance signage.

Retaining Walls

Four new retaining walls are required for the Proposed Project. One wall would be constructed in the median of SR-241 to support median widening and to accommodate the future addition of a southbound lane per the ETC ultimate plan (Figure 2.1, Sheet 2). This wall would be approximately 2,900 ft long and up to 15 ft high. Two mechanically stabilized earth (MSE) retaining walls would be constructed in the median of SR-91 to support the connector as it transitions to an elevated structure (Figure 2.1, Sheet 3). These walls would be approximately 1,350 ft long and up to 15 ft high, but views would be blocked by the existing structures associated with the junction of SR-241 and SR-91. One retaining wall would be constructed adjacent to eastbound SR-91, approximately 2,200 ft west of Coal Canyon Undercrossing and would be approximately 1,025 ft long and up to 28 ft high (Figure 2.1, Sheet 4). However, this retaining wall would face vacant land to the south; only the top 3 ft of the retaining wall cap would be visible from SR-91.

In the median of SR-91, a retaining wall barrier system would be constructed to replace the existing retaining wall barrier system to accommodate the realignment of eastbound SR-91 (Figure 2.1, Sheet 3). The replacement median retaining wall barrier system would be of the same type and height and would not change the current views.

Advance Signage

On SR-241 at the southern end of the project limits, signage would be modified approximately 0.2 mi south of the Windy Ridge Wildlife Undercrossing. In addition, signage improvements would also be made on SR-91 between Coal Canyon Undercrossing and Green River Road and west of SR-241 within the existing median and highway footprint. The advance signage areas are depicted on Sheets 1 and 3 through 6 of Figure 2.1.

Water Quality Best Management Practices

The Proposed Project would implement the Caltrans-approved Treatment and Design Pollution Prevention best management practices (BMPs) to remove pollutants of concern in stormwater runoff to the maximum extent practicable. Design Pollution Prevention BMPs proposed as part of the project include dikes, overside drains, ditches, berms, swales, modifications to the existing storm drain system, the

preservation of existing vegetation, and replanting new slopes with appropriate native vegetation. Proposed Treatment BMPs include five biofiltration swales and strips and two media filters along eastbound SR-91. The locations of the treatment BMPs are shown on Sheets 3 and 4 of Figure 2.1.

Drainage Improvements

New drainage features would be constructed and existing features would be modified along SR-241 and within the junction of SR-241 and SR-91, as shown on Sheets 2 and 3 of Figure 2.1. The improvements include the construction of new drop inlets with connecting pipes, new guard rails with dikes, median drainage, and deck drains; modification of existing drop inlets; replacement of edge drains along SR-241 and SR-91 within the project limits; and removal or abandonment of existing drop inlets and existing culverts. The proposed drainage improvements would be linked to the existing drainage system and would preserve the existing drainage patterns as much as possible, including draining all storm water to the Santa Ana River. The drainage improvements are detailed below.

Widening within the SR-241 median would require reconstruction of the existing earthen swales and drop inlets, and segments of existing culverts would be removed. New drop inlets with connecting pipes would be constructed along the reconstructed earthen swales. In addition, segments of existing ditches and trapezoidal channels would be reconstructed.

The guard rails on the new SR-241/SR-91 median-to-median connector embankments and structures would include dikes to contain stormwater runoff. In addition, new pipes and new drop inlets would be constructed along the median barrier and outside shoulders. Drainage features along the connector would consist of deck drains that collect and convey runoff to the structure columns.

Additional drainage features would be constructed in the median of SR-91 and existing drop inlets and median culverts would be removed or abandoned. New "double" grate inlets, parallel pipe systems, and dikes would be constructed along the SR-91 median barrier to collect runoff. Existing drop inlets and culverts that are no longer needed would be removed or abandoned. In addition, new drop inlets and parallel pipes would be constructed at the edge of the pavement adjacent to the new retaining walls along SR-91. Along the stretch of eastbound SR-91, a 60-inch reinforced concrete pipe would require extension to the south.

Finally, new drop inlets and pipes would be constructed along the reconstructed ramps and connectors.

Landscaping

Replacement landscaping will be provided in the following areas: (1) the area between the SR-241 general-purpose connector (northbound SR-241 to eastbound SR-91) and the SR-241 general-purpose connector (westbound SR-91 to southbound SR-241); and (2) the slope and other vegetated areas on the south side of SR-91, within the disturbance limits.

TSM/TDM Features

TSM elements include ramp metering, auxiliary lanes, and traffic signal coordination. In addition, the Build Alternative proposes to have dynamic traffic management technology (toll pricing varies based on express lanes demand). Toll operations are being coordinated among the Foothill/Eastern Transportation Corridor Agency (F/ETCA), OCTA, and RCTC, and are being evaluated in a separate Concept of Operations report that will be completed during Final Design.

The addition of a median-to-median toll connector included in the Build Alternative is a TDM feature in and of itself because it would provide additional capacity for HOVs and buses. The Build Alternative would improve travel time, increase the efficiency of the freeway system within the traffic Study Area, and reduce congestion and delay.

Refer to Section 2.8.2 for additional discussion of TSM/TDM features.

Noise Attenuation

No feasible noise attenuation (sound barriers) has been identified for the Proposed Project.

Right-of-Way Acquisition

The Build Alternative would be constructed mostly within existing Caltrans right-of-way. However, one partial acquisition adjacent to eastbound SR-91 would be required. Approximately 5 acres of land on the slope approximately 3,600 ft west of Coal Canyon, on Assessor's Parcel Number 085-071-56 would be acquired. This parcel is currently part of the Irvine Ranch National Natural Landmark, owned by the County of Orange with a Conservation Easement held by The Nature Conservancy. The Conservation Easement allows for "necessary infrastructure improvement."

A maintenance access road would be constructed on this slope (Figure 2.1, Sheet 4).

Design Exceptions (Boldface and Underlined Standard Features)

The Build Alternative would require design exceptions. Design exceptions are necessary when the proposed design deviates from the standard design features in the Caltrans Highway Design Manual. For example, the design standard for a freeway travel lane is 12 ft; design exceptions would be requested for locations where the lane widths would be 11 ft to match the lane widths approved for the SR-91 CIP. The Build Alternative would require design exceptions (both bold and underline features) for superelevation rate, travelway width, minimum shoulder width, and minimum ramp to local road intersection distance, superelevation transition, single lane connector through lane, and side slopes. Descriptions of each of these terms are provided in Table 2.1.

Table 2.1 Design Exception Terms

Term	Definition
Boldface Standard Features	
Superelevation Rate	The angle by which the outer edge of a curve on a road is banked above the inner edge.
Travelway Width	The width of the travel lane (no curb or gutter).
Shoulder Width	The minimum width of the inside or outside shoulder.
Ramp to Local Road Intersection Distance	The minimum distance (curb return to curb return) between ramp intersections and local road intersections.
Underlined Standard Features	
Superelevation Transition	The length required to transition the outside lane(s) of the roadway from a zero (flat) cross slope to full superelevation, or vice versa.
Single Lane Connector	The maximum length of a single-lane, freeway-to-freeway connector before a second lane should be provided for passing.
Side Slopes	The steepness of a slope. Slopes should be as flat as reasonable.

Source: Caltrans *Highway Design Manual*.
FHWA = Federal Highway Administration
ft = foot/feet

2.2.1.3 Temporary Project Features

Temporary Restriping

The existing number of through lanes on the mainlines of SR-241 and SR-91 would be maintained during construction by restriping the existing lanes using reduced lane widths and shifting traffic within those corridors to maintain the existing capacity. The *91 Express Lanes* would also be temporarily restriped to maintain two lanes in both the eastbound and westbound directions.

The eastbound off-ramp and eastbound loop on-ramp at Gypsum Canyon Road would be restriped to allow construction of the two realigned eastbound ramps. One lane would be maintained on the off-ramp, and two lanes would be maintained on the loop

on-ramp. In addition, the existing northbound SR-241 to eastbound SR-91 connector would be restriped to maintain two lanes during construction of the eastbound SR-91 widening, as well as construction of the realigned northbound SR-241 to the eastbound SR-91 connector.

Construction Barriers

During construction, all work areas would be protected by temporary safety devices, such as Temporary Railing (Type K), Temporary Crash Cushions, and other safety features in accordance with federal, State, and local agency requirements.

Detours and Closures

Temporary detours and weekend or nighttime closures would be required at the Gypsum Canyon Road interchange on- and off-ramps and the northbound SR-241 to eastbound SR-91 connector and the northbound SR-241 to the westbound SR-91 connector.

Construction Access and Staging Areas

Construction access and staging areas would be located within the junction of SR-241 and SR-91 within existing Caltrans right-of-way as shown on Figure 2.1, Sheets 3 and 4.

The contractor would need access to the SR-91 median in order to construct the Build Alternative.

Coal Canyon Undercrossing

Coal Canyon Undercrossing is used by emergency and maintenance vehicles as a turnaround from eastbound to westbound only. Construction vehicles may use Coal Canyon as a similar turnaround. In addition, construction vehicles may access the median by entering from underneath the Coal Canyon Undercrossing. Temporary shoring and grading may need to be constructed to allow a drivable access route. This access option would be closely coordinated with Caltrans, OCTA, and RCTC. Any restrictions with respect to the timing of access would be clearly stated in the project specifications during the Final Design phase.

The following restrictions would apply to work along the Coal Canyon Undercrossing ramps and within the undercrossing:

- No parking or equipment storage.
- Maintenance of the existing fence that separates the paved road from the dirt trail.

- No work within the wildlife trail on the east side of the existing fence.
- No nighttime work.
- The drivable access route would be constructed outside of the bird nesting season (February 15 through August 31).

Gypsum Canyon Undercrossing

Construction vehicles may access the median by entering from underneath Gypsum Canyon Undercrossing. To allow an opening for construction access, part of the existing bridge deck would be removed. Temporary shoring and grading may need to be constructed to allow a drivable access route. This access option would be closely coordinated with Caltrans, OCTA, and RCTC. Construction vehicles would access Gypsum Canyon Road using the SR-91 on- and off- ramps.

Scheduled Maintenance Access

OCTA has regularly scheduled maintenance activities for the *91 Express Lanes* every 3 weeks on Sunday mornings. This maintenance occurs from approximately 6:00 a.m. until 12:00 p.m. The entire *91 Express Lanes* facility is shut down during this time. This would provide an opportunity to coordinate with OCTA for approval to use these closures to transport large construction equipment to the construction site in the median of SR-91 between the eastbound and westbound *91 Express Lanes*.

Express Lane Access

Construction vehicles that meet express lane requirements may enter the lanes, paying a toll as applicable. Coordination will be required with Caltrans and OCTA to create additional ingress/egress points into the median from the *91 Express Lanes* and whether to permit vehicles larger than the allowable express lane limitations.

Limited Lane Closure Access

It may be necessary to have temporary nighttime closures of the *91 Express Lanes* for construction activities such as erecting falsework, striping lanes, and installing median signs. These closures would be coordinated with Caltrans and OCTA during the Final Design phase.

Utilities

Two known utility conflicts have been identified as follows:

- Approximately 8,100 linear feet of Fiber Optic Lines (and manholes) owned by F/ETCA require relocation to accommodate the widening on eastbound SR-91.

- Approximately 150 linear feet of Underground Telephone lines owned by AT&T require relocation to accommodate the reconstruction of the eastbound SR-91 off-ramp and the eastbound SR-91 on-ramp at Gypsum Canyon Road.

Protection in place of existing utility facilities would also be necessary in areas where project construction activities would occur. Coordination with utilities would occur during Final Design.

2.2.2 No Build (No Action) Alternative

The No Build Alternative would maintain the current configurations of SR-241 and SR-91 in the Project Area. Under this alternative, no direct connector would be constructed between the SR-241 and *91 Express Lanes*. As discussed in Section 1.1.3.2, the SR-91 CIP Initial Phase extended the existing *SR-91 Express Lanes* east from the Orange/Riverside County Line to I-15 in the City of Corona. Under the No Build Alternative, motorists traveling north on SR-241 would have to use the general-purpose lane connector to eastbound SR-91 and then weave across several lanes to access the eastbound RCTC SR-91 Express Lanes at the merge area near Green River Road. Similarly, motorists traveling west in the RCTC SR-91 Express Lanes would have to exit at Green River Road (3.5 mi east of the junction of SR-241 and SR-91), merge across lanes, and use the general-purpose lane connector to the southbound SR-241. In addition, under the No Build Alternative, motorists would not be prevented from inappropriately "queue jumping" from the existing northbound SR-241 to the westbound SR-91 connector lanes into the northbound SR-241 to the eastbound SR-91 connector lanes during congested traffic periods, thereby disrupting traffic flow on the northbound SR-241 connector to the eastbound SR-91 general-purpose lanes during p.m. peak hours.

The No Build Alternative would increase traffic congestion and reduce vehicle throughput in the Project Area during peak periods.

Although smaller localized projects could be considered, approved, and implemented on their own merits, no other major corridor improvements would be implemented on the project segments of SR-241 and SR-91 under the No Build Alternative.

Because the No Build Alternative does not include the improvements proposed as part of the Build Alternative, the No Build Alternative provides a benchmark by which the public and decision-makers can compare the magnitude of the effects of the Build Alternative.

2.3 Anticipated Project Schedule

Final Design is expected to be completed in late 2020. Construction is anticipated to last approximately 24 months beginning in 2021 through 2023, with project opening in late 2023.

2.4 Construction Staging

Construction would occur in two main stages: Stages 1 and 2. Stage 1 would occur in two phases identified as Stages 1A and 1B. The majority of the work would occur in Stage 1A. A Draft Transportation Management Plan (TMP) has been prepared for the project.

Stage 1A construction involves widening within the median of both the northbound and southbound SR-241 roadbeds as well as widening of eastbound SR-91 to the outside. Both the northbound and southbound SR-241 roadbeds would be re-striped to maintain the existing four-lane configuration. During this stage, a portion of the express lanes connector would also be constructed, as well as widening of the Windy Ridge Wildlife Undercrossing bridge. The SR-241/SR-91 express lanes connector south bridge would be constructed with falsework over the northbound SR-241 to westbound SR-91 connector and over eastbound SR-91.

Stage 1A also includes widening of the eastbound and westbound roadbed of SR-91. Eastbound and westbound SR-91 would be re-striped to maintain the same number of general-purpose lanes, as well maintaining the two eastbound toll lanes. This also includes widening of the Gypsum Canyon Road Undercrossing bridge. Ramp work on Stage 1A at Gypsum Canyon Road involves re-striping the eastbound SR-91 off-ramp and the eastbound SR-91 on-ramp to allow construction of the two realigned eastbound SR-91 ramps. One lane would be provided on the off-ramp and two lanes on the on-ramp. Temporary pavement would be constructed at the intersection of the eastbound on-ramp and Gypsum Canyon Road to allow complete closure and construction of the eastbound direct on-ramp during this stage. The existing northbound SR-241 to eastbound SR-91 connector would be re-striped to provide two lanes during widening of the eastbound SR-91 as well as construction of the realigned northbound SR-241 to the eastbound SR-91 connector. The southern abutment for the express lanes connector north bridge could also be constructed in Stage 1A. The estimated duration for Stage 1A is 9 months.

Stage 1B construction involves completion of the remaining portions of the ramps, remaining portions of the northbound SR-241 to eastbound SR-91 connector and remaining portions of the eastbound SR-91 freeway lanes. Construction of these remaining portions would require temporary detours with weekend or nighttime closures of various portions of the ramps and the realigned northbound SR-241 to eastbound SR-91 connector. The estimated duration for Stage 1B is 4 months.

Stage 2 construction involves completion of the express lanes SR-241/SR-91 connector north bridge over falsework and construction of all the median work along SR-91 from Gypsum Canyon Road Undercrossing to Coal Canyon Undercrossing. Except for erection of falsework, no short-term closures are needed. No long-term closures of either SR-241 or SR-91 are needed. The estimated duration for Stage 2 is 11 months.

The Proposed Project would involve cut and fill of soil. The earthwork quantities would be approximately 440,000 cubic yards of cut and 395,000 cubic yards of fill, with the excess 45,000 cubic yards to become the property of the contractor, who would use it for another project, store it in an approved location, or dispose of it at an approved facility. The net fill locations are the along the proposed median-to-median connector (the areas south and north of the northbound SR-241 to the eastbound SR-91 connector, as well as the touchdown point of the connector in the SR-91 median), and the SR-91/Gypsum Canyon Road ramps.

2.5 Estimated Cost

The total cost of the Proposed Project would be approximately $183 million. The estimated roadway cost is $82 million, and the right-of-way cost is approximately $543,000. The estimated structures cost is approximately $46 million. The estimated support cost is $54 million.

2.6 Comparison of Alternatives

Table 2.2 provides a comparison between the Build Alternative and the No Build Alternative. The SR-241/SR-91 Express Lanes Connector was previously evaluated in the ETC Final EIR and Final EIS and is part of the selected alternative.

Alternative 1 (Corridor with West Leg). This Supplemental EIR/EIS has been prepared to focus on the northern end of the original project; address changes to environmental conditions and regulatory requirements; and address the extended

Table 2.2 Comparison of Impacts for the Project Alternatives

Resource	Build Alternative	No Build Alternative
Land Use	**Land Use Conversion** • Permanent conversion, through acquisition, of approximately 5 acres of land designated as parkland/reserve to transportation. • No temporary impacts. **Land Use Consistency** • Consistent with the goals, objectives, and policies of all surrounding communities' General Plans; the 2016 RTP/SCS; 2019 FTIP; the Orange County Central and Coastal NCCP/HCP; the Western Riverside MSHCP; the Orange County MPAH; and the Orange County LRTP. • No temporary impacts **Parks and Recreational Effects and Section 4(f) Use** • Noise levels would increase by 3 dBA or less, which is barely perceptible to the human ear. *Gypsum Canyon Nature Preserve* • Permanent use: approximately 5 acres (preliminary de minimis finding for the use). • Temporary use: none. • Temporary minimal visual, dust, and noise proximity effects. *Weir Canyon Nature Preserve, Chino Hills State Park, Santa Ana River Trail/Bike Lane, Featherly Regional Park, Green River Golf Club, and other trails and fire roads* • No temporary or permanent use. • Temporary minimal visual, dust, and noise proximity effects. *Brush Canyon Park, Santiago Oaks Regional Park, Running Springs Elementary School Recreational Facilities* • No temporary or permanent use.	**Land Use Conversion** • No impacts **Land Use Consistency** • Inconsistent with several plans and policies to improve regional mobility. **Parks and Recreational Effects and Section 4(f) Use** • No impacts

Table 2.2 Comparison of Impacts for the Project Alternatives

Resource		Build Alternative	No Build Alternative
Growth		No growth-related impacts	No growth-related impacts
Community Impacts	Community Character and Cohesion	*Temporary Impacts* • Minimal impacts due to construction noise and dust. • Closure of one lane in each direction on SR-241 and SR-91 at various times to construct the median-to-median connector and install advance signage. • Detours and weekend or nighttime closures at the SR-91/Gypsum Canyon Road interchange ramps to realign the ramps and construct bridge supports for the new connector. • Detours and weekend or nighttime closures at the existing northbound SR-241 to eastbound SR-91 connector to widen SR-91 to the south. • Construction lighting. *Permanent Impacts* • Long-term visual changes because of permanent alteration of existing visual environment at the junction of SR-241 and SR-91 (retaining walls, piers/supports, and buffers). • Noise levels would increase by 3 dBA or less, which is barely perceptible to the human ear. • Improved access and circulation along SR-241 and SR-91 in the Project Area by providing a direct connection between SR-241 and the *91 Express Lanes*.	Accessibility to and mobility in the SR-241/ SR-91 interchange area would continue to deteriorate.
	Relocation	*Temporary Impacts* • No impacts. *Permanent Impacts* • Partial acquisition of one undeveloped County of Orange-owned property (Assessor's Parcel Number 085-071-56). • No displacement or relocation of any residents or businesses.	No impacts
	Environmental Justice	*Temporary Impacts* • With implementation of Measures N-1, AQ-1 through AQ-5, TR-1, and V-1 through V-7, construction of the Build Alternative would not result in adverse impacts that are appreciably more severe or greater in magnitude on environmental justice populations than the adverse effects experienced by non-environmental justice	Similar to the overall communities, environmental justice populations would receive no benefits by the reduction in access and mobility in the Project Area.

Table 2.2 Comparison of Impacts for the Project Alternatives

Resource		Build Alternative	No Build Alternative
		populations. Therefore, the Build Alternative would not cause disproportionately high and adverse temporary effects on minority or low-income populations, as listed above. *Permanent Impacts* • Similar to the overall communities, environmental justice populations would receive no benefits by the reduction in access and mobility in the Project Area. Operation of the Build Alternative would not result in adverse impacts that are appreciably more severe or greater in magnitude on environmental justice populations than the adverse effects experienced by non-environmental justice populations.	
Utilities and Emergency Services		**Utilities** *Temporary Impacts* • Utility disruptions could occur. *Permanent Impacts* • No impacts to utilities. **Emergency Services** *Temporary Impacts* • Delay in response time for emergency services. *Permanent Impacts* • May improve response times for emergency services using SR-241 and SR-91. • Emergency service providers would be able to use the express lanes connector when the general-purpose lane connector is experiencing heavy traffic volumes and slow travel speeds.	**Utilities** • No impacts **Emergency Services** • Providers would not benefit from improved mobility and reduced traffic congestion.

Table 2.2 Comparison of Impacts for the Project Alternatives

Resource	Build Alternative	No Build Alternative
Traffic and Transportation	*Temporary Impacts* • Detours and closures are expected to result in some delays to the traveling public. *Permanent Impacts* • Vehicle throughput in the SR-91 corridor would improve, vehicles miles traveled would increase, and travel time would decrease. • Traffic would shift from other regional routes (SR-91 between SR-55 and SR-241, SR-55, and surface streets) to SR-241 as a result of the additional capacity of the new connector. • The length of the northbound SR-241 to the eastbound SR-91 queue on the general-purpose ramp would shorten in the PM peak period. • The length of the queues would shorten at the SR-91 westbound mainline bottleneck between the Green River Road interchange and the *91 Express Lanes* ingress in the AM peak period. • There would be a reduction in friction due to fewer vehicles weaving from the northbound SR-241 to the eastbound SR-91 general-purpose ramp to the RCTC SR-91 Express lanes. • There would be an increase in friction on eastbound SR-91, because more vehicles must exit the *91 Express Lanes* and enter the general-purpose lanes and fewer cars can leave the general-purpose lanes and enter the RCTC SR-91 Express Lanes due to the increase in traffic volumes on the express lanes connector.	*Temporary Impacts* • No impacts *Permanent Impacts* • Overall, increased travel time, reduced speed, increased vehicle hours traveled, and increased queues in the SR-91 corridor study area.

Table 2.2 Comparison of Impacts for the Project Alternatives

Resource	Build Alternative	No Build Alternative
Visual and Aesthetics	*Temporary Impacts* • Sensitive viewers, including motorists and residents, would be exposed to views of cleared vegetation, graded slopes, construction vehicles, equipment, and other materials. • Periodic nighttime construction, and safety/security lighting would be used during some stages of construction. *Permanent Impacts* • The proposed median-to-median connector would appear similar to the existing general-purpose lane connectors at the SR-241/SR-91 interchange because the new structure would be of similar profile as the existing structures and would be in the Caltrans right-of-way between the existing SR-241/SR-91 northbound-to-southbound connectors. • Motorists traveling on SR-91 would experience views of the express lane bridge connector and retaining walls, but views of open space and other visual resources in the vicinity of the SR-241/SR-91 interchange would not be obstructed. • Residents with high viewer sensitivity with views of the Project Area would experience permanent views of the proposed express lanes connector but the existing views of hillsides, ridgelines, and open space would not be obstructed.	No impacts
Cultural Resources	*Temporary Impacts* • Not applicable. *Permanent Impacts* • No impacts to known archaeological or historic resources. • Potential for impacts to previously unknown buried cultural materials or human remains.	No impacts

Table 2.2 Comparison of Impacts for the Project Alternatives

Resource	Build Alternative	No Build Alternative
Water Quality and Storm Water Runoff	*Temporary Impacts* • Potential for soil erosion, sediment transport, release of hazardous materials, increased pollutants in runoff, groundwater dewatering. *Permanent Impacts* • Increase in impervious area by approximately 20.5 acres. • Potential increased pollutants in runoff due to increased impervious area and volume of runoff. • Proposed treatment BMPs would reduce pollutants.	No impacts
Geology, Soils, Seismic, and Topography	*Temporary Impacts* • Ground motion from seismic activities, liquefaction, and landslides. • Potential for unstable slopes and erosion. *Permanent Impacts* • Potential for seismic impacts to structures. • Potential for unstable slopes and erosion. • Potential for liquefaction. • Minor changes to topography.	No impacts
Paleontology	*Temporary Impacts* • Not applicable. *Permanent Impacts* • Potential to impact fossils and fossil-bearing formations.	No impacts

Table 2.2 Comparison of Impacts for the Project Alternatives

Resource	Build Alternative	No Build Alternative
Hazardous Wastes and Materials	*Temporary Impacts* • Potential to encounter aerially deposited lead (unpaved areas adjacent to SR-91), asbestos-containing materials (Gypsum Canyon bridge structure 55-0506), chemically treated wood waste (guardrails, and landscape timber, etc.), and lead-based paint in traffic striping (SR-241 and SR-91). • Potential to rupture an unused petroleum pipeline with an unspecified location that may contain residual material that would need disposal. • Due to historical uses in the area, there is a potential to encounter unrecorded hazardous waste during construction. *Permanent Impacts* • No impacts other than routine use of hazardous materials associated with maintenance of a transportation facility.	No impacts
Air Quality	*Temporary Impacts* • Short-term degradation of air quality may occur due to the release of particulate emissions generated by excavation, grading, hauling, and other construction activities. *Permanent Impacts* • No new regional vehicular emission impacts. • May have a beneficial effect in helping to reduce congestion on roads in the traffic Proposed Project vicinity.	May have an incremental detrimental effect due to no reduction of congestion on roadway links in the Proposed Project vicinity.
Noise	*Temporary Impacts* • Noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. However, construction noise would be short-term, intermittent, and overshadowed by local traffic noise. *Permanent Impacts* • Noise levels would increase by 3 dBA or less, which is barely perceptible to the human ear.	No impacts

Table 2.2 Comparison of Impacts for the Project Alternatives

Resource	Build Alternative	No Build Alternative
Energy	*Temporary Impacts* • Indirect energy impacts from the manufacture of vehicles that would operate on the project facilities and be used for project construction. However, the Proposed Project would not, on its own, increase the manufacture of vehicles; therefore, the per-vehicle indirect energy impacts for the baseline (No Build) condition, the Build Alternative, and the existing condition would all be the same. • Energy costs associated with construction of roads and structures. *Permanent Impacts* • Total net change in VHT in 2017 would decrease by 726 VHT, indicating a slight increase in efficiency compared to the No Build Alternative. Therefore, vehicle fuel/energy consumption would be reduced. • A 0.3 percent reduction in direct energy use annually in 2040 due to reduction in VMT. • A 1.5 percent increase in maintenance-related permanent indirect energy consumption in 2040 due to increase in VMT.	• Temporary indirect impacts from the manufacture of vehicles that operate on SR-241 and SR-91. • Increase in VHT in 2017 and 2040, which will increase energy consumption when compared to the Build Alternative.
Natural Communities	*Temporary Impacts* • Impacts to 31.26 acres of coastal sage scrub within the NCCP/HCP Plan Area. • Impacts to 0.02 acre of coastal sage scrub outside the NCCP/HCP Plan Area. • Impacts to 8 coast live oak and 15 sycamore trees. • Impacts to Windy Ridge Wildlife Undercrossing. *Permanent Impacts* • Impacts to 13.66 acres of coastal sage scrub within the NCCP/HCP Plan Area. • Impacts to 6 coast live oak trees.	No impacts

Table 2.2 Comparison of Impacts for the Project Alternatives

Resource	Build Alternative	No Build Alternative
Wetlands and Other Waters	*Temporary Impacts* • Impacts to less than 0.53 acre of non-wetland USACE waters inside Caltrans right-of-way and less than 0.01 acre outside Caltrans right-of-way. • Potential for indirect impacts to functions and values of on-site drainages and downstream areas. • Impacts to approximately 1.01 acres of CDFW jurisdictional areas inside Caltrans right-of-way and approximately 0.03 acre outside Caltrans right-of-way. • Impacts to less than 0.53 acre of RWQCB jurisdictional areas inside Caltrans right-of-way and less than 0.01 acre outside Caltrans right-of-way. *Permanent Impacts* • Impacts to approximately 0.45 acre of USACE jurisdictional non-wetland waters inside Caltrans right-of-way and approximately 0.02 acre outside Caltrans right-of-way. • Impacts to approximately 0.66 acre of CDFW jurisdictional areas inside Caltrans right-of-way and approximately 0.20 acre outside Caltrans right-of-way. • Impacts to approximately 0.45 acre of RWQCB jurisdictional areas inside Caltrans right-of-way and approximately 0.02 acre outside Caltrans right-of-way.	No impacts
Plant Species	*Temporary Impacts* • Potential indirect impacts to California black walnut trees near the Gypsum Canyon off-ramp due to the potential for fuel spills from construction equipment and activities of construction equipment or personnel outside designated construction areas and ESAs in the vicinity of the trees. • Potential direct impacts to Coulter's Matilija poppy and potential temporary indirect impacts due to the potential for fuel spills from construction equipment and activities of construction equipment or personnel outside designated construction areas and ESAs. *Permanent Impacts* • Potential direct impacts to 3 California black walnut saplings.	No impacts

Table 2.2 Comparison of Impacts for the Project Alternatives

Resource	Build Alternative	No Build Alternative
	• Coulter's Matilija poppies in the slope area south of SR-91 would be removed.	
Animal Species	*Temporary Impacts* • May redirect foraging golden eagles away from the borders of the BSA during construction. • Potential indirect impacts to species that occupy the coastal sage scrub and chaparral natural communities through the disturbance of potentially suitable habitat. • Impacts to special-status bat species including noise, dust, night lighting, and human encroachment, and reduced access to roost sites in the crevices of bridges and overhead structures. • Potential indirect impacts to grassland and open space species through the temporary loss of approximately 14.1 acres of potential habitat. • Direct impacts to nesting birds through vegetation clearing, grading, and tree removal. • Potential indirect impacts to nesting birds due to disturbances near trees occupied by nesting birds if tree trimming activities were to occur during the nesting season. *Permanent Impacts* • Indirect impacts to species that occupy coastal sage scrub and chaparral through the removal of potential suitable habitat. • Indirect impacts to special-status grassland animal species through potential habitat loss. • Potential indirect impacts to nesting birds due to loss of foraging and nesting habitat as a result of loss of vegetation or changes in habitat types.	No impacts

Table 2.2 Comparison of Impacts for the Project Alternatives

Resource	Build Alternative	No Build Alternative
Threatened and Endangered Species	*Temporary Impacts* • Potential indirect impacts through the accumulation of dust on the leaves of any Braunton's milk-vetch plants in designated critical habitat. • Potential to impact thread-leaved brodiaea. • Potential to redirect foraging bald eagles, least Bell's vireo, and southwestern willow flycatcher away from the BSA. • Indirect impacts to coastal California gnatcatcher due to increased exposure to noise, vibration, dust, nighttime lighting, and human presence. • Direct impacts to coastal California gnatcatcher through habitat disturbance and removal. • Take of coastal California gnatcatcher in the NCCP/HCP Plan Area due to the loss of 11.85 acres of occupied habitat in the median of the SR-241/SR-91 interchange. • Take of designated coastal California gnatcatcher critical habitat in the NCCP/HCP Plan Area as a result of the loss of approximately 12.8 acres of designated critical habitat. • Take of designated coastal California gnatcatcher habitat outside the NCCP/HCP Plan Area due to impacts to 7.96 acres of critical habitat in Caltrans right-of-way. *Permanent Impacts* • Potential minor impacts to thread-leaved brodiaea habitat. • Indirect impacts to coastal California gnatcatcher as a result of increased exposure to noise, vibration, and dust. • Take of coastal California gnatcatcher in the NCCP/HCP Plan Area through the permanent loss of 2.98 acres of occupied habitat in the median of the existing SR-241/SR-91 interchange. • Take of designated coastal California gnatcatcher critical habitat in the NCCP/HCP Plan Area through the permanent loss of approximately 19.72 acres. • Take of designated coastal California gnatcatcher habitat outside the NCCP/HCP Plan Area as a result of impacts to 1.18 acres in Caltrans right-of-way. • Potential loss of a minimal amount (approximately 1 acre of	No impacts

Table 2.2 Comparison of Impacts for the Project Alternatives

Resource	Build Alternative	No Build Alternative
	chaparral) of potential foraging habitat for least Bell's vireo and southwestern willow flycatcher.	
Invasive Species	Potential to spread invasive species by the entering and exiting of construction equipment contaminated by invasive species, disturbances to soil surfaces, and improper removal and disposal of invasive species that result in the seed being spread along the highway.	No impacts
Cumulative Impacts	The Build Alternative, when considered with other cumulative projects as stated in Table 3.1.3, would contribute incrementally to cumulatively considerable impacts related to: • Potential permanent impacts to paleontological resources when excavations extend into fossiliferous formations. • Permanent and/or temporary removal of coastal sage scrub and grassland, which has the potential to result in adverse impacts to special-status plant and animal species.	No impacts
Climate Change	• The increase in average vehicle speeds in the Project Area by 2–4 miles per hour would decrease the average delay per vehicle by up to 20 percent, which would help offset the 3,400 to 7,800 increase in daily trips. • No substantial change to greenhouse gas emissions.	No impacts

BMPs = best management practices
BSA = Biological Study Area
Caltrans = California Department of Transportation
CDFW = California Department of Fish and Wildlife
dBA = A-weighted decibels
ESA = environmentally sensitive area
FTIP = Federal Transportation Improvement Program
LRTP = Long-Range Transportation Plan
MPAH = Master Plan of Arterial Highways
MSHCP = Multiple Species Habitat Conservation Plan
NCCP/HCP = *Natural Communities Conservation Plan/ Habitat Conservation Plan*
RCTC = Riverside County Transportation Commission
RTP/SCS = Regional Transportation Plan/Sustainable Communities Strategy
RWQCB = Regional Water Quality Control Board
SR-55 = State Route 55
SR-91 = State Route 91
SR-241 = State Route 241
USACE = United States
VMT = vehicle miles traveled
VHT = vehicle hours traveled
WR-MSHCP = *Western Riverside County Multiple Species Habitat Conservation Plan*

Project Limits on SR-91 to the east. Therefore, the comparison in Table 2.2 focuses on the physical impacts of the Build Alternative when compared to the No Build Alternative, as well as the ability to meet the Purpose and Need of the Proposed Project.

Under the California Environmental Quality Act (CEQA), Caltrans will certify that the Proposed Project complies with CEQA, prepare findings for all significant impacts identified, and certify that the findings have been considered prior to Project Approval. Caltrans will then file a Notice of Determination with the State Clearinghouse that will identify whether the Project will have significant impacts, if mitigation measures were included as conditions of Project Approval, and that findings were made. A Statement of Overriding Considerations was prepared for the 1992 ETC Final EIR. The Proposed Project would not result in any impacts beyond those identified in the 1992 ETC Final EIR that could not be mitigated below a level of significance; therefore, no Statement of Overriding Considerations is required for this Final Supplemental EIR.

With respect to NEPA, Caltrans (as assigned by the Federal Highway Administration [(FHWA]), will document and explain its decision regarding the selected alternative, project impacts, and mitigation measures in the ROD.

2.7 Value Analysis

Based on the Proposed Project cost estimate and per Chapter 9 of the Project Development Procedures Manual (PDPM), a Value Analysis (VA) is required for the Proposed Project. A project-specific VA was conducted on May 19, 20, and 21, 2015. A total of eight VA recommendations were considered to address the following four functions: improve traffic operations, minimize maintenance, accommodate future expansion, and improve constructability. A Preliminary VA Report was distributed for the VA team members and stakeholders for review. A VA Implementation Meeting was held on July 8, 2015, to review individual implementation action recommendations for responses, develop consensus for each VA recommendation, document the responses to each design modification, and conclude decisions related to implementation. The Final VA Report was completed on October 1, 2015.

The VA recommendations are not needed to reduce substantial environmental impacts associated with the Proposed Project and would not expand the Project Area or result in substantial environmental impacts. Implementing these recommendations may save costs, and a decision regarding these will be made during Final Design. The

change in performance was based on the comparison of each VA recommendation to the Build Alternative design. The criteria for performance evaluation was determined by the stakeholders and ranked by the stakeholders (F/ETCA, Caltrans, and OCTA). The performance criteria included: traffic operations, maintainability, environmental impacts, construction impacts, and accommodation of the future expansion of SR-91 at the junction of SR-241 and SR-91.

The VA recommendations have been analyzed as part of the Build Alternative. The eight VA recommendations are:

- Shorten southbound SR-241 express lane and eliminate Windy Ridge Wildlife Undercrossing widening;
- Move the northbound SR-241 Express Lane Connector to the eastbound SR-91 departure from No. 1 Lane to No. 3 lane; reduce SR-241/SR-91 southern overcrossing structure width;
- Use lightweight fill at approach and departure walls;
- Use lightweight fill as alternative to Type 1 retaining wall with level backfill;
- Eliminate eastbound SR-91 loop on-ramp at Gypsum Canyon Road to eliminate choke point and replace with a traditional signalized intersection or a roundabout;
- Revise SR-241/SR-91 Express Lanes Connector radius to minimize bridge span;
- Increase outrigger span length to allow future eastbound SR-91 widening; and
- Reduce structure length for Express Lanes Connector southern overcrossing.

2.8 Alternatives Considered But Eliminated From Further Discussion Prior to the Draft Supplemental EIR/EIS

This section discusses alternatives studied during preliminary studies and the Transportation System Management (TSM) and Transportation Demand Management (TDM) Alternatives considered for the Proposed Project but eliminated from further discussion.

2.8.1 Preliminary Studies

A total of six build alternatives for a new median-to-median connector ramp from SR-241 to SR-91 were considered during preliminary studies. Only the Build Alternative was found to be feasible. Each of the alternatives was evaluated with respect to the Proposed Project's Purpose and Need. Evaluation criteria included:

- Freeway traffic operations,
- Local impacts,

- Toll revenue,
- Design/safety,
- Physical and environmental constraints,
- Planning consistency,
- Construction staging and traffic handling, and
- Cost.

After the evaluation, the current Build Alternative (Alternative Concept 1 in the Feasibility Study and Project Study Report/Project Development Support [PSR/PDS]) was the recommended alternative to carry forward for evaluation in the Supplemental EIR/EIS as it best meets the Purpose and Need of the Proposed Project. The reasons why the remaining five build alternatives were considered but eliminated from further discussion during the Feasibility Study and the PSR/PDS phase are discussed below.

2.8.1.1 Feasibility Study Alternatives

The OCTA prepared the *91 Express Lanes Extension and State Route 241 Connector Feasibility Study* in March 2009. Initially, six Build Alternatives were studied in the feasibility study, and three of these were eliminated (Alternative Concepts 2, 5, and 6) during the screening process. The remaining three Alternative Concepts (Alternative Concepts 1, 3, and 4) were carried forward for more detailed evaluation in the PSR/PDS phase. Descriptions of the eliminated alternatives are provided below.

Alternative Concept 2

Alternative Concept 2 would have provided a four-lane High Occupancy Toll (HOT) median-to-median connector between SR-241 and the existing *91 Express Lanes*. This alternative is similar to Alternative Concept 4 except that no additional capacity would have been added to the *91 Express Lanes*. The additional traffic added to the *91 Express Lanes* would result in potential capacity deficiencies. Alternative Concept 4 rather than Alternative Concept 2 would allow the logical termination point for the proposed third express lane between SR-241 and State Route 71 (SR-71) to be determined based on needed capacity. In addition, this alternative would have resulted in additional impacts to coastal sage scrub habitat compared to Alternative Concept 1. Therefore, this alternative concept was eliminated in favor of Alternative Concept 4.

Alternative Concept 5

Alternative Concept 5 would have provided a four-lane toll connector to the *91 Express Lanes*. Alternative Concept 5 is similar to Alternative Concept 4, except that

the third express lane would extend to I-15. The section of SR-91 between SR-71 and I-15 is constrained by the Santa Ana River to the north and the hillside to the south, and adding a third Express Lane would result in significant right-of-way impacts in the City of Corona. In addition, this alternative would have resulted in additional impacts to coastal sage scrub habitat, drainages, and Coal Canyon Undercrossing compared to Alternative Concept 1. The physical constraints were considered a fatal flaw to the feasibility of Alternative Concept 5. Therefore, Alternative Concept 5 was not recommended for further consideration.

Alternative Concept 6

Alternative Concept 6 would have provided an SR-241/SR-71 direct toll connector for SR-241 and SR-71 traffic. This would have been a relatively high-cost concept and only focused on a specific part of the travel demand between SR-241 and SR-71. In addition, this alternative would have resulted in additional impacts to coastal sage scrub habitat compared to Alternative Concept 1. Given the physical challenges and cost of this concept, the other alternatives were viewed as more feasible. Therefore, Alternative Concept 6 was not recommended for further consideration.

2.8.1.2 PSR/PDS Alternatives

During preparation of the PSR/PDS (completed in January 2012), the remaining three build alternatives were evaluated, Alternative Concepts 3 and 4 were eliminated, and Alternative Concept 1 was carried forward for further evaluation in this Supplemental EIR/EIS. Descriptions of the two alternatives eliminated during the PSR/PDS phase are provided below.

Alternative Concept 3

Alternative Concept 3 included a reversible two-lane connector. Although the concept of a reversible connector was feasible from a design consideration, the additional traffic associated with a reversible connector would have been an issue for the *91 Express Lanes*. The two-lane connector would have provided sufficient capacity, but the concept would not have included any additional capacity on the critical segment of the *91 Express Lanes* east of SR-241. While the connector could be built, it would not have addressed the project objective of reducing traffic congestion. Therefore, Alternative Concept 3 was dropped from further consideration.

Alternative Concept 4

Alternative Concept 4 would have provided a four-lane connector and addressed the operational issues of the additional traffic in the *91 Express Lanes* by widening the

91 Express Lanes to three lanes in each direction to approximately the SR-71 interchange. It would have provided a median-to-median connection and addressed issues of congestion relief, but the concept would have substantially higher costs and was not consistent with the ETC EIR/EIS. Construction of the additional *91 Express Lanes* would have been constrained by the Santa Ana River to the north and the hillside to the south. In addition, this alternative would have resulted in additional impacts to coastal sage scrub habitat, drainages, and the Coal Canyon Undercrossing compared to Alternative Concept 1. Therefore, Alternative Concept 4 was dropped from further consideration.

2.8.2 Transportation System Management (TSM) and Transportation Demand Management (TDM) Alternatives

TSM consists of strategies to increase the efficiency of the existing transportation facilities; they are actions that increase the number of vehicle trips a facility can carry without increasing the number of through lanes. Examples of TSM strategies include ramp metering, auxiliary lanes, turning lanes, reversible lanes, and traffic signal coordination. TSM also encourages automobile, public, and private transit; ridesharing programs; and bicycle and pedestrian improvements as elements of a unified urban transportation system. Modal alternatives integrate multiple forms of transportation modes such as pedestrian, bicycle, automobile, rail, and mass transit. Although TSM measures alone could not satisfy the Purpose and Need of the Proposed Project, several TSM measures have been incorporated into the Proposed Project as discussed in Section 2.2.1.2.

TDM focuses on regional means of reducing the number of vehicle trips and vehicle miles traveled as well as increasing vehicle occupancy. TDM facilitates higher vehicle occupancy or reduces traffic congestion by expanding the traveler's transportation options in terms of travel method, travel time, travel route, travel costs, and the quality and convenience of the travel experience. Typical TDM activities reduce the amount of single-occupancy vehicle trips by providing funds to regional agencies that are actively promoting ridesharing, maintaining rideshare databases, and providing limited rideshare services to employers and individuals. Promoting mass transit and facilitating non-motorized alternative means of transportation are two such examples, but TDM strategies may also include reducing the need for travel altogether through initiatives such as telecommuting. In some cases, TDM may involve changing work schedules, resulting in a greater travel flexibility that produces a more even pattern of transportation network use and mutes the effect of morning and evening rush hours.

The addition of a median-to-median toll connector included in the Build Alternative is a TDM feature in and of itself because it would provide additional capacity for HOVs and buses. The Build Alternative would improve travel time, increase the efficiency of the freeway system within the traffic Study Area, and reduce congestion and delay.

TSM and TDM strategies have been and would continue to be provided in the Study Area. OCTA Intercounty Express Bus Route 794 and Riverside Transit Agency (RTA) Express Bus Route 216 currently operate on the project segment of SR-91. In addition, Metrolink operates commuter rail service between Orange and Riverside Counties on the BNSF railway tracks. OCTA encourages ridesharing by offering incentives for vanpools, some of which commute along SR-91. The Build Alternative would not permanently impact the bus line or ride sharers that use SR-91, including the *91 Express Lanes*.

TSM and TDM strategies alone do not satisfy the project Purpose of build out of the ETC, attaining of compatibility with the SR-91 mainline and express lanes, improving operations and traffic flow between the *91 Express Lanes* and the SR-241 general-purpose connectors, helping achieve the Regional Mobility Plan goals of reducing emissions from transportation sources, and enhancing the efficiency of the tolled system, thereby reducing congestion on the non-tolled system on the SR-91. TSM/TDM alternatives on their own would not meet the Need for the Proposed Project because the Proposed Project would not provide a direct connection between SR-241 and the *91 Express Lanes*. As a result, TSM/TDM alternatives were eliminated from further consideration.

2.9 Permits and Approvals Needed

Table 2.3, on the following page, identifies the permits and/or approvals that are or may be required prior to or during construction and/or operation of the Build Alternative.

Table 2.3 Permits and Approvals Needed

Agency	Permit/Approval	Status/When Required
Federal Highway Administration (FHWA)	Air Quality Conformity Analysis Determination	FHWA determined that the Proposed Project conforms to the State Implementation Plan (SIP) in accordance with 40 CFR Part 93 on May 3, 2017.
United States Fish and Wildlife Service (USFWS)	Section 7 Consultation for impacts to threatened and endangered species.	The Biological Opinion was issued on April 17, 2019.
United States Army Corps of Engineers (USACE)	Section 404 Permit for filling or dredging of waters of the United States	A Nationwide Permit will be obtained during Final Design.
California Department of Fish and Wildlife (CDFW)	1602 Lake or Streambed Alteration Agreement for impacts to jurisdictional areas	An agreement will be obtained during Final Design.
California Department of Transportation (Caltrans)	Encroachment Permit	An Encroachment Permit will be obtained by F/ETCA during Final Design.
California Transportation Commission (CTC)	CTC vote to approve funds and approve new public road connection	Following the approval of the Final Supplemental EIR/EIS, the CTC will be required to vote to approve funding for the Project if federal funding is sought, as well as approve the new SR-91/SR-241 Express Lanes Connector.
State Water Resources Control Board (SWRCB)	Caltrans NPDES Permit	Permit issued to Caltrans on September 19, 2012, for discharges from State right-of-way. The SWRCB and the Santa Ana RWQCB will be notified of the project during Final Design pursuant to the permit requirements.
	Section 402 NPDES Permit (Construction Activity) for waste discharge requirements during construction	Permit Registration Documents, including an NOI, will be submitted at least 7 days prior to the start of construction.
Santa Ana Regional Water Quality Control Board (RWQCB)	Section 401 Water Quality Certification for impacts to jurisdictional areas	Certification will be obtained during Final Design.
	Section 402 NPDES Permit (Groundwater Dewatering)	If groundwater dewatering is required, an NOI will be submitted at least 60 days prior to the start of construction.
Various Utilities	Encroachment Permits for protection-in-place and possible relocations	During Final Design
City of Anaheim	Potential Encroachment Permit	During Final Design
Orange County Parks (OC Parks)	Concurrence on Section 4(f) De Minimis Determination	OC Parks provided written concurrence with the Section 4(f) De Minimis Determination on July 25, 2017 (see Appendix B).
	Approval of land transfer (partial acquisition)	During right-of-way acquisition process.
Riverside County Transportation Commission (RCTC) and Orange County Transportation Authority (OCTA)	Concept of Operations Report preparation and approval (tolling operations)	Toll operations are being coordinated among F/ETCA, OCTA, and RCTC and are evaluated in a separate Concept of Operations report. That report will be completed during Final Design.

CFR = Code of Federal Regulations
EIR/EIS = Environmental Impact Report/Environmental Impact Statement
F/ETCA = Foothill/Eastern Transportation Corridor Agency
NOI = Notice of Intent
NPDES = National Pollutant Discharge Elimination System
SR-91 = State Route 91
SR-241 = State Route 241

Chapter 3 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

Technical studies were prepared for the Proposed Project and were used in the development of this Supplemental Environmental Impact Report/Environmental Impact Statement (EIR/EIS). A full list of the technical studies is included in Appendix G.

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

Human Environment

- **Coastal Zone:** The Proposed Project is not in or in the immediate vicinity of a designated Coastal Zone. As a result, the Coastal Zone Management Act of 1972 (CZMA), the primary federal law enacted to preserve and protect coastal resources, is not applicable to the Proposed Project.
- **National Wild and Scenic Rivers:** The Proposed Project does not cross and is not in the vicinity of any designated National Wild and Scenic Rivers. As a result, the Proposed Project is not subject to the requirements of the National Wild and Scenic Rivers Act (16 [United States Code] USC 1271) and the California Wild and Scenic Rivers Act (Public Resources Code [PRC] Section 5093.50 et seq.).
- **Farmlands/Timberlands:** The Proposed Project does not have any farmlands present in the project limits that would be subject to the Farmland Protection Policy Act (FPPA, 7 USC 4201-4209; and its regulations). In addition, the Proposed Project does not have any timberlands within the project limits and, therefore, is not subject to the California Timberland Productivity Act of 1982 (CA Government Code Sections 51100 et seq.).

Physical Environment

- **Hydrology and Floodplain:** Hydrology and floodplain analyses were not included because there will be no encroachment onto a floodplain and an

engineered drainage system is already in place for the existing facility. In addition, Flood Insurance Rate Maps (FIRMs) were reviewed. Although the Project Area is adjacent to the Santa Ana River, the Project Area is not in a Federal Emergency Management Agency (FEMA) mapped 100-year floodplain. Small parts of the project fall within a FEMA Zone X. Areas within this zone on the FIRMs are areas of moderate or minimal hazard. Zone X is not a Special Flood Hazard Area of High Risk. In addition, the parts of the Project Area in Zone X do not include any major roadway alterations, or any cut or fill. The work in these areas is limited to re-striping of existing pavement and a shift of the median barrier to accommodate the alignment of the State Route 91 (SR-91) Express Lanes connector, and there are no foreseeable impacts to the Santa Ana River hydraulics. Therefore, no findings pursuant to Executive Order (EO) 11988 (Floodplain Management) and Federal Highway Administration (FHWA) requirements outlined in 23 Code of Federal Regulations (CFR) 650 Subpart A would be required. The FEMA FIRMs for the Project Area are included in Appendix J.

This chapter analyzes only the impacts of the State Route 241 (SR-241)/SR-91 median-to-median connector (Proposed Project) as revised after the Eastern Transportation Corridor (ETC) project was approved, the ETC Final EIR was certified, and the ETC Final EIS and Record of Decision (ROD) were approved. This Supplemental EIR/EIS does not change the findings of the ETC Final EIR and Final EIS. Some of the avoidance, minimization, and/or mitigation measures are carried through to the Proposed Project and are clearly identified.

HUMAN ENVIRONMENT

3.1 Land Use

The land use Study Area was generally defined by the census tracts bordering the maximum disturbance limits for the Proposed Project. Utilizing census tract boundaries allows consistency with the assessment of community impacts and growth; also, census tract data influence development trends. The land use Study Area was further expanded to include surrounding census tracts at the access points to the Proposed Project on State Route 241 (SR-241) and State Route 91 (SR-91), and which include the Santiago Canyon Road/SR-241/State Route 261 (SR-261) interchange and the SR-91/Auto Center Drive interchange. As shown on Figure 3.1.1, the Study Area extends through six land use jurisdictions (i.e., four cities and two counties).

The discussions in this section related to land use are provided in the following three subsections:

- 3.1.1, Existing and Future Land Uses
- 3.1.2, Consistency with Federal, State, Regional, and Local Plans
- 3.1.3, Parks and Recreational Facilities

3.1.1 Existing and Future Land Uses

3.1.1.1 Affected Environment

This analysis evaluates existing land uses that would be converted to transportation uses by the Build Alternative. The analysis is based on the most current available geographic information system (GIS) data from the applicable local jurisdictions (the counties of Riverside and Orange, and the cities of Yorba Linda, Anaheim, Orange, and Corona); therefore, the GIS data may not reflect very recent changes in existing land uses.

Existing Land Use

The Study Area is dominated by SR-241 and SR-91 and surrounded by parks, and open space, including Chino Hills State Park, and Irvine Ranch Open Space, with some residential and commercial development on the west end in the cities of Anaheim and Yorba Linda, and residential, commercial, and industrial on the east end in the City of Corona. Parks and other recreational areas are discussed in detail in Section 3.1.3. Within the Project Area, existing land use was mapped based on field

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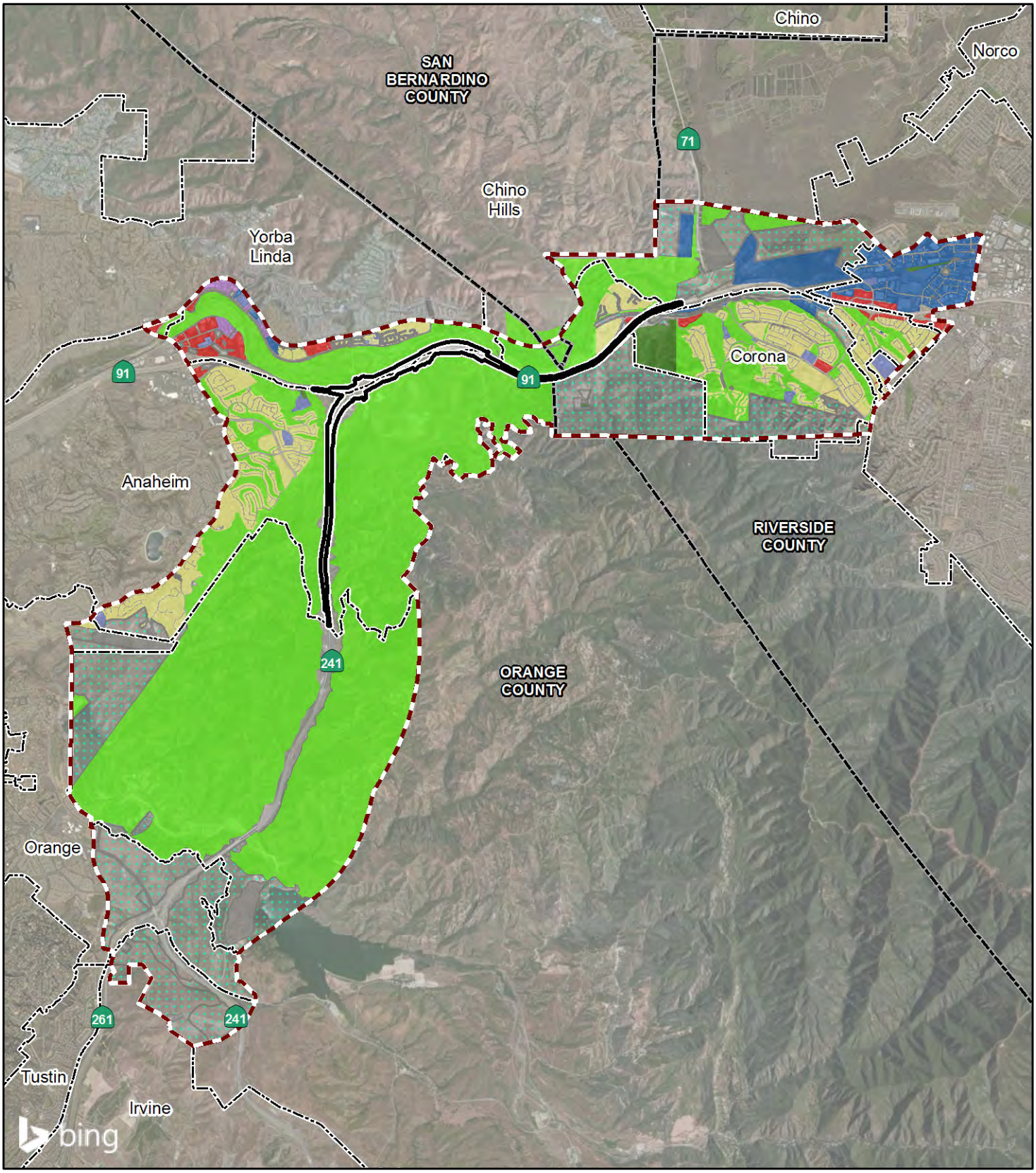


FIGURE 3.1.1

LEGEND

- Project Area
- Land Use Study Area
- County Boundary
- City Boundary

Existing Land Use

- Residential
- Office and Commercial
- Public Facilities and Public Education
- Industrial
- Transportation, Communications, and Utilities
- Mixed Commercial and Industrial
- Open Space and Recreation
- Agriculture
- Undeveloped

N

0 0.75 1.5
MILES

SOURCE: Bing Maps (2014); SCAG (2012)

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SR-241/SR-91 Express Lanes Connector

Existing Land Use

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surveys. Existing land use outside of the Project Area is based on aerial photographs cross-checked against GIS data provided by the Southern California Association of Governments (SCAG).[1] The data were compiled into basic land use designations, which are described in detail in Table 3.1.1 by jurisdiction and shown on Figure 3.1.1.

Table 3.1.1 Existing Land Use

Jurisdiction	Existing Land Use
County of Orange	Within the Study Area, there are two areas of unincorporated County of Orange land. The area south and east of the Proposed Project Area consists of unincorporated County land that is undeveloped. Additionally, the land north of SR-91 and adjacent to the County Line is generally undeveloped.
County of Riverside	The majority of the Study Area land uses in unincorporated County of Riverside are located south of SR-91 and west of the Green River Road/SR-91 freeway entrance and exit ramps. This area consists of rural mountainous land uses south of SR-91 and outside of the Corona City limits.
City of Anaheim	Currently, residential developments are located in the hillside areas west of SR-241 in the City of Anaheim. Open space areas are located east of the residential area and form a buffer to SR-241. Land east of SR-241 consists of Open Space uses.
City of Yorba Linda	The City of Yorba Linda is generally located north of SR-91 and west of the unincorporated County of Orange land adjacent to the County of Riverside Line. A very small part of the land use Study Area on the north side of SR-91 is in the City of Yorba Linda.
City of Orange	Land in the City of Orange is generally located in the southernmost portion of the Study Area. This portion of the City includes the Santiago Canyon Road SR-241/ SR-261 interchange and generally consists of Open Space/Recreation uses, as shown on Figure 3.1.1.
City of Corona	A portion of the Study Area is in the City of Corona. This includes areas along SR-91 from the western city limits to approximately 0.5 mile east of Green River Road. The existing land use along SR-91 in Corona includes Residential, Mixed-Use, Industrial, Commercial, and Open Space/Recreation as shown on Figure 3.1.1.

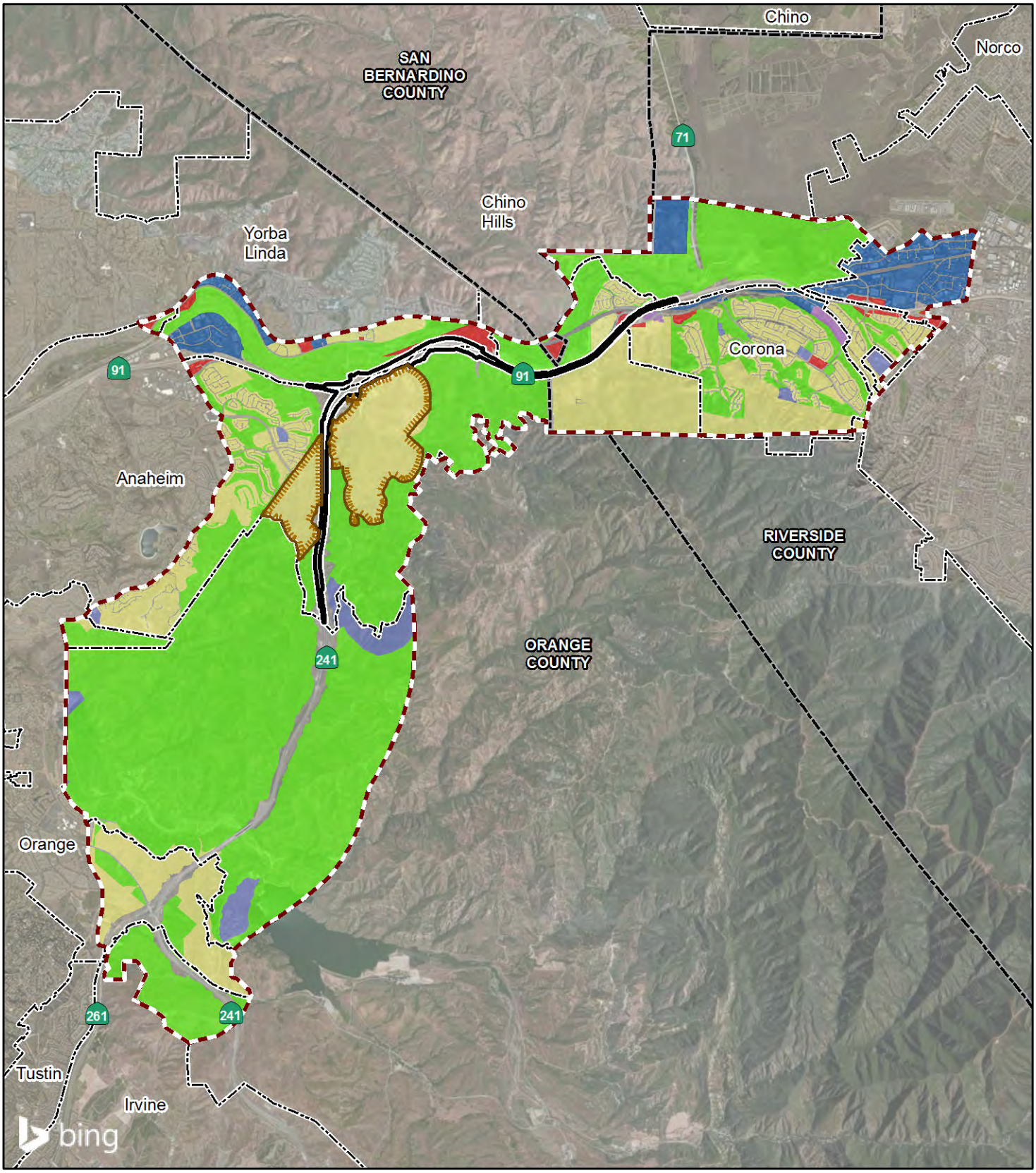
Sources: Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy GIS data (2012); Southern California Association of Governments GIS Library (2015). Website: http://gisdata.scag.ca.gov/ Pages/Home.aspx (accessed January 20, 2015).
GIS = geographic information system
SR-91 = State Route 91
SR-241 = State Route 241
SR-261 = State Route 261

Future Land Use – General Plan

The Land Use Elements in the General Plans for the jurisdictions within the Study Area identify the future planned land uses. A description of General Plan land uses by jurisdiction is provided in Table 3.1.2. General Plan land use data shown on Figure 3.1.2 are based on GIS data provided by SCAG as part of the 2012 Regional

[1] Southern California Association of Governments GIS Library. Website: http://gisdata.scag.ca.gov/ Pages/Home.aspx (accessed January 20, 2015).

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LEGEND

- Land Use Study Area
- Project Area
- County Boundary
- City Boundary
- Former Mountain Park Specific Plan has been dedicated as permanent Open Space

General Plan Land Use

- Residential
- General Office and Commercial
- Public Facilities and Public Education
- Industrial
- Mixed Commercial and Industrial
- Open Space and Recreation
- Transportation

N

0 0.75 1.5
MILES

SOURCE: Bing Maps (2014); SCAG (2012); Orange County General Plan (2015)

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FIGURE 3.1.2

SR-241/SR-91 Express Lanes Connector

General Plan Land Use

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Table 3.1.2 General Plan Land Use

Jurisdiction	General Plan Land Use
County of Orange	Unincorporated County of Orange land in the Study Area is designated in the County General Plan as Open Space/Recreation, which provides for limited land uses that do not require substantial urban infrastructure.
County of Riverside	The most common County of Riverside General Plan designations in the Study Area are Rural and Open Space land use designations.
City of Anaheim	The land uses in and adjacent to the Study Area are designated Residential and Open Space/Recreation. The Open Space/Recreation designation in the City of Anaheim's General Plan is for areas intended to remain in natural open space, utility easements that provide recreational access, landscaped freeway remnant parcels, and land areas surrounding major water features. As shown on Figure 3.1-2, the City's General Plan designates the areas south of SR-91 and west of SR-241 for residential uses. The area in the southeast quadrant of the SR-241/SR-91 interchange was covered under the former Mountain Park Specific Plan (MPSP). In August 2014, the land owner, the Irvine Company, permanently dedicated the 2,500-acre area, which was originally part of the former MPSP, to the County of Orange as a permanent open space.
City of Yorba Linda	The City of Yorba Linda's land use designations in the Study Area consist of Residential, Open Space/Recreation, Industrial, and Commercial/Office uses.
City of Orange	The City of Orange's General Plan designates the area surrounding the SR-241/ SR-91 interchange for both Residential and Open Space/Recreational uses.
City of Corona	The planned land uses along SR-91 in the City of Corona include Residential, Mixed-Use, Industrial, Commercial, and Open Space/Recreation.

Source: Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy GIS data (2012); Southern California Association of Governments GIS Library (2015). Website: http://gisdata.scag.ca.gov/Pages/Home.aspx.
GIS = geographic information system
SR-91 = State Route 91
SR-241 = State Route 241

Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The data were compiled into general land use designations for consistency throughout the various jurisdictions.

Development Trends

Much of the developable land in the Study Area and vicinity is either already developed or has development entitlements. Residential development on the west side of SR-241 reflects the build out of the Sycamore Canyon Specific Plan (SCSP) and the Summit of Anaheim Hills Specific Plan (SAHSP) in the City of Anaheim.

Several infrastructure projects are underway in the Study Area and vicinity along SR-91, the Burlington Northern Santa Fe (BNSF) Railway, and along the Santa Ana River. Planned projects in the Study Area and vicinity are listed in Table 3.1.3 and are shown on Figure 3.1.3.

Table 3.1.3 Planned Projects

Figure 3.1.3 Project ID Number	Project Name/Type	Location	Proposed Use/Description	Status and Sources
Highway Projects				
1	SR-91 Corridor Improvement Project (CIP)	Cities of Yorba Linda, Anaheim, Corona, Riverside, and Norco, and communities of unincorporated Riverside County	This project is divided into an Initial Phase and an Ultimate Phase. The Initial Phase of this project will extend the existing express lanes in Orange County to the east from the Orange/ Riverside County line to I-15 in the City of Corona. The existing HOV lanes will be converted to tolled express lanes, and one additional tolled express lane in each direction would be constructed. The eastbound SR-91 express lane will extend to McKinley Street and then transition back to HOV lanes at Pierce Street. A tolled express lane in each direction will also be constructed on I-15 from Cajalco Road to Hidden Valley Parkway. Express lane direct connectors between I-15 and SR-91 will provide access from northbound I-15 to westbound SR-91 and from eastbound SR-91 to southbound I-15. Additionally, express lane direct connectors will be constructed from eastbound SR-91 to northbound I-15 and from southbound I-15 to westbound SR-91. The Ultimate Phase will construct one general-purpose lane in each direction on SR-91 from the SR-241/SR-91 interchange in the cities of Anaheim and Yorba Linda to Pierce Street in the City of Riverside. The Ultimate SR-91 CIP project was split into two separate projects, including the 6th General Purpose Lane Addition from SR-241 to SR-71, and improvements east of I-15.	Construction of the Initial Phase began in early 2014, and the new median express lanes opened in March 2017. The 6th General Purpose Lane Addition (SR-241 to SR-71) is in the environmental phase. Source: State Route 91 (SR-91) Implementation Plan, https://www.rctc.org/wp-content/uploads/2018/12/SR-91-Plan_06222018_Final.pdf, accessed March 27, 2019.
2	SR-71/SR-91 Interchange Improvements	City of Corona	This project includes a new two-lane direct flyover from eastbound SR-91 to northbound SR-71, with modifications to the existing south-to-east SR-71/SR-91 interchange connector ramp. A three-lane eastbound connector-distributor road from both Green River Road and eastbound SR-91 to northbound SR-71 will be modified, and the eastbound and westbound auxiliary lanes between SR-71/SR-91 and Auto Center Drive/ Serfas Club Drive will be extended. The project limits on SR-91 are from west of the SR-91/Green River Road interchange to the end of the southbound SR-71 to the eastbound SR-91 ramp. The project limits on SR-71 begin at the SR-71/SR-91 interchange and end approximately 1.5 mi north of SR-91.	Final Design is underway. Construction is deferred to 2021–2023 pending funding. Source: State Route 91 (SR-91) Implementation Plan, https://www.rctc.org/wp-content/uploads/2018/12/SR-91-Plan_06222018_Final.pdf, accessed March 27, 2019.

Table 3.1.3 Planned Projects

Figure 3.1.3 Project ID Number	Project Name/Type	Location	Proposed Use/Description	Status and Sources
Bus and Transit Projects				
N/A	Express Bus Improvements	Throughout Orange and Riverside Counties	This is an SR-91 improvement project. The expansion of the Express Bus service between Riverside and Orange County employment centers would add four bus routes from Riverside County to the Northeast Anaheim Canyon Business Center and California State University, Fullerton; the Anaheim Civic Center, Western Medical Center, and the Anaheim Resort; and the Irvine Business Complex and University of California, Irvine. Bus service would be coordinated with demand needs.	Express Bus service on SR-91 Express Lanes commenced in January 2018. Source: https://rctc.org/new-express-bus-service-91-express-lanes/, accessed March 27, 2019.
Rail and Rail-Associated Projects				
N/A	Metrolink Service and Station Improvements	City of Anaheim, from Orange County through San Bernardino County to Riverside County	This is an SR-91 improvement project proposed for implementation by 2020. The project would provide an extensive expansion of train service from the Inland Empire to Orange County (IEOC). Additional trains would be added to the IEOC Line that currently provides service between San Bernardino, Riverside, and Orange Counties. Additional service would be added to the 91 Line that provides service from the Inland Empire to Los Angeles via Orange County and parallels SR-91.	Construction of the Anaheim Canyon Station improvements is anticipated to begin in late 2019. Source: State Route 91 (SR-91) Implementation Plan, https://www.rctc.org/wp-content/uploads/2018/12/SR-91-Plan_06222018_Final.pdf, accessed March 27, 2019.
3	BNSF Freight Services	BNSF Railway mainline between Prado Dam West Riverside	The BNSF railway is a primary east-west rail route for goods being shipped from the Ports of Los Angeles and Long Beach to locations throughout the United States. BNSF has several regional mainline rail enhancements planned in the Southern California region. In the Project Vicinity, this includes adding a third track between Prado Dam and the West Riverside (approximately at the junction of SR-91 and SR-60).	Planning phase. Source: http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS_GoodsMovement.pdf, accessed March 27, 2019.
City of Corona				
4	Foothill Parkway Westerly Expansion	City of Corona	Construct a segment of roadway to connect Foothill Parkway from Lincoln Avenue to Green River Road.	Completed in April 2017. Source: https://www.coronaca.gov/government/departments-divisions/public-works/construction-projects/recently-completed-projects, accessed March 27, 2019.
5	Green River Road Widening: SR-91 to Palisades	City of Corona	Includes widening Green River Road from four to six lanes from Palisades Drive to SR-91. Improvements will include a new storm drain, sewer and water lines, a new traffic signal at Palisades Drive, and a traffic signal modification at Dominguez Ranch Road.	Completed in July 2016. Source: https://www.coronaca.gov/government/departments-divisions/public-works/construction-projects/recently-completed-projects, accessed March 27, 2019.

Table 3.1.3 Planned Projects

Figure 3.1.3 Project ID Number	Project Name/Type	Location	Proposed Use/Description	Status and Sources
6	Sierra Bella	South of Calle Del Oro in Sierra del Oro	237 single-family homes	Approved, Final Engineering. Source: https://foremostcompanies.com/portfolio/sierra-bella/, accessed March 27, 2019.
7	The Ranch at Corona Palisades	Southwest corner of Serfas Club and Palisades	Twelve lot condo map/288 units, 12 light-industrial units totaling 77,000 sf, 867 self-storage units on 38 ac.	Residential portion is constructed. A few industrial buildings have been completed with two remaining buildings in progress. Source: Development Plan Review agenda December 7, 2017, https://www.coronaca.gov/Home/ShowDocument?id=7213, and Google Earth, accessed March 28, 2019.
8	Skyline Heights	Generally south of the proposed westerly extension of Foothill Parkway, east of Paseo Grande and west of Trudy Way in the unincorporated area of Riverside County but within the City of Corona Sphere of Influence.	The project involves the annexation of 421.2 ac into the City of Corona. The annexation is accompanied by a tentative tract map to subdivide approximately 271 ac into 291 single-family residential lots. The development will also include non-buildable lettered lots that will be set aside for landscaping and natural open space, streets, and utilities. The project will require a General Plan Amendment (GPA13-003), Zone Change CZ13-002, Annexation (117), and Tentative Tract Map 36544 (TTM 36544).	Environmental Document certified on February 7, 2017; site graded. Source: Press Enterprise, https://www.pe.com/ 2017/02/09/corona-subdivision-skyline-heights-development-clears-hurdles/, and Google Earth, accessed March 28, 2019.
City of Yorba Linda				
9	Oakcrest Terrace	Savi Ranch, 22744 Eastpark Drive	The project includes construction of 69 affordable multi-family residential units.	Completed in March 2017. Source: https://www.ocregister.com/2018/05/30/the-new-face-of-affordable-housing-looks-a-lot-like-oakcrest-terrace-in-yorba-linda/, accessed March 28, 2019.
10	Oakcrest Terrace (Savi Ranch II)	Savi Ranch Neighborhood	The project includes construction of 54 affordable multi-family apartments.	Completed in November 2018. Source: https://www.ocregister.com/2018/05/30/the-new-face-of-affordable-housing-looks-a-lot-like-oakcrest-terrace-in-yorba-linda/, accessed March 28, 2019.
11	Toll Brothers at Amalfi Hills	Between Village Center Drive and Fairmont Drive north of Bastanchury Road.	The project includes development of 315 single-family homes.	Completed June 2016. Source: https://www.buzzbuzzhome.com/us/toll-brothers-at-amalfi-hills--cortese-collection, accessed March 29, 2019.

Table 3.1.3 Planned Projects

Figure 3.1.3 Project ID Number	Project Name/Type	Location	Proposed Use/Description	Status and Sources
Public Infrastructure Projects				
12	Santa Ana River Parkway Extension Project Segment 2	The project is located within a 2 mi stretch of the Santa Ana River Riding and Hiking Trail and the Santa Ana River Class I Bikeway, between Gypsum Canyon Road on the west and the Orange/Riverside/San Bernardino County boundaries on the east, and between the BNSF railroad and La Palma Avenue on the north and SR-91 on the south.	This project includes the construction of a new Class I Bikeway, the Riding and Hiking Trail, and associated amenities on the north and south banks of the Santa Ana River. A new Riding and Hiking Trail (approximately 1.75 mi) would be located parallel to the existing Class I Bikeway that is located on the southern bank of the river, adjacent to SR-91. A new parallel Class I Bikeway and Riding and Hiking Trail (approximately 0.57 mi) would extend through a portion of the existing Green River Golf Course toward the BNSF Railroad. A new parallel Class I Bikeway and Riding and Hiking Trail would extend eastward from Gypsum Canyon Road Bridge (approximately 1.07 mi) on the north bank of the river, adjacent to La Palma Avenue. Three bridges would be constructed, and two of these bridges would cross the Santa Ana River and would connect the new Class I Bikeway, the new Riding and Hiking Trail, and the existing Class I Bikeway.	Draft EIR released for public review in December 2015. Source: http://www.ocpublicworks.com/gov/pw/ds/planning/projects/santa_ana_river_parkway_extension_project.asp, accessed March 28, 2019.
13	Lower Santa Ana River Project	Along 23 mi of the existing channel from Weir Canyon Road to the Pacific Ocean.	Improvements to 23 mi of existing channel from Weir Canyon Road to the Pacific Ocean include channel widening, improvement to the existing Greenville-Banning Channel located parallel to the river near the coast, relocation of the Talbert Channel ocean outlet and construction of rock jetties and derrick stone jetties at the mouth of the river, and bridge modifications to accommodate the widened channel. In the Santa Ana Canyon area, construction will be limited to bank armoring to protect a mobile home park, residential tract, and the SR-91 freeway.	Estimated completion of all phases in 2020. Source: http://ocflood.com/sarp/lower, accessed March 28, 2019.
14	Santa Ana River Interceptor (SARI) Relocation Project	From the Orange/San Bernardino County Line at Green River Golf Club to SAVI Ranch.	The SARI Relocation Project will replace nearly 4 mi of the existing pipeline from the Orange/San Bernardino County line at Green River Golf Club to SAVI Ranch. The proposed 54-inch-diameter pipeline will tie into the existing SARI Line just upstream of the existing metering station at the Green River Golf Club. The new pipeline will then cross the golf course to the south bank of the river where it will be located under the existing bikeway before proceeding downstream through Featherly Park. The new pipeline will connect to the existing SARI Line behind SAVI Ranch. In addition, a new 15-inch-diameter pipeline will be constructed under La Palma Avenue and the Santa Ana River Trail to serve the sewage disposal needs of portions of Yorba Linda. Known as the Yorba Linda	Construction has been completed in Orange County, and the small portion in Riverside County was completed in April 2016. Source: USACE, Christopher Jones, January 14, 2016.

Table 3.1.3 Planned Projects

Figure 3.1.3 Project ID Number	Project Name/Type	Location	Proposed Use/Description	Status and Sources
			Spur, the pipeline will cross the river by way of an inverted siphon and connect to the existing SARI Line behind SAVI Ranch.	
15	B Canyon Wildlife Crossing	Near the border of Orange and Riverside Counties at the east end of the Green River Golf Club.	The B Canyon box culvert, located 1.7 mi east of Coal Canyon, provides a potential wildlife crossing across SR-91. B Canyon is believed to be an important linkage between the open spaces in the Santa Ana Mountains, the Puente Chino Hills, and Prado Basin. Future development along Green River Road, and the Green River Ranch and Fresno Canyon Wildlife Corridors could cause further constrained wildlife movement in this area.	Current status unknown.
16	Santa Ana River Mainstream Project Reach 9 Phases 2A, 2B, 3, 4, 5A, and 5B	Located along the 75 mi reach of the Santa Ana River in Orange, Riverside, and San Bernardino Counties. Phase 2A is below Prado Dam. Phase 2B is near the Riverside/Orange County Line. Phase 3 extends upstream from Canyon RV Park on the south bank of the Santa Ana River. Phase 4 extends upstream from the Phase 3 terminus to approximately Coal Canyon on the south bank of the Santa Ana River. Phases 5A and 5B are located just east and west, respectively, of the SR-241/ SR-91 interchange.	The project would provide improvements to the flood control system that is connected to the Santa Ana River. The project would increase levels of flood protection to more than 3.35 million people in the three county areas. The project includes seven independent elements, which are: the Seven Oaks Dam, the Mill Creek Levee, the San Timoteo Creek, the Oak Street Drain, Prado Dam, Santiago Creek, and the Lower Santa Ana River. The Lower Santa Ana River improvements began construction in 1991 and were completed in 2006. The Seven Oaks Dam construction began in 1994 and was completed in 1999. Construction of the Prado Dam improvements began in 2003 and was planned for completion in 2010.	Reach 9, Phase 2A and Phase 2B of the Santa Ana River Main Stem Project are in the restoration maintenance phase. Major construction is essentially complete and the contractor and USACE are working to restore temporarily impacted areas with appropriate plants/habitat. The monitoring of these areas will go on for several years. Reach 9, Phase 3, was completed in December 2014. Reach 9, Phase 4, was anticipated to begin construction in December 2015, and continue until December 2016. Phase 5A and Phase 5B are in environmental review. Sources: USACE, Christopher Jones, April 20, 2015; and https://www.spl.usace.army.mil/Portals/17/docs/publicnotices/BNSF_SEA_II_20180330.pdf?ver=2018-04-02-094107-617, accessed March 29, 2019.

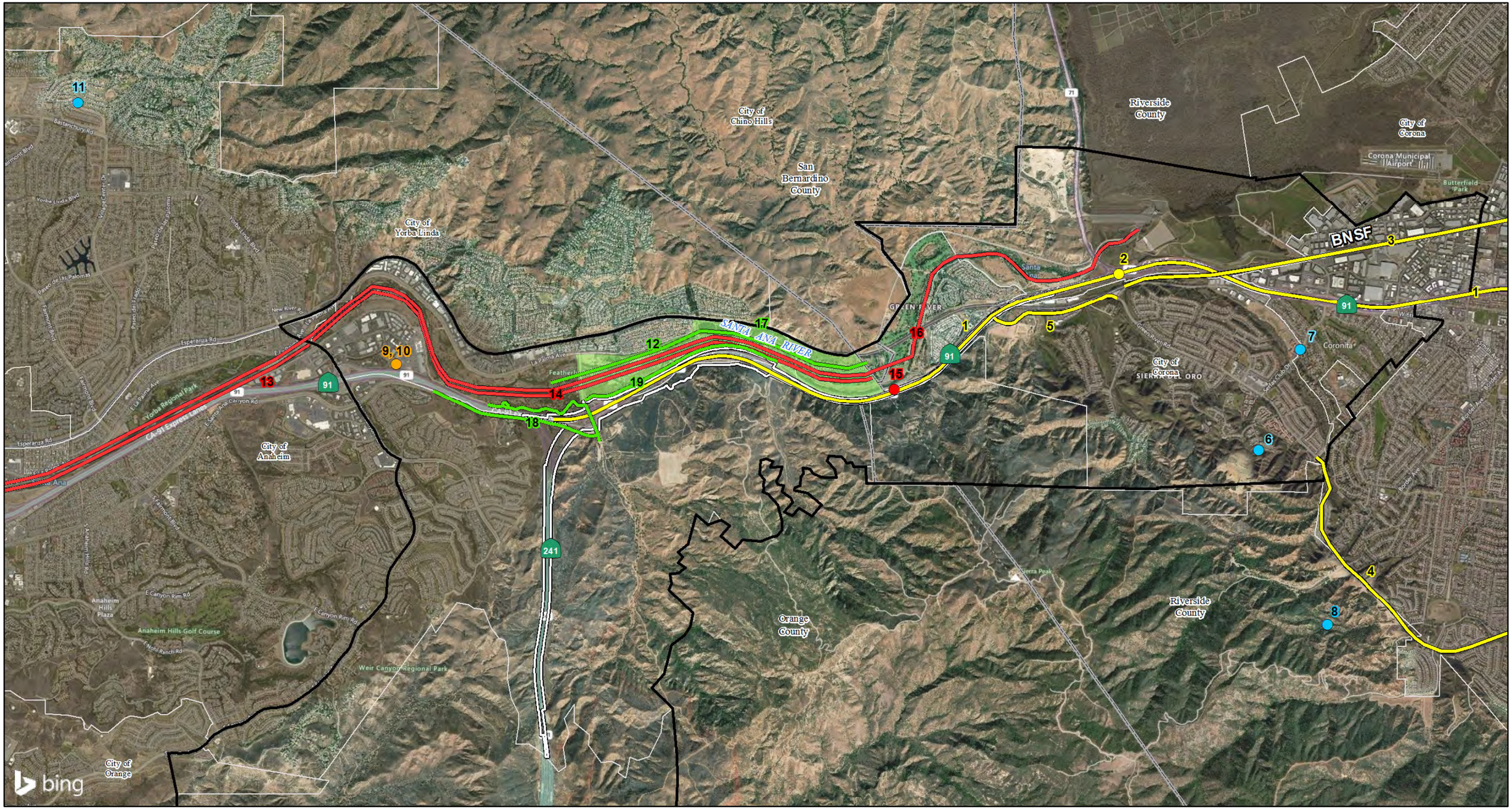
Table 3.1.3 Planned Projects

Figure 3.1.3 Project ID Number	Project Name/Type	Location	Proposed Use/Description	Status and Sources
17	Santa Ana River Parkway Extension Project Segment 1	Along the north and south banks of the Santa Ana River, between Gypsum Canyon Road Bridge and the Orange County Boundary.	The project includes construction of a new Class I Bikeway, a Riding and Hiking Trail, and associated amenities. A new riding and hiking trail (approximately 1.75 mi) would be located parallel to the existing Santa Ana River Class I Bikeway that is located on the southern bank of the Santa Ana River, adjacent to SR-91. A new parallel Class I Bikeway and Riding and Hiking Trail (approximately 0.57 mi) would extend through a portion of the existing Green River Golf Course toward the BNSF Railroad, where the alignment would then follow the BNSF Railroad eastward to the Orange/San Bernardino County boundary.	The Draft EIR was released for public review in December 2015. Source: http://www.ocpublicworks.com/gov/pw/ds/planning/projects/santa_ana_river_parkway_extension_project.asp, accessed March 28, 2019.
18	Weir Canyon Regional Riding and Hiking Trail	South side of Santa Ana Canyon Road beginning 0.6 mi east of Weir Canyon Road.	This multi-use regional dirt trail will connect to the future Gypsum Canyon Regional Riding and Hiking Trail.	Laree Alonso, Manager, Planning Division, OC Public Works Service Area/OC Development Services (Comment Letter on the Draft Supplemental EIR/EIS, January 4, 2017; County of Orange Master Planned Combination Map of Regional Trails and Bikeways [2008]) Source: http://www.ocparks.com/parks/trails/maps, accessed February 7, 2017. Jeff Dickman, Planner IV, Trail and Bikeway Planner, County of Orange, stated that no funding is currently available to implement Weir Canyon Regional Riding and Hiking Trail; therefore, there is no schedule to implement this trail. Source: Telephone conversation on February 9, 2017. James Wootten, Supervising Maintenance Inspector, Regional Trails/Bikeways, CSA Parks/Open Spaces, OC Parks, indicated that this project is currently in design. Construction is expected to be in mid or late 2020 with an approximate construction duration of 18 months. Source: Email correspondence, April 2, 2019.

Table 3.1.3 Planned Projects

Figure 3.1.3 Project ID Number	Project Name/Type	Location	Proposed Use/Description	Status and Sources
19	Gypsum-Coal Canyon Riding and Hiking Trail	Parallel to the existing Santa Ana River Class I Bikeway	This multi-use trail will adjoin the bikeway between SR-91 and the Santa Ana River from Gypsum Canyon Road east to near Coal Canyon. The trail is also planned to pass through Featherly Regional Park, cross under SR-91 into Gypsum Canyon, and cross under SR-241 into Weir Canyon Regional Park.	Laree Alonso, Manager, Planning Division, OC Public Works Service Area/OC Development Services (Comment Letter on the Draft Supplemental EIR/EIS, January 4, 2017; County of Orange Master Planned Combination Map of Regional Trails and Bikeways [2008]). Source: http://www.ocparks.com/parks/trails/maps, accessed February 7, 2017. Jeff Dickman, Planner IV, Trail and Bikeway Planner, County of Orange stated that funding is available to implement Gypsum Canyon Riding and Hiking Trail. The County estimates 2 years for trail design and 2 years for permits. As a result, the earliest that Gypsum Canyon Riding and Hiking Trail would be constructed would be 2021 or 2022. Source: Telephone conversation on February 9, 2017. James Wootten, Supervising Maintenance Inspector, Regional Trails/Bikeways, CSA Parks/Open Spaces, OC Parks, indicated that this project is currently in design. Construction is expected to be in mid or late 2020 with an approximate construction duration of 18 months. Source: Email correspondence, April 2, 2019.

ac = acre(s)
BNSF = Burlington North Santa Fe
CIP = Corridor Improvement Project
EIR = Environmental Impact Report
HOV = high-occupancy vehicle
I-15 = Interstate 15
mi = mile(s)
N/A = not applicable
sf = square feet
SR-55 = State Route 55
SR-60 = State Route 60
SR-71 = State Route 71
SR-90 = State Route 90
SR-91 = State Route 91
SR-133 = State Route 133
USACE = United States Army Corps of Engineers



Project Area
Land Use Study Area
County Boundary
City Boundary

Planned Projects
- Mixed Use
- Residential
- School
- Transportation
- Non-Transportation Infrastructure
- Recreation

0 1900 3800
FEET

SOURCE: Bing Maps (2014); RBF (12/2014)

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Note: Locations are approximate. Please refer to Table 3.1.3 for descriptions of the planned projects and the data sources for those projects

FIGURE 3.1.3

SR-241/SR-91 Express Lanes Connector

Planned Projects

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3.1.1.2 Environmental Consequences

Temporary Impacts

Build Alternative (*Two-Lane Express Lanes Connector*) *(Preferred Alternative)*

Because construction access and staging areas would occur within existing Caltrans right-of-way, no short-term direct or indirect impacts related to existing and future land uses are anticipated to occur during construction of the Build Alternative.

No Build Alternative

The No Build Alternative does not include the construction of transportation improvements in the Project Area. As a result, the No Build Alternative would not result in direct or indirect impacts to temporary land uses or long-term effects related to General Plan land uses.

Permanent Impacts

Build Alternative (*Two-Lane Express Lanes Connector*) *(Preferred Alternative)*

The Build Alternative would be constructed mostly within existing Caltrans right-of-way. However, the Build Alternative would require the permanent acquisition of approximately 5 acres (ac) of land on the slope approximately 3,600 feet (ft) west of Coal Canyon Undercrossing, on Assessor's Parcel Number (APN) 085-071-56. The Proposed Project would need to grade into this slope in order to accommodate the widening of SR-91 to the south, required for the Build Alternative. This parcel is part of the Irvine Ranch National Natural Landmark (NNL)/Gypsum Canyon Nature Reserve, owned by the County of Orange with a Conservation Easement held by the Nature Conservancy. Although the slope would be revegetated after construction is complete, a maintenance access road and drainage structures would need to be constructed on the slope; therefore, all impacts on this parcel are considered permanent land use impacts. That is, approximately 5 ac of land would be converted from parkland/reserve to transportation use. However, the affected parcel is at the northernmost boundary of the NNL, adjacent to Caltrans right-of-way, and the Build Alternative would result in the removal of only approximately 5 ac within the 40,000 ac Irvine NNL. In addition, the Build Alternative would qualify as a necessary infrastructure improvement under the Grant Deed of Conservation Easement conditions and would not induce additional changes in land use in the NNL. Therefore, the conversion of approximately 5 ac of NNL property to transportation use is not considered a substantial land use impact, either directly or indirectly.

The Build Alternative would not impact any other existing or future land uses.

No Build Alternative

The No Build Alternative does not include the construction of transportation improvements in the Project Area. As a result, the No Build Alternative would not result in direct or indirect impacts to existing land uses or long-term effects related to General Plan land uses, including permanent easements and right-of-way acquisition.

3.1.1.3 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required with respect to existing or future land use impacts associated with the Proposed Project. Refer to Sections 3.10, Paleontology, and Section 3.15, Natural Communities, for measures applicable to potential paleontological resources and biological resources, respectively, which would be impacted within the Irvine Ranch NNL Gypsum Canyon Reserve property.

3.1.2 Consistency with Federal, State, Regional, and Local Plans

3.1.2.1 Affected Environment

This section discusses the Proposed Project's consistency with SCAG's 2012–2035 RTP/SCS, SCAG's 2015 Federal Transportation Improvement Program (FTIP), the Orange County Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP), and the Western Riverside County Multiple Species Habitat Conservation Plan (WR-MSHCP). Additionally, the Proposed Project's consistency with adopted goals, policies, and plans from the General Plans of the counties of Orange and Riverside and the cities of Anaheim, Yorba Linda, Orange, and Corona are also discussed. Last, the Proposed Project's consistency with the Green River Ranch Specific Plan and the Sierra Del Oro Specific Plan are also evaluated.

Regional Transportation Plan/Sustainable Communities Plan

SCAG is the Metropolitan Planning Organization (MPO) for the counties of Orange, Los Angeles, San Bernardino, Riverside, Ventura, and Imperial (SCAG region). SCAG is mandated by the federal government to develop regional plans for transportation, growth management, hazardous waste management, and air quality.

SCAG's RTP/SCS is a long-range plan that identifies multimodal regional transportation needs and investments over the next 23 years in the SCAG region. The 2016–2040 RTP/SCS was adopted by SCAG on April 7, 2016, and found to conform by the Federal Highway Administration/Federal Transit Administration (FHWA/FTA) on June 1, 2016. SCAG's 2016–2040 RTP/SCS establishes a transportation

vision for the SCAG region. The 2016–2040 RTP/SCS places a greater emphasis on sustainability and integrated planning than previous RTPs and defines three principles that collectively work as the key to the region's future: mobility, economy, and sustainability. SCAG updates the RTP every 4 years. Federal regulations require that RTP project costs be constrained to the existing revenues and new revenues that may be reasonably expected to be available over the life of the Plan. Projects on this list become eligible for federal transportation funds. The Proposed Project is included as a "Financially-Constrained RTP Project" in the 2016–2040 RTP/SCS.

The 2016 RTP/SCS includes the following policies relevant to the Proposed Project:

- **G2:** Maximize mobility and accessibility for all people and goods in the region.
- **G3:** Ensure travel safety and reliability for all people and goods in the region.
- **G4:** Preserve and ensure a sustainable regional transportation system.
- **G5:** Maximize the productivity of our transportation system.

Federal Transportation Improvement Program

The FTIP is a capital listing of all transportation projects proposed over a 6-year period for the SCAG region. It is prepared to implement projects and programs listed in the RTP, and is developed in compliance with State and federal requirements. A new FTIP is prepared and approved every 2 years. These funded projects include highway improvements; transit, rail, and bus facilities; carpool lanes; signal synchronization; intersection improvements; freeway ramps; and other related improvements.

The 2015 Federal Statewide Transportation Improvement Program (FSTIP) was adopted by FTA/FHWA on December 15, 2014. The 2017 FTIP was adopted by FTA/FHWA on December 16, 2016. The 2019 FTIP was found to be conforming by FTA/FHWA on December 17, 2018. MPOs approve FTIPs for incorporation in the FSTIP. The 2019 FTIP Project Description for the Proposed Project is consistent with the Project Description provided in the 2016 RTP/SCS. Amendments to the current adopted FTIP are prepared and approved on a continual basis.

Master Plan of Arterial Highways

The Master Plan of Arterial Highways (MPAH) was established by the County of Orange in 1956. The purpose of this plan is to ensure that a regional highway network would be planned, developed, and preserved in order to improve the County of Orange's existing freeway system. Improvements included as part of the Proposed

Project are consistent with street classifications and proposed interchange locations identified by the MPAH.

Long Range Transportation Plan

The Long Range Transportation Plan (LRTP) established by the Orange County Transportation Authority (OCTA) outlines a vision for multimodal transportation improvements throughout the County of Orange. These projects, programs, and improvements are designed to address the transportation needs of the County of Orange residents, commuters, and visitors for the next 25 years. OCTA prepares the LRTP every 4 years to account for new planning efforts, as well as changes in demographics, economic conditions, and available sources of transportation funding, and submits the LRTP to SCAG for inclusion into the RTP/SCS.

Orange County Central and Coastal Subregion Natural Community Conservation Plan/Habitat Conservation Plan

The NCCP/HCP was approved in 1996 and serves as a comprehensive, multi-jurisdictional habitat-based conservation program, focusing on the conservation of multiple species and their associated habitats while allowing for economic uses that meet social and economic needs in central and coastal areas of the County of Orange. The NCCP/HCP is utilized to allow participating jurisdictions to authorize the "take" of both the plant and wildlife species identified within the NCCP/HCP Plan Area.

The majority of the Project Area is located within the NCCP/HCP Plan Area. An NCCP Existing Use Area overlaps the eastbound SR-91 lanes in the easternmost end of the Proposed Project at Coal Canyon Undercrossing within Caltrans right-of-way. The Project Area is not located within any portion of the NCCP Reserve. However, SR-241 bisects a part of the NCCP Reserve near the Windy Ridge Wildlife Undercrossing, where this wildlife crossing is designed to functionally link the NCCP Reserve with the Coal Canyon Reserve, Lomas de Santiago, and the Cleveland National Forest.

Western Riverside County Multiple Species Habitat Conservation Plan

The WR-MSHCP provides a comprehensive, habitat-based approach to the protection of covered species by focusing on conservation and management of lands essential for their long-term conservation. As a regional plan, the WR-MSHCP serves to provide mitigation for cumulative impacts to covered species and their habitats. Project consistency with the WR-MSHCP ensures that cumulative and indirect

impacts to those species are effectively mitigated. The Proposed Project is consistent with the WR-MSHCP.

County of Orange General Plan

The County of Orange General Plan (adopted in 2005 with the Housing Element updated in 2013) provides direction for land use decisions in unincorporated parts of the County of Orange. The Study Area includes areas of unincorporated land in the County of Orange along the SR-241 corridor and near the Orange/Riverside County boundary. This area is designated in the County of Orange General Plan as Open Space and Open Space Reserve, which provides for limited land uses that do not require a commitment of substantial urban infrastructure. Currently, this area is undeveloped.

Goals and objectives from the County of Orange General Plan relevant to the Proposed Project are provided below.

Land Use Element

Objective 4

Land Use Transportation Integration – to plan an integrated land and transportation system that accommodates travel demand.

Transportation Element

The ultimate goal of the Transportation Element of the County of Orange General Plan is:

> *"To develop an integrated transportation system consisting of a blend of transportation modes capable of meeting the need to move people and goods by private and public means with maximum efficiency, convenience, economy, safety, and comfort and a system that is consistent with other goals and values of the County and the region."*

The County of Orange General Plan Transportation Element includes a Scenic Highways Component, which outlines the County of Orange Scenic Highway Plan. Under the Scenic Highway Plan, SR-91 from Weir Canyon to the Riverside County Line is classified as a Type 1 Viewscape Corridor. This classification designates a route that traverses a corridor within which unique or unusual scenic resources and aesthetic values are found. This designation is intended to minimize the impacts of the highway and land use development on the significant scenic resources along the route. This definition also includes safety roadside rests and vista points.

Goal 1: Preserve and enhance unique or special aesthetic and visual resources through sensitive highway design and the regulation of development within the scenic corridor.

Policy 1.6: Highway Design. Design the roadway to have a visual quality and riding comfort resulting from its horizontal and vertical design. Introduce curves where feasible to take advantage of natural or man-made scenic features.

Policy 1.8: Road Slope Improvement. Where feasible, utilize contour grading and slope rounding to gradually transition graded road slopes into the natural configuration consistent with the topography of the area.

Growth Management Element Goals

1. Reduce traffic congestion.
2. Ensure that adequate transportation facilities, public facilities, equipment, and services are provided for existing and future residents.
3. Protect the natural environment of Orange County.

County of Riverside General Plan

Adopted in 2003, the County of Riverside General Plan sets the direction for land use and development in unincorporated areas of Riverside County. The Study Area land uses in unincorporated Riverside County are along SR-91 near the Orange/Riverside County Line. This area consists of rural and open space uses north and south of SR-91. According to the County of Riverside General Plan, the General Plan designations in this area include Rural Mountainous and Open Space-Conservation. The County of Riverside General Plan contains Area Plans that are intended to guide development in specific locations in the County. The Temescal Canyon Area Plan (TCAP) encompasses the City of Corona and its sphere of influence and is within the Study Area.

Policies from the County of Riverside General Plan Land Use, Circulation, and Air Quality Elements and TCAP relevant to the Proposed Project are provided below.

Land Use Element Policy

LU-1.5: The County shall participate in regional efforts to address issues of mobility, transportation, traffic congestion, economic development, air and water quality, and watershed and habitat management with cities, local and regional agencies, stakeholders, Indian Nations, and surrounding jurisdictions.

Circulation Element Policies

C1-4: Utilize existing infrastructure and utilities to the maximum extent practicable and provide for the logical, timely, and economically efficient extension of infrastructure and services.

C-1.6: Cooperate with local, regional, State, and federal agencies to establish an efficient circulation system.

Air Quality Element Policy

AQ-14.4: Preserve transportation corridors with the potential of high demand or of regional significance for future expansion to meet project demand.

Temescal Canyon Area Plan

Area Plans were developed as part of the Riverside County General Plan to guide development in specific locations within the County of Riverside. Area Plans are components of the General Plan and address issues and development policies for specific areas in greater detail than provided in the General Plan. The TCAP includes portions of the Study Area. There are no specific policies that are applicable to the Proposed Project.

City of Yorba Linda General Plan

The City of Yorba Linda General Plan, adopted in 1993, is intended to establish land use and growth policy that is "visionary and creative, yet its goals, policies and programs must be realistic and achievable." A small part of the Study Area along SR-91, consisting of an area on the north side, is in the City of Yorba Linda. The City of Yorba Linda General Plan land use designations in the Study Area include Open Space and Commercial General. Goals and policies relevant to the Proposed Project from the City of Yorba Linda General Plan are provided below.

Land Use Element

Policy 5.1: Implement public infrastructure improvements necessary to serve land uses included in the Land Use Plan (as defined by the Circulation Element).

Circulation Element

Goal 2: Support development of a network of regional roadway facilities that ensures the safe and efficient movement of people and goods from within the City of Yorba Linda to areas outside of its boundaries and accommodates the regional travel demands of areas outside of the City of Yorba Linda.

Policy 2.1: Coordinate roadway improvements with applicable regional, State, and federal agencies.

City of Anaheim General Plan

The City of Anaheim General Plan, adopted in 2004, provides direction for land use decisions in the City. The western segment of the Study Area includes land in the City of Anaheim. The eastern part of the City of Anaheim in the Study Area extends along the Santa Ana River to the Riverside County line and includes hilly terrain. The City of Anaheim General Plan Land Use Element designates land uses in the Study Area as Residential and Open Space. Goals and policies relevant to the Proposed Project from the City of Anaheim General Plan are listed below.

Circulation Element

Goal 1.2: Support improvements to highways passing near and through the City.

Policy 1: Continue working with Caltrans, FHWA, and FTA to address traffic flow along State highways that traverse the City.

Policy 2: Discourage SR-91 bypass traffic through the Hill and Canyon Area by working with Caltrans and OCTA to improve traffic flow on SR-91.

Policy 4: Work with Caltrans and adjacent jurisdictions to improve the operational performance of highways within and adjacent to the City.

Policy 5: Work with Caltrans in analyzing the performance of freeway interchanges located in the City and seek appropriate improvements.

Goal 2.3: Improve regional access for City residents and workers.

City of Orange General Plan

The City of Orange General Plan, adopted in 2010, provides direction for land use decisions in the City of Orange. While no improvements are proposed in the City of Orange, the Study Area includes land in the City of Orange due to its adjacency to the Santiago Canyon Road interchange between SR-261 and SR-241. The City boundary spans across the east and west sides of the interchange, and this portion of the Study Area currently consists of open space uses. The City of Orange General Plan Land Use Element designates land uses in the Study Area as Residential and Open Space. Goals and policies relevant to the Proposed Project from the City of Orange General Plan Elements are listed below.

Circulation and Mobility Element

Goal 2.0: Provide an effective regional transportation network.

City of Corona General Plan

The City of Corona General Plan (adopted 2004) presents a vision for its future and a strategy to make that vision a reality. It is long range, looking ahead to 2025, while at the same time presenting policies to guide day-to-day decisions. According to the General Plan, most of the land best suited for development in the City of Corona has already been developed.

As indicated in the City of Corona General Plan, the land uses in the Study Area in the City of Corona are primarily residential and industrial. The City of Corona also established a land use and growth policy that extends to 2025. The City of Corona General Plan supports initiatives to improve regional traffic flow to help improve congestion on City streets. The City of Corona General Plan policies relevant to the Proposed Project are listed below.

Circulation Element

Goal 6.2: Support the development of a network of regional roadway facilities that ensure the safe and efficient movement of people and goods from within the City to areas outside its boundaries, and that accommodate the regional travel demands of developing areas outside the City.

Policy 6.2.4: Participate in programs to mitigate regional traffic congestion.

Policy 6.2.7: Consider the implementation of intercity/intraregional connections to improve regional and local mobility.

Green River Ranch Specific Plan

The Green River Ranch Specific Plan consists of approximately 165 ac of land within the western portion of the City of Corona. The Specific Plan includes three distinct land use categories within its planning area: Mixed Use (MU), Commercial-General (C-G), and Estate Residential (RE). The Specific Plan's land use summary displays 140.5 ac as the total amount of usable land acreage.

The Green River Ranch Specific Plan includes 59.01 ac of land (37.3 ac of usable area) designated as Mixed Use. The Mixed Use category includes, but is not limited to, freeway service commercial uses, retail/neighborhood commercial development, food and drinking establishments, and office buildings and multi-tenant office/

business park uses, as well as limited light industrial uses such as research and development, manufacturing, fabrication, and warehouse. Additionally, two planning areas adjacent to Green River Road have been designated for general commercial uses. These areas total 8.12 ac (5.0 ac of usable area). Approximately 98.2 ac of land in the valleys of the foothills of the site are designated as Estate Residential. A total of 32 lots are proposed for single-family detached residences on estate properties, each with a minimum size of 3.0 ac.

There are no specific policies that are applicable to the Proposed Project.

Sierra Del Oro Specific Plan

The Sierra Del Oro Specific Plan provides the development ordinance for approximately 1,370 ac at the southwestern gateway of the City of Corona. It is located south of Green River Road and SR-91.

The Specific Plan directs the development of a mixed-density residential community of 3,592 units with a population of approximately 11,260. Integrated recreation and open space and neighborhood commercial areas are also included in the planning area. Development areas are planned to cluster units leaving 594.60 ac of open space and parkland. Single-family detached, attached and patio homes, town homes, flats, and apartments are proposed.

There are no specific policies that are applicable to the Proposed Project.

3.1.2.2 Environmental Consequences

Temporary Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

The Build Alternative is a highway improvement project that would be constructed mostly within Caltrans right-of-way, consistent with Caltrans standards and policies. Land use consistency impacts related to the Irvine Ranch NNL/Gypsum Canyon Nature Reserve are permanent and are discussed in Section 3.1.3 (Parks and Recreational Facilities), below.

No Build Alternative

The No Build Alternative would maintain the current configurations of SR-241 and SR-91 in the Study Area. Under the No Build Alternative, the SR-241/SR-91 interchange connector improvements would not be constructed. Therefore, the No Build Alternative would not result in any temporary impacts to land use consistency.

Permanent Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

The Build Alternative is also consistent with regional planning efforts. The Proposed Project is identified in the 2016 RTP/SCS and is programmed in the 2017 FTIP and 2014 LRTP to reduce traffic congestion and improve operations. Table 3.1.4 shows that the Build Alternative is consistent with applicable 2016 RTP/SCS goals.

The Build Alternative would not result in the use of any land designated in or adjacent to any lands designated in the Orange County NCCP Reserve. The Proposed Project is a covered project under the NCCP/HCP and "take" of both plant and wildlife species is authorized in the NCCP/HCP Plan Area. Therefore, the Build Alternative is consistent with the NCCP/HCP.

The Riverside County portion of the Project Area is located within the WR-MSHCP Conservation Area; however, this portion of SR-91 is planned for advance signage only and consists only of the paved roadway and shoulder. The SR-91 advance signage area in the context of the WR-MSHCP is a Covered Activity under Section 7.3.4, Existing Roads Within the Criteria Area – Covered Road Maintenance Activities Within the Criteria Area: Publicly Maintained Roads. F/ETCA and Caltrans will follow the procedures and guidelines from Section 7.5.3: Construction Guidelines as well as best management plans outlined in Appendix C (WR-MSHCP Volume 1). Therefore, the Build Alternative is consistent with the WR-MSHCP.

As shown in Table 3.1.5, the Build Alternative is consistent with the goals, policies, and objectives identified in the General Plans and Specific Plans for the counties of Orange and Riverside, as well as the cities of Yorba Linda, Anaheim, Orange, and Corona.

No Build Alternative

The No Build Alternative would maintain the current configurations of SR-241 and SR-91 in the Study Area. Under the No Build Alternative, the SR-241/SR-91 interchange connector improvements would not be constructed. The No Build Alternative would not be consistent with several plan policies to improve regional mobility.

Table 3.1.4 Consistency with SCAG's 2016 RTP/SCS

Goal	Build Alternative	No Build Alternative
G1: Align the plan investments and policies with improving regional economic development and competitiveness	**Not applicable.** The Build Alternative is a transportation improvement that will not directly improve economic development and competiveness.	**Not applicable.** The No Build Alternative would not include improvements.
G2: Maximize mobility and accessibility for all people and goods in the region	**Consistent.** The Build Alternative would improve regional mobility and reduce congestion in the Project Area.	**Inconsistent.** The No Build Alternative does not include improvements to the transportation system to improve mobility.
G3: Ensure travel safety and reliability for all people and goods in the region	**Consistent.** The Build Alternative would provide an additional connection between SR-241 and SR-91 that would improve reliability.	**Inconsistent.** The No Build Alternative does not include improvements to the transportation system to improve reliability.
G4: Preserve and ensure a sustainable regional transportation system	**Consistent.** The Build Alternative would improve operations on an existing facility, which would provide a benefit in the SR-91 corridor between SR-55 and SR-71.	**Inconsistent.** The No Build Alternative does not include improvements to the regional transportation system.
G5: Maximize the productivity of our transportation system	**Consistent.** The Build Alternative would improve operations on an existing facility, which would provide a benefit in the SR-91 corridor between SR-55 and SR-71.	**Inconsistent.** The No Build Alternative does not include improvements to the regional transportation system.
G6: Protect the environment and health for our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking)	**Not applicable.** The Build Alternative is a highway project and would not encourage active transportation; however, it would not preclude these improvements.	**Not applicable.** The No Build Alternative does not encourage active transportation; however, it would not preclude these improvements.
G7: Actively encourage and create incentives for energy efficiency, where possible	**Not applicable.** The Build Alternative is a highway project and would not encourage energy efficiency; however, it would not preclude these improvements.	**Not applicable.** The No Build Alternative does not encourage energy efficiency; however, it would not preclude these improvements.
G8: Encourage land use and growth patterns that facilitate transit and active transportation	**Not applicable.** The Build Alternative is a highway project within an existing transportation facility. The reduction in congestion in the Project Area would benefit the express bus service on SR-91.	**Not applicable.** The No Build Alternative does not facilitate transit and non-motorized transportation; however, it would not preclude these improvements.
G9: Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies[1]	**Not applicable.** The Build Alternative is a highway project within an existing transportation facility. It does not include any security features.	**Not applicable.** The No Build Alternative does not maximize security; however, it would not preclude these improvements.

Source: SCAG Regional Transportation Plan/ Sustainable Communities Strategy (2016). Website: http://rtpscs.scag.ca.gov/Documents/2012/final/f2012RTPSCS.pdf (accessed June 23, 2017).

[1] SCAG does not yet have an agreed-upon security performance measure.

SCAG = Southern California Association of Governments
SR-55 = State Route 55
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241

Table 3.1.5 Consistency with Local General Plans

Applicable Goals, Policies, & Objectives	Build Alternative	No Build Alternative
County of Orange		
Land Use Element		
Objective 4: Land Use Transportation Integration – to plan an integrated land and transportation system that accommodates travel demand.	**Consistent.** The Build Alternative would improve mobility and reduce congestion in the Project Area in order to meet travel demand.	**Inconsistent.** The No Build Alternative does not include improvements to the transportation system to meet travel demand.
Transportation Element Scenic Highways Component		
Goal 1: Preserve and enhance unique or special aesthetic and visual resources through sensitive highway design and the regulation of development within the scenic corridor.	**Consistent.** The Build Alternative would be constructed within the median of the SR-241/ SR-91 interchange, minimizing visual impacts. Changes to the natural environment would be consistent with the NCCP/HCP.	**Consistent.** The No Build Alternative would not change the aesthetics or natural environment in the Project Area.
Policy 1.6: Highway Design. Design the roadway to have a visual quality and riding comfort resulting from its horizontal and vertical design. Introduce curves where feasible to take advantage of natural or man-made scenic features.	**Consistent.** The Build Alternative would be constructed within the median of the SR-241/ SR-91 interchange, minimizing visual impacts. Changes to the natural environment would be consistent with the NCCP/HCP.	**Consistent.** The No Build Alternative would not change the aesthetics or natural environment in the Project Area.
Policy 1.8: Road Slope Improvement. Where feasible, utilize contour grading and slope rounding to gradually transition graded road slopes into the natural configuration consistent with the topography of the area.	**Consistent.** To the extent feasible, the slope south of SR-91 would be graded and vegetated consistent with the current topography and natural environment.	**Consistent.** The No Build Alternative would not change the topography or natural environment in the Project Area.
Growth Management Element Goals		
1. Reduce traffic congestion.	**Consistent.** The Build Alternative would improve mobility and reduce congestion in the Project Area in order to meet travel demand	**Inconsistent.** The No Build Alternative does not include improvements to the transportation system to meet travel demand.
2. Ensure that adequate transportation facilities, public facilities, equipment, and services are provided for existing and future residents.	**Consistent.** The Build Alternative would include a new Express Lanes Connector between SR-241 and SR-91 to improve mobility in the Project Area.	**Inconsistent.** The No Build Alternative does not include improvements to the transportation system to meet travel demand.
3. Protect the natural environment of Orange County.	**Consistent.** To the extent feasible, the slope south of SR-91 would be graded and vegetated consistent with the current topography and natural environment. Changes to the natural environment would be consistent with the NCCP/HCP.	**Consistent.** The No Build Alternative would not change the natural environment in the Project Area.

Table 3.1.5 Consistency with Local General Plans

Applicable Goals, Policies, & Objectives	Build Alternative	No Build Alternative
County of Riverside		
Land Use Element		
Policy LU 1.5: The County shall participate in regional efforts to address issues of mobility, transportation, traffic congestion, economic development, air and water quality, and watershed and habitat management with cities, local and regional agencies, stakeholders, Indian Nations, and surrounding jurisdictions.	**Consistent.** The Build Alternative would improve regional mobility in the SR-241 and SR-91 corridors, while minimizing impacts.	**Inconsistent.** The No Build Alternative does not include improvements to the transportation system to improve regional mobility.
Circulation Element		
Policy C 1.4: Utilize existing infrastructure and utilities to the maximum extent practicable and provide for the logical, timely, and economically efficient extension of infrastructure and services.	**Consistent.** The Build Alternative would be constructed within the median of the SR-241/ SR-91 interchange, to provide a direct connector to the *91 Express Lanes*.	**Inconsistent.** The No Build Alternative does not include improvements to the transportation system.
Policy C 1.6: Cooperate with local, regional, State, and federal agencies to establish an efficient circulation system.	**Consistent.** The Build Alternative would improve regional mobility in the SR-241 and SR-91 corridors by providing a direct connector to the *91 Express Lanes*.	**Inconsistent.** The No Build Alternative does not include improvements to the transportation system to improve regional mobility.
Air Quality Element		
Policy AQ 14.4: Preserve transportation corridors with the potential of high demand or of regional significance for future expansion to meet project demand.	**Consistent.** The Build Alternative would be constructed within the median of the SR-241/ SR-91 interchange, to provide a direct connector to the *91 Express Lanes*, thereby preserving existing transportation corridors.	**Consistent.** The No Build Alternative does not include transportation improvements, but would preserve the existing transportation corridors.
City of Yorba Linda		
Land Use Element		
Policy 5.1: Implement public infrastructure improvements necessary to serve land uses included in the Land Use Plan (as defined by the Circulation Element).	**Consistent.** The Build Alternative would improve regional mobility in the SR-241 and SR-91 corridors to support planned land uses in the region.	**Inconsistent.** The No Build Alternative does not include improvements to the transportation system to support planned land uses.
Circulation Element		
Goal 2: Support development of a network of regional roadway facilities that ensures the safe and efficient movement of people and goods from within the City of Yorba Linda to areas outside of its boundaries and accommodates the regional travel demands of areas outside of the City of Yorba Linda.	**Consistent.** The Build Alternative would improve regional people and goods movement in the SR-241 and SR-91 corridors.	**Inconsistent.** The No Build Alternative does not include improvements to the transportation system to improve people and goods movement.

Table 3.1.5 Consistency with Local General Plans

Applicable Goals, Policies, & Objectives	Build Alternative	No Build Alternative
Policy 2.1: Coordinate roadway improvements with applicable regional, State, and federal agencies.	**Consistent.** Development of the Build Alternative has been coordinated with FHWA, Caltrans, TCA, and local agencies	**Inconsistent.** The No Build Alternative does not include roadway improvements.
City of Anaheim		
Circulation Element		
Goal 1.2: Support improvements to highways passing near and through the City.	**Consistent.** The Build Alternative would improve regional mobility in the SR-241 and SR-91 corridors.	**Inconsistent.** The No Build Alternative does not include highway improvements.
Policy 1: Continue working with Caltrans, FHWA, and FTA to address traffic flow along State highways that traverse the City.	**Consistent.** Development of the Build Alternative has been coordinated with FHWA, Caltrans, TCA, and local agencies	**Inconsistent.** The No Build Alternative does not include State highway improvements.
Policy 2: Discourage SR-91 bypass traffic through the Hill and Canyon Area by working with Caltrans and OCTA to improve traffic flow on SR-91.	**Consistent.** The Build Alternative would improve regional mobility in the SR-241 and SR-91 corridors.	**Inconsistent.** The No Build Alternative does not include SR-91 improvements.
Policy 4: Work with Caltrans and adjacent jurisdictions to improve the operational performance of highways within and adjacent to the City.	**Consistent.** Development of the Build Alternative has been coordinated with FHWA, Caltrans, TCA, and local agencies. The Build Alternative would improve regional mobility in the SR-241 and SR-91 corridors.	**Inconsistent.** The No Build Alternative does not include highway improvements.
Policy 5: Work with Caltrans in analyzing the performance of freeway interchanges located in the City and seek appropriate improvements.	**Consistent.** Development of the Build Alternative has been coordinated with FHWA, Caltrans, TCA, and local agencies. The Build Alternative would improve regional mobility in the SR-241 and SR-91 corridors.	**Inconsistent.** The No Build Alternative does not include highway improvements.
Goal 2.3: Improve regional access for City residents and workers.	**Consistent.** The Build Alternative would improve regional mobility in the SR-241 and SR-91 corridors.	**Inconsistent.** The No Build Alternative would not improve regional mobility.
City of Orange		
Circulation and Mobility Element		
Goal 2.0: Provide an effective regional transportation network.	**Consistent.** The Build Alternative would improve regional mobility in the SR-241 and SR-91 corridors.	**Inconsistent.** The No Build Alternative would not improve regional mobility.

Table 3.1.5 Consistency with Local General Plans

Applicable Goals, Policies, & Objectives	Build Alternative	No Build Alternative
City of Corona		
Circulation Element		
Goal 6.2: Support the development of a network of regional roadway facilities that ensure the safe and efficient movement of people and goods from within the City to areas outside its boundaries, and that accommodate the regional travel demands of developing areas outside the City.	**Consistent.** The Build Alternative would improve regional people and goods movement in the SR-241 and SR-91 corridors.	**Inconsistent.** The No Build Alternative does not include improvements to the transportation system to improve people and goods movement.
Policy 6.2.4: Participate in programs to mitigate regional traffic congestion.	**Consistent.** Development of the Build Alternative has been coordinated with FHWA, Caltrans, TCA, and local agencies. The Build Alternative would improve regional mobility in the SR-241 and SR-91 corridors.	**Inconsistent.** The No Build Alternative does not include highway improvements.
Policy 6.2.7: Consider the implementation of intercity/intraregional connections to improve regional and local mobility.	**Consistent.** Development of the Build Alternative has been coordinated with FHWA, Caltrans, TCA, and local agencies. The Build Alternative would improve regional mobility in the SR-241 and SR-91 corridors.	**Inconsistent.** The No Build Alternative does not include highway improvements.

Sources: County of Orange General Plan (July 2014); County of Riverside General Plan (March 11, 2014); City of Yorba Linda General Plan (December 6, 1993); City of Anaheim General Plan (May 2004); City of Orange General Plan (March 2010); City of Corona General Plan (March 17, 2004).
Caltrans = California Department of Transportation
FHWA = Federal Highway Administration
FTA = Federal Transit Administration
NCCP/HCP = Natural Communities Conservation Plan/Habitat Conservation Plan
SR-91 = State Route 91
SR-241 = State Route 241
TCA = Transportation Corridor Agencies

3.1.2.3 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required with respect to land use consistency impacts associated with the Proposed Project. Refer to Sections 3.10, Paleontology, and Section 3.15, Natural Communities, for measures applicable to potential paleontological resources and biological resources that would be impacted within the Irvine Ranch NNL/Gypsum Canyon Nature Reserve property.

3.1.3 Parks and Recreational Facilities

3.1.3.1 Regulatory Setting

This project will affect facilities that are protected by the Park Preservation Act (California Public Resources Code Sections 5400-5409). The Park Preservation Act prohibits local and State agencies from acquiring any property which is in use as a public park at the time of acquisition unless the acquiring agency pays sufficient compensation or land, or both, to enable the operator of the park to replace the park land and any park facilities on that land.

3.1.3.2 Affected Environment

This section discusses parks and recreation facilities, including Section 4(f) properties. The Study Area for the Proposed Project for the identification of use effects on parks and recreation resources and Section 4(f) properties was defined as an area 0.5 mile (mi) from the project limits. The project limits were defined as the right-of-way limits for the Build Alternative. The project limits include areas within the right-of-way as well as areas temporarily disturbed during project construction. The Study Area for National Register of Historic Places (National Register) listed and eligible cultural properties considered under Section 4(f) was based on the area of potential effects (APE) as defined in the *Supplemental Historic Property Survey Report* (HPSR, August 2015). Section 4(f) applies to publicly owned public parks, recreation areas, wildlife refuges, and waterfowl refuges.

The existing and planned parks and recreational facilities and other properties are described in detail in Table 3.1.6 and are shown on Figure 3.1.4.

Table 3.1.6 Parks and Recreational Resources and Properties

Name, Address, and Owner/ Operator of Property	Description of Facilities and/or Resources on Property
Irvine Ranch Natural National Landmark (NNL) Northeast Orange County, south of SR-91 The approximately 40,000 ac Irvine Ranch NNL includes Irvine Ranch Open Space, Gypsum Canyon Nature Preserve (three parts in the NNL), Weir Canyon Nature Preserve, Fremont Canyon Nature Preserve, Limestone Canyon Nature Preserve, and the future Black Star Canyon Wilderness Park. Specific topographic and geologic features in the NNL include Loma Ridge, Laguna Laurel, and Limestone Canyon. This area was originally part of the Irvine Ranch. Only part of the NNL is in the Study Area as shown on Figure 3.1.4. Owner: Orange County Parks Operator: Orange County Parks	This NNL was designated by the Department of the Interior in 2006 while the majority of the land was still owned by The Irvine Company. The NNL extends across the original Irvine Ranch from south of SR-91 and east of SR-241 to just north of the City of Irvine. There is substantial change in grade from SR-91 to the NNL with the NNL at a substantially higher elevation than the freeway mainline. This area is also a designated California Natural Landmark. As defined in 36 Code of Federal Regulations (CFR) 62, NNLs are areas of exceptional value to the nation as a whole. NNLs identify and preserve natural areas that best illustrate the biological and geological character of the United States, enhance the scientific and educational values of preserved areas, strengthen public appreciation of natural history, and foster greater concern for the conservation of the nation's natural heritage. NNLs designated by the DOI are listed in the National Registry of Natural Landmarks. The NNL designation does not change the land use or land use designation of the area and does not change the ownership of the land. The Irvine Ranch NNL includes areas of natural beauty, native plants (coastal sage scrub, chaparral communities, and rare Tecate cypress woodlands) and animals, and geological resources. NNLs are not currently defined as meeting the requirements under Section 4(f). On June 30, 2010, it was announced that The Irvine Company had donated the NNL to the County of Orange for use as a public park and that the County of Orange Board of Supervisors had accepted that donation. As a result, the NNL is now considered a public park and, therefore, would trigger the requirements for protection under Section 4(f). Recreational facilities in the NNL include bike, equestrian, hiking, and multi-use trails; and restrooms. The NNL is open for limited public use. Day use is available through scheduled programs or on designated wilderness access days only. As shown on Figure 3.1.4, the following preserves in the NNL are in the Study Area: <u>Gypsum Canyon Nature Preserve (three areas)</u>: The Gypsum Canyon Nature Preserve is a publicly owned and operated preserve and is open for limited public use through scheduled programs. <u>Weir Canyon Nature Preserve</u>: The Weir Canyon Nature Preserve is a publicly owned and operated wildlife preserve and is open for limited public use through scheduled programs. This Preserve contains one of the largest oak woodlands in Orange County as well as rare habitats and wildlife. <u>Fremont Canyon Nature Preserve</u>: The Fremont Canyon Nature Preserve is a publicly owned and operated preserve and is open for limited public use through scheduled programs. This Preserve contains massive granite formations, and a number of rare, threatened, and endangered plant and animal species. As a publicly owned and operated park that is open to the public, the NNL and the Preserves in the NNL qualify for protection under the requirements of Section 4(f).

Table 3.1.6 Parks and Recreational Resources and Properties

Name, Address, and Owner/ Operator of Property	Description of Facilities and/or Resources on Property
Chino Hills State Park (CHSP) 1879 Jackson Street Riverside, CA 92504 CHSP is on the north and south sides of SR-91 near SR-71, on Assessor's Parcels 1033-171-15-0000 (San Bernardino County); 101-120-018 (Riverside County); and 353-061-03, 085-071-43, 085-071-32, 085-071-35, and 085-071-33 (Orange County) Owner/Operator: California State Parks	CHSP is on the north and south sides of SR-91 near SR-71. Amenities in CHSP include on-site parking, picnic areas, an equestrian staging area, pipe corrals, a historic barn, water spigots, campsites, restrooms, and approximately 60 mi of hiking, bike, and equestrian trails. Organized campfires, school programs, nature hikes, a Junior Ranger program, and educational talks are offered throughout the year. A ranch house, barn, windmills, and watering troughs in the park are reminders of the cattle ranching history in this area. CHSP serves a valuable function as a major link in a wildlife biolink that extends over 30 mi from the Santa Ana Mountains to the southeast to the Whittier Hills to the northwest. Coal Canyon Undercrossing under SR-91, which connects the Santa Ana Mountains south of SR-91 and the Puente-Chino Hills north of SR-91, provides a connection for wildlife between the parts of CHSP north and south of SR-91. This crossing is also used for emergency vehicles and as a fire access road. Coal-Gypsum Canyon Trail is near Coal Canyon Undercrossing. Hikers and bicyclists can and do access CHSP from Coal Canyon Undercrossing, although it is not intended as or designated as an access point for humans into/out of CHSP. The total area of CHSP is 14,173 ac. CHSP is normally open for both camping and day use. In fiscal year 2013–2014, the number of day-users of the CHSP was 130,755. There were no overnight users. Vehicular access to CHSP is available at the park entrances at Rimcrest Drive and Bane Canyon Road both of which are well northeast of the Study Area. Pedestrians and bicyclists can access CHSP at those entrances and at a number of trailheads leading to trails in the park. There is a trailhead in CHSP just north of SR-91 at Green River Road. An unpaved trail extends east and north from that trailhead, along a maintenance road, into CHSP. As a publicly owned and operated park which is open to the public, CHSP qualifies for protection under the requirements of Section 4(f). In addition, Land and Water Conservation Fund (L&WCF) Act funds were used to purchase land and/or make improvements to CHSP and, as a result, CHSP was identified as a Section 6(f) property.
Santa Ana River Trail/Bike Lane 24001 Santa Ana Canyon Road Anaheim, CA 92808 Owner/Operator: Orange County Parks	The Santa Ana River Trail/Bike Lane is a paved Class I bicycle path that parallels the Santa Ana River on the north side of SR-91. In the vicinity of the SR-241/SR-91 interchange, the Trail/Bike Lane is an off-street trail in a dedicated, publicly owned right-of-way. The Trail/Bike Lane is owned and operated by Orange County Parks and, therefore, qualifies for protection under the requirements of Section 4(f). The segment of the Trail/Bike Lane east of Featherly Regional Park is close to or within the State right-of-way for SR-91. In Featherly Regional Park, the Trail/Bike Lane is farther north and, as a result, is farther from SR-91. In the vicinity of the SR-241/SR-91 interchange, parking to access the Trail/Bike Lane is available on the street, just east of the entrance to the Green River Golf Club in the City of Corona on the north side of SR-91. On-site parking is available in CHSP and Featherly Regional Park. The Trail/Bike Lane traverses Featherly Regional Park generally adjacent to the Santa Ana River. In the vicinity of SR-91, the Trail/Bike Lane is an off-street, two-lane, 12-foot wide paved asphalt path that accommodates bicyclists, roller bladers, joggers, and pedestrians. The segment of the Trail/Bike Lane in the Study Area has only moderate topography and provides views of the Santa Ana River and wildlife.

Table 3.1.6 Parks and Recreational Resources and Properties

Name, Address, and Owner/ Operator of Property	Description of Facilities and/or Resources on Property
	The Trail/Bike Lane extends 30 mi from the Green River Golf Club on the north side of SR-91 west, south to Huntington Beach, generally following the alignment of the Santa Ana River. Destinations along the Trail/Bike Lane outside the Study Area include a rest area at Centennial Regional Park in the City of Santa Ana, picnic and rest-stop areas at Katella Avenue and Orange/Olive in the City of Orange, and a picnic area at Yorba Regional Park in the City of Anaheim. Because the Trail/Bike Lane is open for public access at a large number of locations along its alignment, it is not possible to estimate the number of users of this facility. Features that make the Trail/Bike Lane special include its length and route, which crosses much of Orange County adjacent to the Santa Ana River; its views of natural and developed areas along the Trail/Bike Lane; and the access that the Trail/Bike Lane provides to other recreational facilities, including parks and other trails. Because it is publicly owned and operated and open to the public, the Trail/Bike Lane qualifies for protection under the requirements of Section 4(f).
Featherly Regional Park (includes Canyon RV Park) 24001 Santa Ana Canyon Road Anaheim, CA 92808 Owner/Operator: Orange County Parks Note: Canyon RV Park is operated by a private party under contract to the County of Orange.	Amenities at Featherly Regional Park include on-site parking, a visitor center, park benches, picnic tables, campsites, restrooms, and the Santa Ana River Trail/Bike Lane. The Park covers 364 ac, much of which is a natural riparian wilderness area. Viewing opportunities are best from the Santa Ana River Trail/Bike Lane and the banks of the Santa Ana River. Featherly Regional Park offers camping and day use. The estimated number of day and overnight visitors to the Park was not available from the Orange County Parks website. Featherly Regional Park is traversed by the Santa Ana River Trail/Bike Lane, which provides a connection between this park and a number of other recreational resources along the Trail/Bike Lane, including the Green River Golf Club to the east and parks to the west and south all the way to the Pacific Ocean. Vehicular access to Featherly Regional Park is available via Gypsum Canyon Road. Pedestrians and bicyclists can access the Park at the main entrance on Gypsum Canyon Road or via the Trail/Bike Lane. Features that make Featherly Regional Park special include the provision of camping and day use activities in proximity to a large number of users in the developed parts of northeast Orange County, the ability to use the Santa Ana River Trail/Bike Lane to access other area resources, and the riparian vegetation and wildlife along the Santa Ana River. Featherly Regional Park is north of and adjacent to SR-91. There is a substantial change in grade from the freeway to the Park, with the Park at a substantially lower elevation than the freeway. The SR-241/SR-91 interchange ramps are immediately adjacent to and well above the grade of Featherly Regional Park. Because Featherly Regional Park is publicly owned and operated and is open to the public, it qualifies for protection under the requirements of Section 4(f).
Green River Golf Club 5215 Green River Road Corona, CA 92880 Owner: Orange County Parks Operator: private party under contract to the County of Orange	The Golf Club is on the north side of SR-91 at Green River Road. There are parts of the Golf Club property in the counties of Orange, Riverside, and San Bernardino. This facility includes an 18-hole regulation length golf course, a club house, a putting green, chipping area, practice bunker, pull and rental carts, rental clubs, a driving range, and a full service golf shop. The Golf Club also includes a restaurant, bar, and banquet facility. The Santa Ana River winds through the golf course, which is surrounded by mature native oak, sycamore, and cottonwood trees. Because the Green River Golf Club is publicly owned and open to the public, it qualifies for protection under the requirements of Section 4(f).

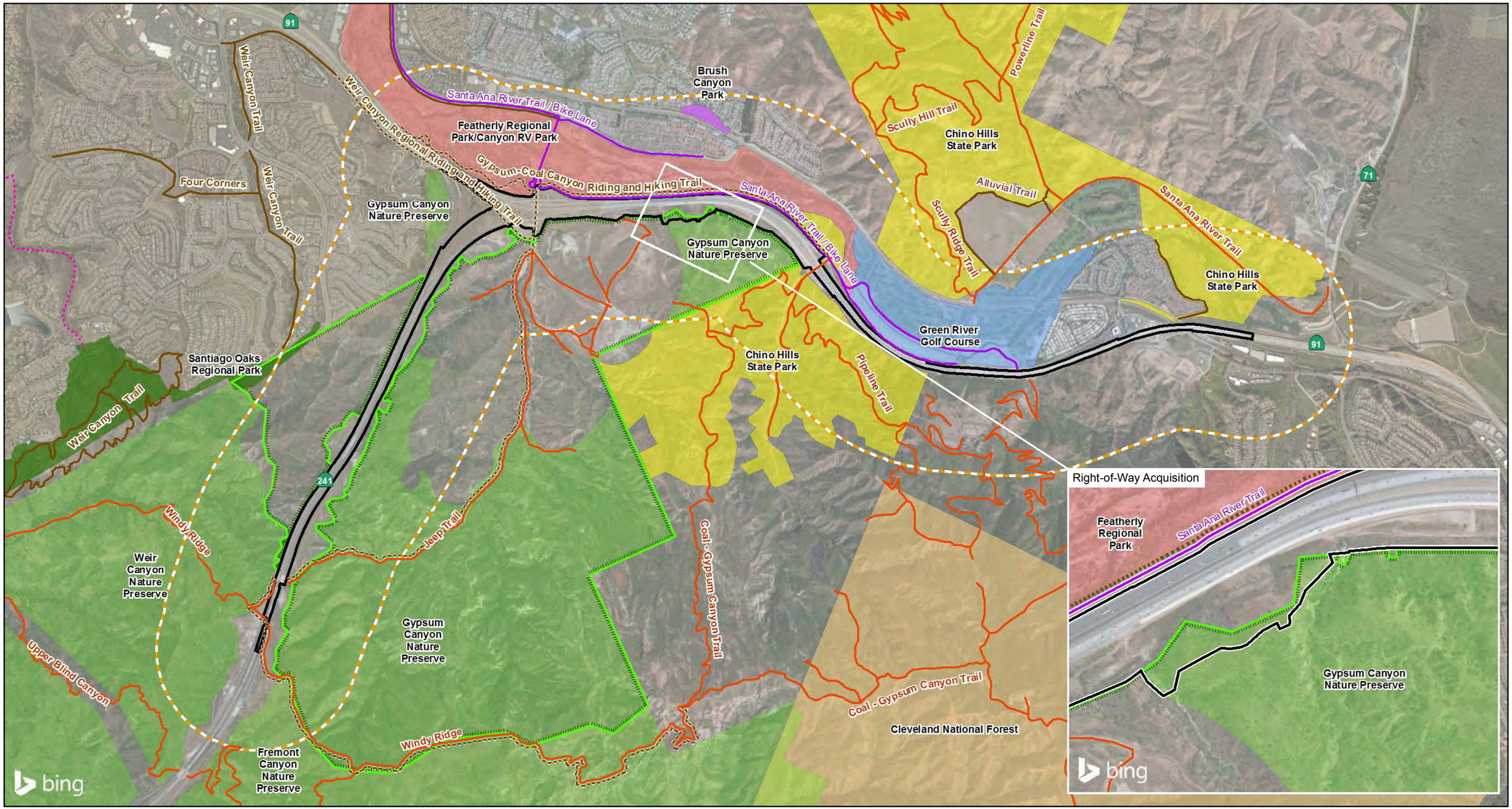
Table 3.1.6 Parks and Recreational Resources and Properties

Name, Address, and Owner/ Operator of Property	Description of Facilities and/or Resources on Property
Brush Canyon Park 28282 Brush Canyon Drive Yorba Linda, CA 92887 Owner/Operator: City of Yorba Linda	Brush Canyon Park is a neighborhood park which includes restrooms, two large shaded picnic shelters, a basketball court, tennis courts, a sports field, and a playground. The Park is open 7 days per week. Vehicular access to Brush Canyon Park is from Brush Canyon Drive at the west end of the Park. Because Brush Canyon Park is publicly owned and operated and is open to the public, it qualifies for protection under the requirements of Section 4(f).
Santiago Oaks Regional Park 2145 N. Windes Drive Orange, CA 92869 Owner/Operator: Orange County Parks	Santiago Oaks Regional Park is within the boundary of the Irvine Ranch NNL as shown on Figure 3.1.4. Amenities provided at this Park include on-site parking, a visitor center, an amphitheater, park benches, picnic tables, barbeques/fire rings, horseshoe pits, bike trails, a playground/tot lot, equestrian trails, a wedding ceremony and reception area, and restrooms. Santiago Oaks Regional Park encompasses 1,760 ac which includes Weir Canyon Park. Vehicular access to Santiago Oaks Regional Park is from North Windes Drive at the west end of the Park. Because Santiago Oaks Regional Park is publicly owned and operated and is open to the public, it qualifies for protection under the requirements of Section 4(f).
Running Springs Elementary School 8670 Running Springs Drive Anaheim, CA 92808 Owner/Operator: Orange Unified School District (OUSD)	Running Springs Elementary School is a K-6 grade school in The Summit of Anaheim Hills community on the west side of SR-241. The school property includes outdoor play areas with a small play area, sports courts, and a sports/play field. Facilities at OUSD properties are available for use on application to the OUSD. The OUSD application form requires that "Use and occupancy of school property shall be primarily for public school purposes. Any authorized use of the property for other than public school purposes shall be subordinate to this primary purpose." It appears from the application form that the recreation facilities at this school could be used by outside groups but are not necessarily open to the public at large. Because the recreation facilities at this school may be available to use outside school hours on approval of the OUSD, they qualify for protection under the requirements of Section 4(f).
Other Trails and Fire Roads Owner/operators: various public agencies	As shown on Figure 3.1.4, in addition to the Santa Ana River Trail/Bike Lane and the Coal Canyon Undercrossing, there are a number of other trails and fire roads in the Study Area. Trails that are open to the public qualify for protection under the requirements of Section 4(f).

Source: Appendix B, Section 4(f) Evaluation.

ac = acre(s)
CFR = Code of Federal Regulations
CHSP = Chino Hills State Park
CIP = Corridor Improvement Project
DOI = United States Department of the Interior
ft = foot/feet
L&WCF Act = Land and Water Conservation Fund Act
mi = mile/miles
NNL = National Natural Landmark
NPS = National Park Service
OC = County of Orange
SR-241 = State Route 241
SR-55 = State Route 55
SR-71 = State Route 71
SR-91 = State Route 91
State Parks = California State Parks
USACE = United States Army Corps of Engineers

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LEGEND

- Project Area
- Half-mile Radius from Project Area
- National Natural Landmark (with Preserve names)
- Featherly Regional Park
- Green River Golf Course
- Chino Hills State Park
- Santiago Oaks Regional Park
- Brush Canyon Park
- Cleveland National Forest
- Former Mountain Park Specific Plan*
- Existing Class I Bikeway
- Proposed Class I Bikeway
- Existing Trail
- Proposed Trail
- Existing Fire Trail

0 1250 2500
FEET

*Note: The area in the southeast quadrant of the SR-241/SR-91 interchange was covered under the Mountain Park Specific Plan (MPSP). In August 2014, the land owner, the Irvine Company, permanently dedicated the last remaining 2,500 acres, which was originally part of the MPSP, to the County of Orange, as a permanent open space.

SOURCE: Bing Maps (2014); City of Anaheim General Plan (2015); City of Corona (2015); County of Orange Master Planned Combination Map of Regional Trails and Bikeways (2008); Gaia GPS (2015), OCTA (2013)

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FIGURE 3.1.4

SR-241/SR-91 Express Lanes Connector

Parks and Recreational Resources and Properties

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3.1.3.3 Environmental Consequences

Temporary Impacts

Build Alternative (*Two-Lane Express Lanes Connector*) *(Preferred Alternative)*

Temporary Impacts on Nature Preserves in the Irvine Ranch National Natural Landmark

As shown on Figure 3.1.4, all three parts of Gypsum Canyon Nature Preserve and Weir Canyon Nature Preserve are adjacent to the project limits of the Build Alternative. There would be no temporary construction easements (TCEs) on those properties during construction of the Build Alternative.

During construction of the Build Alternative, sensitive viewers in the Nature Preserves would be exposed to views of cleared vegetation, graded slopes, construction vehicles, equipment, and other materials. Those construction activities would be temporary (18-month duration), and the impacts related to views of most of those activities would cease after completion of construction. Revegetation of graded disturbed areas may take a number of years after seeding with native plant species. Therefore, no substantial temporary visual impacts would occur at the Nature Preserves.

Site preparation and construction would involve clearing, cut-and-fill activities, grading, and paving that could temporarily generate fugitive dust and other emissions. The construction-related emissions would be substantially reduced based on compliance with Caltrans Standard Specifications for construction and South Coast Air Quality Management District (SCAQMD) Rule 403 (refer to Section 3.12, Air Quality, Measures AQ-1 through AQ-5). As a result, construction of the Build Alternative would not result in substantial temporary air quality impacts at the Nature Preserves.

During construction of the Build Alternative, construction noise may intermittently dominate the noise environment in the immediate area of construction. Noise control during construction will conform to the provisions in Section 14-8.02 of Caltrans "Noise Control Requirements" and, therefore, the project construction would not result in substantial noise impacts on the Nature Preserves.

Construction of the Build Alternative would not affect existing vehicular access to or from the Nature Preserves. The construction activities and project

improvements would be entirely within Caltrans right-of-way in the vicinity of these Preserves and, therefore, would not impact the use or operation of those Preserves.

As shown on Figure 3.1.4, the northern boundary of the Fremont Canyon Nature Preserve is more than 0.5 mi from the advance signage area on SR-241. There would be no TCEs on that property during construction of the Build Alternative. Based on the distance of this property from the project limits and the presence of intervening topography, construction of the Build Alternative would not result in short-term visual, air quality, noise, or access effects on Fremont Canyon Nature Preserves.

Due to the distance of accessible areas of the Nature Preserves from the construction area, indirect impacts with respect to temporary reduction in recreational use (due to construction noise) would not occur.

Temporary Impacts on Chino Hills State Park

The widening on eastbound SR-91 would end just west of Coal Canyon Undercrossing. Chino Hills State Park (CHSP) is adjacent to the north and south sides of SR-91 in that area. The nearest part of the project limits for the Build Alternative on the south side of SR-91 is adjacent to and outside the boundary of CHSP. There would be no TCEs in CHSP during construction of the Build Alternative.

During construction of the Build Alternative, sensitive viewers in CHSP would be exposed to views of cleared vegetation, graded slopes, construction vehicles, equipment, and other materials. Those construction activities would be temporary, and the impacts related to views of most of those activities would cease after completion of construction. Revegetation of graded disturbed areas may take a number of years after seeding with native plant species. Therefore, no substantial short-term visual impacts would occur at CHSP during the construction of the Build Alternative.

Site preparation and construction would involve clearing, cut-and-fill activities, grading, and paving that could temporarily generate fugitive dust and other emissions. The construction-related emissions would be substantially reduced based on compliance with Caltrans Standard Specifications for construction and SCAQMD Rule 403. As a result, construction of the Build Alternative would not result in substantial temporary air quality impacts at CHSP.

During construction of the Build Alternative, construction noise may intermittently dominate the noise environment in the immediate area of construction. Noise control during construction will conform to the provisions in Section 14-8.02 of Caltrans "Noise Control Requirements" and, therefore, the project construction would not result in substantial noise impacts on CHSP.

Construction of the Build Alternative would not affect existing vehicular access to/from CHSP. The construction activities and project improvements would be entirely within Caltrans right-of-way in the vicinity of Coal Canyon Undercrossing and, therefore, would not impact the use or operation of that Undercrossing, including as a fire road and a wildlife crossing under SR-91.

Coal Canyon Trail is the only recreational facility in CHSP that is near the construction area. As a result, indirect impacts with respect to temporary reduction in recreational use would not be substantial.

The proximity impacts of the construction of the Build Alternative in the vicinity of CHSP would not substantially impair the protected activities, features, or attributes of this property

Temporary Impacts on the Santa Ana River Trail/Bike Lane, Featherly Regional Park, and the Green River Golf Club

Although the Build Alternative does not include modifications or construction on westbound SR-91 with the exception of road restriping, the project limits are adjacent to the boundaries of the Santa Ana River Trail/Bike Lane, Featherly Regional Park, and the Green River Golf Club on the north side of SR-91. There would be no TCEs at these three properties during construction of the Build Alternative.

During construction of the Build Alternative, sensitive viewers on the Trail/Bike Lane, in the Park, and on the Golf Club property would be exposed to views of cleared vegetation, graded slopes, construction vehicles, equipment, and other materials. Those construction activities would be temporary, and the impacts related to views of most of those activities would cease after completion of construction. Revegetation of graded disturbed areas may take a number of years after seeding with native plant species. Therefore, no substantial temporary visual impacts would occur at these properties during the construction of the Build Alternative.

Site preparation and construction would involve clearing, cut-and-fill activities, grading, and paving that could temporarily generate fugitive dust and other emissions. The construction-related emissions would be substantially reduced based on compliance with Caltrans Standard Specifications for construction and SCAQMD Rule 403. As a result, construction of the Build Alternative would not result in substantial temporary air quality impacts at these three properties.

During construction of the Build Alternative, construction noise may intermittently dominate the noise environment in the immediate area of construction. Noise control during construction will conform to the provisions in Section 14-8.02 of Caltrans "Noise Control Requirements" and, therefore, the project construction would not result in substantial noise impacts at these three properties.

Construction of the Build Alternative would not affect existing vehicular access to/from these three properties. The construction activities and project improvements would be entirely within Caltrans right-of-way and, therefore, would not impact the use or operation of these three properties.

Because golfing is a transitory use, indirect impacts with respect to temporary reduction in recreational use (due to construction noise) are not expected at Green River Golf Course.

There could be a temporary reduction in recreational use (due to construction noise) at the Youth Camping Area and Canyon RV Park within Featherly Regional Park because these users are stationary. However, as discussed in Section 3.13.3.1, construction noise would be short-term, intermittent, and overshadowed by local traffic noise.

The proximity impacts of the construction of the Build Alternative on the Santa Ana River Trail/Bike Lane, Featherly Regional Park, and the Green River Golf Club would not substantially impair the protected activities, features, or attributes of this property.

Temporary Impacts on Brush Canyon Park, Santiago Oaks Regional Park, and the Recreation Facilities at Running Springs Elementary School

As shown on Figure 3.1.4, these properties are all approximately 0.5 mi from the project limits on SR-241 and SR-91. There would be no TCEs on these properties during construction of the Build Alternative. Based on the distances of these

properties from the Project Limits and the presence of intervening land uses and topography, construction of the Build Alternative would not result in temporary visual, air quality, noise, or access effects on these properties.

Due to the distance of these recreational facilities from the construction area, indirect impacts with respect to temporary reduction in recreational use would not occur.

The construction of the Build Alternative would not result in proximity impacts on Brush Canyon Park, Santiago Oaks Regional Park, or the recreational facilities at Running Springs Elementary School and, therefore, would not substantially impair the protected activities, features, or attributes of this property.

Temporary Impacts on Other Trails and Fire Roads

As shown on Figure 3.1.4, there are a number of trails in the Study Area, including trails in the NNL and CHSP. There would be no TCEs within the boundary of any of those trails under the Build Alternative.

During construction of the Build Alternative, sensitive viewers along trails segments with views of SR-241 and SR-91 could be exposed to views of various construction activities including vegetation clearing, grading or other substantial construction activities, and the installation of advance signage on SR-91. However, trail users views would be transitory as they pass through the area. In addition, the construction activities would be temporary, and the impacts related to views of most of those activities would cease after completion of construction. Revegetation of graded disturbed areas may take a number of years after seeding with native plant species. Therefore, no substantial temporary visual impacts would occur to trail users in the Study Area.

Site preparation and construction would involve clearing, cut-and-fill activities, grading, and paving that could temporarily generate fugitive dust and other emissions. The construction-related emissions would be substantially reduced based on compliance with Caltrans Standard Specifications for construction and SCAQMD Rule 403. As a result, construction of the Build Alternative would not result in substantial temporary air quality impacts on trail users in the Study Area.

During construction of the Build Alternative, construction noise may intermittently dominate the noise environment in the immediate area of construction. Noise control during construction will conform to the provisions in

Section 14-8.02 of Caltrans "Noise Control Requirements" and, therefore, the project construction would not result in substantial noise impacts on trail users in the Study Area.

Construction of the Build Alternative would not affect existing access on trails in the Study Area. The construction activities would be entirely within Caltrans right-of-way in the vicinity of the Preserves and would not affect the use or operation of the trails in the Study Area.

Due to the distance of these recreational facilities from the construction area, indirect impacts with respect to temporary reduction in recreational use would not occur.

The proximity impacts of the construction of the Build Alternative on trails in the Study Area would not substantially impair the protected activities, features, or attributes of those properties.

No Build Alternative

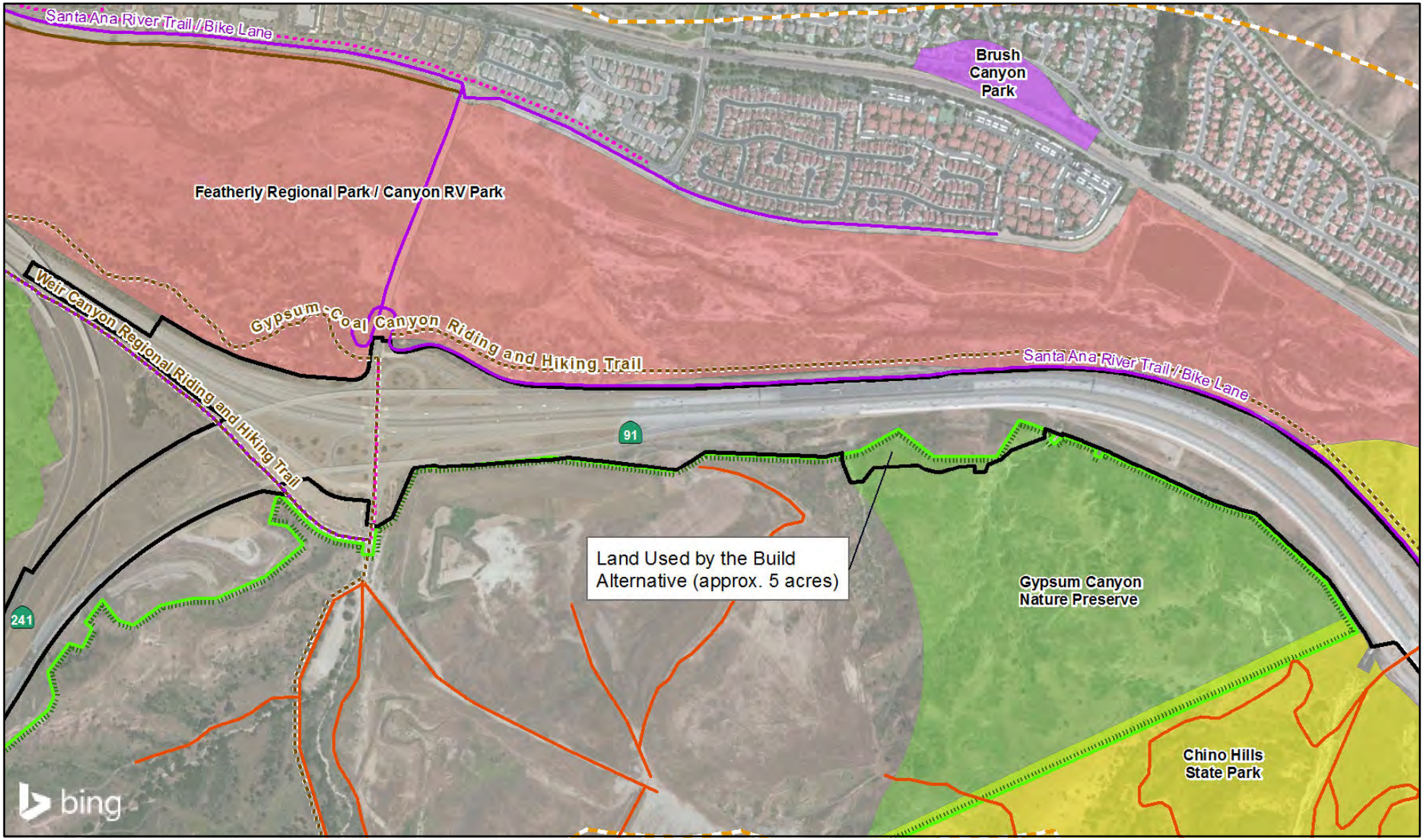
The No Build Alternative would maintain the current configurations of SR-241 and SR-91 in the Study Area. Under the No Build Alternative, the SR-241/SR-91 interchange connector improvements would not be constructed and no temporary impacts to park and recreational facilities would occur.

Permanent Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Permanent Impacts on Nature Preserves in the Irvine Ranch National Natural Landmark

As shown on Figure 3.1.5, approximately 5 ac in one of the parts of the Gypsum Canyon Nature Area in the NNL would be acquired and incorporated into the transportation facility for hillside grading to accommodate widening of SR-91 to the south. The approximately 5 ac represent only a very small percentage (0.013 percent) of the total acreage of the NNL. No other land in the NNL would be permanently acquired for the Build Alternative.



LEGEND

- Project Area
- Half-mile Radius from Project Area
- National Natural Landmark (with Preserve names)
- Featherly Regional Park
- Chino Hills State Park
- Brush Canyon Park
- Mountain Park Specific Plan*
- Existing Bikeway
- Proposed Bikeway
- Existing Trail
- Proposed Trail
- Existing Fire Trail

0 500 1000
FEET

*Note: The area in the southeast quadrant of the SR-241/SR-91 interchange was covered under the Mountain Park Specific Plan (MPSP). In August 2014, the land owner, the Irvine Company, permanently dedicated the 2,500 acres, which was originally part of the MPSP, to the County of Orange, as a permanent open space.

FIGURE 3.1.5

SR-241/SR-91 Express Lanes Connector

Use of Land in Gypsum Canyon Nature Preserve

SOURCE: Bing Maps (2014); OC Parks (2012); Eureka Cartography (2007); Hikes Peak (2015); Gaia GPS (2015)

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Because parts of the NNL are open for public use as recreation areas, they would be subject to the requirements of the Park Preservation Act, and the F/ETCA would be required to provide compensation to the County of Orange consistent with the Park Preservation Act for that land acquisition. The Build Alternative would result in long-term visual impacts associated with the permanent alteration of the existing infrastructure at the SR-241/SR-91 interchange as a result of the widening of SR-241/SR-91 and existing roadway undercrossing, grading improvements, new retaining walls, piers/supports, and buffers. However, views of those improvements from within the Gypsum Canyon Nature Preserve, Weir Canyon Nature Preserve, and Fremont Canyon Nature Preserve would be limited and would not be substantially different than views of the existing infrastructure in the interchange and along SR-241 and SR-91.

Operation of the Build Alternative would not result in changes in regional air emissions or mobile source air toxics compared to the No Build Alternative or in substantial changes in air quality emissions compared to existing conditions in the Study Area adjacent to the Gypsum Canyon Nature Preserve, Weir Canyon Nature Preserve, and Fremont Canyon Nature Preserve.

These Nature Preserves would not experience long-term noise impacts substantially different than the existing effects along SR-241 and SR-91 adjacent to those areas.

Operation of the Build Alternative would not affect existing access to/from these Nature Preserves. The project improvements would be entirely within Caltrans right-of-way and would not directly or indirectly affect the use or operation of these Nature Preserves.

Permanent Impacts on Chino Hills State Park

There would be no permanent acquisition of land from CHSP for the Build Alternative.

The Build Alternative would result in long-term visual impacts as a result of permanent alteration of the existing visual environment at the SR-241/SR-91 interchange as a result of the widening of SR-241/SR-91 and existing roadway undercrossing, grading improvements, new retaining walls, piers/supports, and buffers. The advance signage improvements in the immediate vicinity of CHSP would be placed within the median and would not substantively change views from CHSP compared to existing views of SR-91 from CHSP.

Operation of the Build Alternative would not result in changes in regional air emissions or mobile source air toxics compared to the No Build Alternative or in substantial changes in air quality emissions compared to existing conditions along SR-91 adjacent to CHSP.

CHSP would not experience long-term noise impacts substantially different than the existing effects along SR-91 adjacent to CHSP.

Operation of the Build Alternative would not affect existing vehicular access to or from CHSP. The project improvements would be entirely within Caltrans right-of-way in the vicinity of CHSP and Coal Canyon Undercrossing and, therefore, would not directly or indirectly impact the use or operation of CHSP or that Undercrossing.

The Build Alternative would not require the acquisition of any land from CHSP. Therefore, the provisions of Section 6(f) do not apply to the Build Alternative.

The proximity impacts of the operation of the Build Alternative in the vicinity of CHSP would not substantially impair the protected activities, features, or attributes of this property.

Permanent Impacts on Featherly Regional Park

There would be no permanent acquisition of land from Featherly Regional Park for the Build Alternative.

The Build Alternative would result in long-term visual impacts associated with the permanent alteration of the existing infrastructure at the SR-241/SR-91 interchange as a result of the widening of SR-241/SR-91 and existing roadway undercrossing, grading improvements, new retaining walls, piers/supports, and buffers. However, views of those improvements from within Featherly Regional Park would be limited and would not be substantially different than views of the existing infrastructure in the interchange and the immediately surrounding areas compared to existing views of SR-91 from within the Park.

Operation of the Build Alternative would not result in changes in regional air emissions or mobile source air toxics compared to the No Build Alternative or in substantial changes in air quality emissions compared to existing conditions along SR-91 adjacent to the Park.

Operation of the Build Alternative would result in noise levels at some locations in Canyon RV Park that exceed Noise Abatement Criteria (NAC) B/C. No noise abatement to address those impacts was determined to be feasible. However, in most cases, the increases in noise levels with the Build Alternative compared to both existing conditions and the future No Build Alternative ranged from 0.1 to 1.0 A-weighted decibels (dBA). Those levels of noise increases, although resulting in noise levels that would exceed the NAC, would not be perceptible and would result in noise levels at Canyon RV Park nearly identical to the existing noise levels at the property. As a result, the users of Featherly Regional Park and Canyon RV Park would not experience long-term noise impacts substantially different than the existing effects along SR-91 adjacent to the Park.

Operation of the Build Alternative would not affect existing access to/from Featherly Regional Park. The project improvements would be entirely within Caltrans right-of-way in the vicinity of this Park and would not directly or indirectly affect the use or operation of Featherly Regional Park.

The proximity impacts of the operation of the Build Alternative on Featherly Regional Park would not substantially impair the protected activities, features, or attributes of this property.

Permanent Impacts on the Santa Ana River Trail/Bike Lane

There would be no permanent acquisition of land from the Santa Ana River Trail/Bike Lane for the Build Alternative.

The Build Alternative would result in long-term visual impacts associated with the permanent alteration of the existing visual environment at the SR-241/SR-91 interchange as a result of the widening of SR-241/SR-91 and existing roadway undercrossing, grading improvements, new retaining walls, piers/supports, and buffers. Those improvements would be partially visible to users of the Trail/Bike Lane but would not be substantially different than views of the existing infrastructure in the interchange and the immediately surrounding areas compared to existing views of SR-91 from the Trail/Bike Lane.

Operation of the Build Alternative would not result in changes in regional air emissions or mobile source air toxics compared to the No Build Alternative or in substantial changes in air quality emissions compared to existing conditions along SR-91 adjacent to the Santa Ana River Trail/Bike Lane.

The users of the Trail/Bike Lane would not experience long-term noise impacts substantially different than the existing effects along SR-91 adjacent to the Trail/Bike Lane.

Operation of the Build Alternative would not affect existing access to and from and along the Santa Ana River Trail/Bike Lane. The project improvements would be entirely within Caltrans right-of-way in the vicinity of the Trail/Bike Lane and would not directly or indirectly affect the use or operation of the Trail/Bike Lane.

The proximity impacts of the operation of the Build Alternative on the Santa Ana River Trail/Bike Lane would not substantially impair the protected activities, features, or attributes of this property.

Permanent Impacts on the Green River Golf Club

There would be no permanent acquisition of the Golf Club property for the Build Alternative.

The Build Alternative would result in long-term visual impacts associated with the permanent alteration of the existing infrastructure at the SR-241/SR-91 interchange as a result of the widening of SR-241/SR-91 and existing roadway undercrossing, grading improvements, new retaining walls, piers/supports, and buffers. However, based on the distance of the Golf Club from those improvements, views of those improvements from the Golf Club would be limited and would not be substantially different than views of the existing infrastructure in the interchange and the immediately surrounding areas compared to existing views of SR-91 from within the Golf Club property.

Operation of the Build Alternative would not result in changes in regional air emissions or mobile source air toxics compared to the No Build Alternative or in substantial changes in air quality emissions compared to existing conditions along SR-91 adjacent to the Golf Club.

The patrons of the Golf Club would not experience long-term noise impacts substantially different than the existing effects along SR-91 adjacent to the Golf Club property.

Operation of the Build Alternative would not affect existing access to and from the Golf Club. The project improvements would be entirely within Caltrans right-

of-way in the vicinity of the Golf Club and would directly or indirectly not affect the use or operation of the Golf Club.

The proximity impacts of the operation of the Build Alternative on the Green River Golf Club would not substantially impair the protected activities, features, or attributes of this property.

Permanent Impacts on Brush Canyon Park, Santiago Oaks Regional Park, and the Recreation Facilities at Running Springs Elementary School

As shown on Figure 3.1.4, these properties are approximately 0.5 mi from the project limits on SR-241 and SR-91. There would be no permanent acquisition of land from Brush Canyon Park, Santiago Oaks Regional Park, or the recreational facilities as the Running Springs Elementary School for the Build Alternative. Based on the distances of these properties from the project limits and the presence of intervening land uses and topography, operation of the Build Alternative would not result in long-term visual, air quality, noise, or access effects on these properties. There would be no indirect impacts to recreational use.

The proximity impacts of the operation of the Build Alternative on Brush Canyon Park, Santiago Oaks Regional Park, and the Recreation Facilities at Running Springs Elementary School would not substantially impair the protected activities, features, or attributes of this property.

Permanent Impacts on Other Trails and Fire Roads

There would be no permanent acquisition of land from other trails and fire roads for the Build Alternative. The Build Alternative would result in long-term visual impacts associated with the permanent alteration of the existing infrastructure at the SR-241/SR-91 interchange as a result of the widening of SR-241/SR-91 and existing roadway undercrossing, grading improvements, new retaining walls, piers/supports, and buffers. However, those improvements would generally not be visible from most trail segments and user views would be transitory as they pass through the Study Area.

Operation of the Build Alternative would not result in changes in regional air emissions or mobile source air toxics compared to the No Build Alternative or in substantial changes in air quality emissions compared to existing conditions along SR-241 and SR-91 in the vicinity of trails in the Study Area.

Trail users would not experience long-term noise impacts substantially different than the existing effects along SR-241 and SR-91 on trails in the Study Area.

Operation of the Build Alternative would not affect existing access on trails in the Study Area. The project improvements would be entirely within Caltrans right-of-way in the vicinity of these trails and fire roads and would not directly or indirectly affect the use or operation of the trails in the Study Area.

The proximity impacts of the operation of the Build Alternative on trails in the Study Area would not substantially impair the protected activities, features, or attributes of this property.

Section 4(f) Evaluation and De Minimis Determination

As discussed in detail in Appendix B, the Section 4(f) Evaluation, and as shown on Figure 3.1.5, the Build Alternative would require the use of approximately 5 ac in the Gypsum Canyon Nature Preserve in the Irvine Ranch NNL to accommodate hillside grading on the south side of SR-91. The area that would be used (permanently incorporated in the transportation facility) is in the northeast part of the Gypsum Canyon Nature Preserve. The 5 ac represent only a very small percentage (0.013 percent) of the total acreage of the NNL. The use of approximately 5 ac of the land in the NNL, immediately adjacent to existing SR-91, would not affect the activities, features, and attributes of the Gypsum Canyon Nature Preserve and the NNL and, therefore, is not considered a substantial impact to this property.

Section 6009(a) of SAFETEA-LU amended Section 4(f) legislation at 23 United States Code (USC) 138 and 49 USC 303 to simplify the processing and approval of projects that have only de minimis impacts on land protected by Section 4(f). This revision provides that once the United States Department of Transportation (USDOT) determines that a transportation use of Section 4(f) property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, results in a de minimis impact on that property, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete. FHWA's final rule on Section 4(f) de minimis findings is codified in 23 Code of Federal Regulations (CFR) 774.3 and CFR 774.17.

Responsibility for compliance with Section 4(f) has been assigned to Caltrans pursuant to 23 USC 326 and 327, including determinations and approval of Section 4(f) evaluations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

De minimis impacts on publicly owned parks, recreation areas, and wildlife and waterfowl refuges are defined as those that do not substantially affect the activities, features, and attributes of the Section 4(f) resource. Caltrans must make a finding for each resource, and the responsible official with jurisdiction over each resource must agree in writing with that finding.

The primary features of the NNL include its overall size, the wide range of natural resources and geographic features in the NNL, the connections to other open space and wilderness areas for wildlife, the NNL designation itself, and the overall value of such a large area of open space in a largely urbanized area. The Build Alternative would not substantially impact the natural resources in the NNL or affect the access into and out of the Nature Preserve, and there would be no interference with the features, activities, attributes, or purposes of the Nature Preserve or the NNL, on either a temporary or permanent basis under the Build Alternative. Based on the information discussed above, Caltrans has made a *de minimis* finding for the use (permanent incorporation) of 5 ac of land from the NNL and that the Build Alternative satisfies the criteria for *de minimis* finding under Section 4(f). On July 11, 2017, Caltrans submitted a letter to OC Parks requesting concurrence that the Proposed Project would not interfere with the features, activities, attributes, or purposes of the Nature Preserve or the NNL that are subject to protection under Section 4(f). OC Parks provided written concurrence on July 25, 2017.

As discussed in detail in Appendix B, the Build Alternative would not result in the use of land (permanent incorporation of land into a transportation facility) from any other properties protected under Section 4(f) and would not result in any temporary occupancies or constructive use of properties protected under Section 4(f).

No Build Alternative

The No Build Alternative would maintain the current configurations of SR-241 and SR-91 in the Study Area. Under the No Build Alternative, the SR-241/SR-91

interchange connector improvements would not be constructed, and no permanent impacts to park and recreational uses would occur.

3.1.3.4 Avoidance, Minimization, and/or Mitigation Measures

Measures V-1 through V-7 and C-19, provided in Section 3.6, Visual/Aesthetics; Measures AQ-1 through AQ-5, provided in Section 3.12, Air Quality; Measures N-1 and N-2, provided in Section 3.13, Noise; Measure NC-8, provided in Section 3.15, Natural Communities; and Measures PS-1 and PS-2 in Section 3.17, Plant Species, would apply to the construction of the Build Alternative, including in areas adjacent to the parks and recreation facilities in the Study Area. In addition, the measure below identifies regulatory compliance that would avoid or minimize permanent impacts to parks and recreation facilities.

Measure LU-1 **Uniform Act and Park Preservation Act Compliance.** Where acquisition and relocation are unavoidable, the provisions of the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended), Title 49 Code of Federal Regulations (CFR) Part 24 and, where applicable, the California Public Park Preservation Act of 1971 will be followed.

3.2 Growth

A "first-cut screening" analysis is included in Section 3.2.3, Environmental Consequences. The purpose of a "first-cut screening" is to determine if there is potential for growth-related effects and whether further analysis is necessary.

3.2.1 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, requires 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 [CFR] 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 *State 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…"

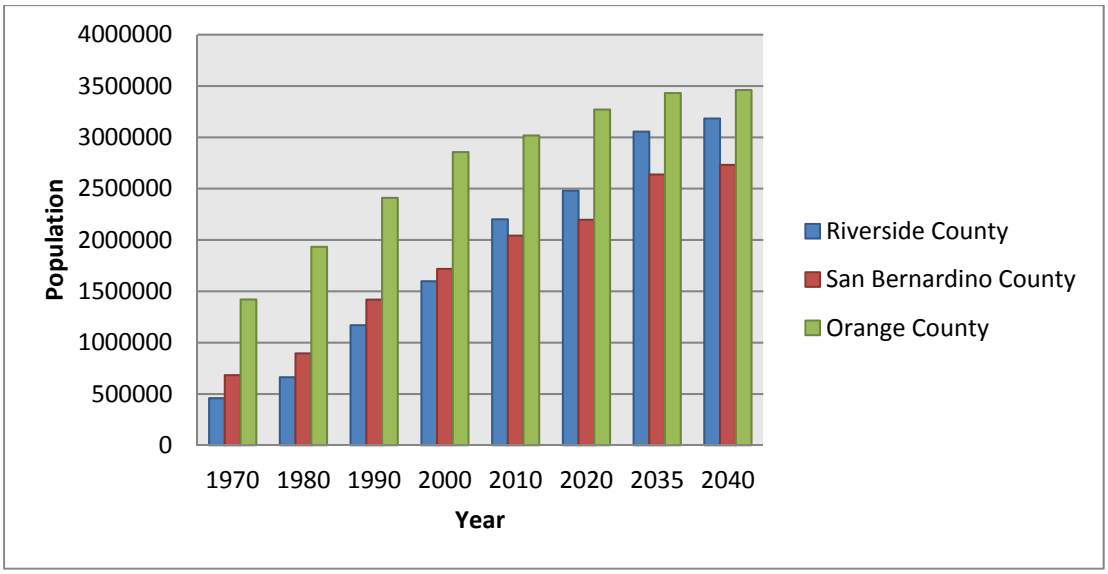
3.2.2 Affected Environment

The growth impact analysis uses information from the Southern California Association of Governments (SCAG) Regional Transportation Growth Forecast to evaluate growth trends for population, housing, and employment.

The regional Study Area for the growth impact analysis includes the counties of Orange, Riverside, and San Bernardino. The local Study Area specifically focuses on 12 United States (U.S.) Census tracts in the cities of Anaheim, Orange, Yorba Linda, Corona, Riverside, and the U.S. Census-designated place of Coronita within the project limits along SR-241 and SR-91 (Section 3.1, Land Use, Figure 3.1.1).

3.2.2.1 Population

The Proposed Project is located in the County of Orange and would improve connectivity between the counties of Orange, Riverside, and San Bernardino (see Figure 3.2.1). The Inland Empire consists of both the counties of Riverside and San



Source: United States Census Bureau (Years 1990–2010);[1] Southern California Association of Governments (Years 2020–2040).

[1] United States (U.S.) Census Bureau. California Population of Counties by Decennial Census: 1900 to 1990. Website: http://www.census.gov/population/cencounts/ca190090.txt (accessed January 26, 2015).

Figure 3.2.1 County Population Growth Patterns – 1970 to 2040

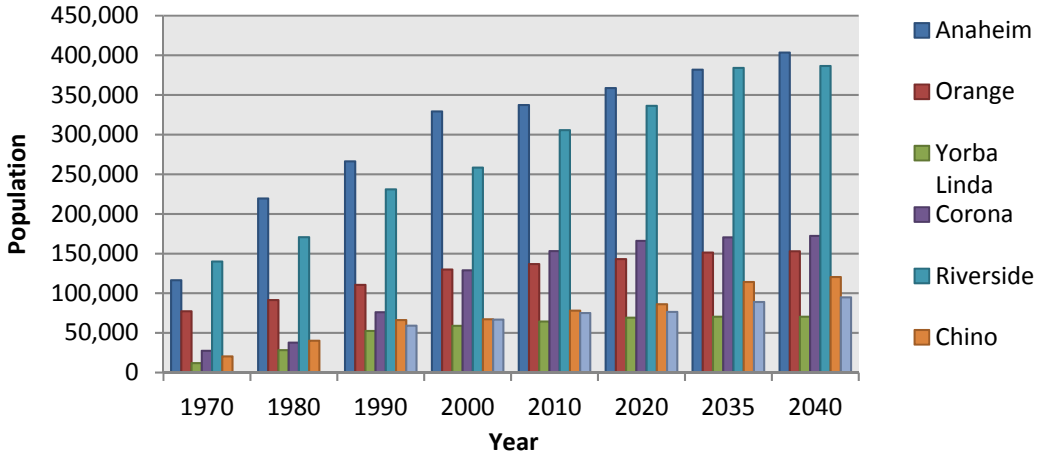
Bernardino, and is expected to experience greater growth as a result of available land area in comparison to coastal counties.

Although the County of Riverside has recently experienced slower growth rates yet still high population growth rates, the population will continue to accelerate through 2020.[1] SCAG projects that between 2012 and 2040, the population of the County of Riverside will grow approximately 42 percent, the population of the County of San Bernardino will grow approximately 32 percent, and the population of the County of Orange will grow approximately 13 percent.[2] This is a slower population growth rate than has occurred over the past few decades for all three counties. According to decennial U.S. Census data, between 1980 and 1990, the population of the County of Riverside grew by 77 percent and the population of the County of San Bernardino

[1] California Department of Transportation (Caltrans). Riverside County Economic Forecast. Website: http://www.dot.ca.gov/hq/tpp/offices/eab/socio_economic_files/2014/Riverside.pdf (accessed January 26, 2015).

[2] Southern California Association of Governments (SCAG). 2016–2040 Draft Regional Transportation Plan/Sustainable Community Strategy Growth Forecast Appendix (December 2015). Website: http://www.scag.ca.gov/Documents/2016DraftGrowthForecastByJurisdiction.pdf (accessed March 2, 2016).

grew by 33 percent, while the County of Orange grew by 25 percent.[1] Figure 3.2.2 illustrates the population growth patterns from 1970 to 2040 for the counties of Orange and Riverside based on both historical U.S. Census data and SCAG projections. Figure 3.2.2 illustrates the population growth patterns in the cities of Anaheim, Corona, Orange, Riverside, and Yorba Linda from 1970 to 2040.



Sources: United States Census Bureau (Years 1970–2010, with the exception of the City of Chino and the City of Chino Hills for the Years 1970–1980); Southern California Association of Governments (Years 2020–2040); Department of Finance (Years 1970–1980 for the City of Chino and the City of Chino Hills).

Figure 3.2.2 City Population Growth Patterns – 1970 to 2040

Historically, a lack of transportation system capacity and accessibility have not been major constraints to development in the local and regional study areas, as evidenced by extensive growth and development that have occurred in the project Study Area in advance of, or even absent, planned transportation improvements.

County of Orange

The population of the County of Orange in 2010 was 3,010,232 persons, making it the third largest county in California[2] and the sixth largest county in the nation based on population.[3] The rate of population growth in this county has slowed considerably in the past decade. Between 1990 and 2000, the average annual increase in population in the County of Orange was 1.8 percent, compared to 0.9 percent annually between

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1 U.S. Census Bureau. California Population of Counties by Decennial Census: 1900 to 1990. Website: http://www.census.gov/population/cencounts/ca190090.txt (accessed January 26, 2015).

2 California Demographics. California Counties by Population. Website: http://www.california-demographics.com/counties_by_population (accessed January 26, 2015).

3 U.S. Census Bureau. Population Distribution and Change (March 2011). Website: http://www.census.gov/prod/cen2010/briefs/c2010br-01.pdf (accessed January 26, 2015).

2014 and 2019.[1] The County's population is projected by SCAG to continue to increase, but at an increasingly slower rate, reaching just fewer than 3.5 million people by 2040.

County of Riverside

In 2010, the County of Riverside was the fourth most populated county in California, with a population of 2,202,000. The project segments of SR-241 and SR-91 are in a subregion of the County referred to as western Riverside County, which includes the incorporated cities of Corona, Perris, San Jacinto, Riverside, Moreno Valley, and Hemet, as well as unincorporated areas around those cities. According to the SCAG Draft 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), the population in the County of Riverside is expected to increase by 10 percent between 2012 and 2020, reaching a total of 2,479,800 persons.[2] The total population in the County of Riverside is expected to continue to increase to approximately 3,183,700 residents by 2040.[3]

Along with fast urbanization, increasing housing prices, and less vacant land in the counties of Los Angeles and Orange, over the past decade, many people moved from the surrounding counties to the County of Riverside for lower housing costs and a suburban lifestyle. The residential real estate market boomed in the County of Riverside until the beginning of the economic recession in 2007. The recent trends in residential real estate as well as impacts on many employment sectors have slowed the rate of population growth in the County of Riverside in the last few years. Nonetheless, the County of Riverside is expected to experience population growth of 1.5 percent each year between 2014 and 2019,[4] and between 2012 and 2040, the population of the County of Riverside will have grown by nearly 42 percent.

County of San Bernardino

The County of San Bernardino is the largest county in the contiguous United States by land area, and according to the 2010 U.S. Census data, is the fifth largest county in

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1 Caltrans. Orange County Economic Forecast. Website: http://www.dot.ca.gov/hq/tpp/offices/eab/socio_economic_files/2014/Orange.pdf (accessed January 26, 2015).

2 SCAG. 2016–2040 Draft Regional Transportation Plan/Sustainable Community Strategy Growth Forecast Appendix (December 2015). Website: http://www.scag.ca.gov/Documents/2016DraftGrowthForecastByJurisdiction.pdf (accessed March 2, 2016).

3 Ibid.

4 Caltrans. Riverside County Economic Forecast. Website: http://www.dot.ca.gov/hq/tpp/offices/eab/socio_economic_files/2014/Riverside.pdf (accessed January 26, 2015).

California by population.[1] Similar to the County of Riverside, less vacant land and high housing prices in the counties of Los Angeles and Orange have resulted in an increase in population in the County of San Bernardino. Between 2014 and 2019, population growth is expected to occur at an annual average rate of 1.5 percent, which is substantially higher than the 0.6 percent growth rate that occurred between 2008 and 2013.[2] Between 2012 and 2040, SCAG population growth projections from the 2016–2040 RTP/SCS estimate that the County of San Bernardino will grow by approximately 32 percent.[3]

City of Anaheim

According to the 2000 U.S. Census, the population of the City of Anaheim increased by 23 percent between 1990 and 2000. However, between 2000 and 2010, the population of the City of Anaheim increased by only 2.5 percent. In 2010, the population of the City of Anaheim was 337,354 persons, which accounted for approximately 11 percent of the total population in the County of Orange.

According to the Anaheim General Plan Land Use Element (May 2004), the western and central parts of Anaheim are relatively built out and are characterized by a mix of suburban and urban development. The eastern part of Anaheim extends generally along the Santa Ana River to the Riverside County Line and is classified in the Land Use Element as a developing area. According to SCAG population growth projections from the Draft 2016–2040 RTP/SCS, the total population in the City of Anaheim is expected to increase by approximately 20 percent, to more than 403,400 residents between 2010 and 2040.[4]

City of Orange

The population within the City of Orange grew by approximately 21 percent between 1980 and 1990, and by approximately 17 percent between 1990 and 2000. Population growth slowed considerably to about 5 percent between 2000 and 2010. Similarly,

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1 California Demographics. California Counties by Population. Website: http://www.california-demographics.com/counties_by population (accessed January 26, 2015).

2 Caltrans. San Bernardino County Economic Forecast. Website: http://www.dot.ca.gov/hq/tpp/offices/eab/socio_economic_files/2014/SanBernardino.pdf#zoom=75 (accessed January 26, 2015).

3 SCAG. 2016–2040 Draft Regional Transportation Plan/Sustainable Community Strategy Growth Forecast Appendix (December 2015). Website: http://www.scag.ca.gov/Documents/2016DraftGrowthForecastByJurisdiction.pdf (accessed March 2, 2016).

4 Ibid.

SCAG population growth projections from the Draft 2016–2040 RTP/SCS expect the City of Orange to reach a population of 153,000 by 2040, which represents an increase of approximately 12 percent above the population in 2010.[1]

City of Yorba Linda

The population of the City of Yorba Linda increased dramatically between 1980 and 1990 (86 percent), from 28,251 to 42,422 persons, exceeding the growth rates in many of the other cities in north Orange County and the County of Orange overall. During the same period, the population of the County of Orange increased by 25 percent. The total population in the City of Yorba Linda as reported in the 2010 U.S. Census was 64,423 persons. The main factor limiting additional population growth in Yorba Linda is the relatively small amount of available land for residential development. Nevertheless, according to SCAG population growth projections from the Draft 2016–2040 RTP/SCS, the total population in the City of Yorba Linda is expected to continue to increase to more than 70,500 residents by 2040.[2] Given that the City of Yorba Linda is relatively built out, future housing growth will primarily be accommodated on the City's periphery.

City of Corona

According to the U.S. Census, between 1990 and 2000, the population of the City of Corona increased over 64 percent from 76,095 to 124,966 persons, which made it the fastest-growing city in the region over that time period. This increase was more than twice the percentage increase for the County of Riverside (32 percent) for the same period. According to SCAG population growth projections from the Draft 2016–2040 RTP/SCS, by 2040, the population of the City of Corona is projected to increase approximately 12 percent, to almost 172,300 people.[3]

City of Riverside

According to the 2010 U.S. Census, the City of Riverside had over 305,500 residents in 2010. Between 2000 and 2010, the population in the County of Riverside increased by 18.2 percent. SCAG population growth projections from the Draft 2016–2040

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1 SCAG. 2016–2040 Draft Regional Transportation Plan/Sustainable Community Strategy Growth Forecast Appendix (December 2015). Website: http://www.scag.ca.gov/Documents/2016DraftGrowthForecastByJurisdiction.pdf (accessed March 2, 2016).

2 Ibid.

3 Ibid.

RTP/SCS estimate that the population of the City of Riverside will increase approximately 26 percent by 2040, to more than 386,600 residents.[1]

City of Chino

According to the 2010 U.S. Census, the City of Chino had nearly 78,000 residents in 2010. Between 2000 and 2010, the population of the City of Chino increased by approximately 16 percent. SCAG population growth projections from the Draft 2016–2040 RTP/SCS estimate that the population in the City of Chino will increase approximately 54 percent by 2040, to 120,400 residents.[2]

City of Chino Hills

According to the 2010 U.S. Census, the City of Chino Hills had nearly 75,000 residents in 2010. Between 2000 and 2010, the population of in the City of Chino Hills increased by approximately 12 percent. SCAG population growth projections from the Draft 2016–2040 RTP/SCS estimate that the population in the City of Chino Hills will increase approximately 26 percent by 2040, to 94,900 residents.[3]

3.2.2.2 Employment and Economic Conditions

According to the Draft 2016–2040 SCAG RTP/SCS, there were 616,600 jobs in the County of Riverside, 659,500 jobs in the County of San Bernardino, and 1.5 million jobs in the County of Orange in 2012. Based on employment projections from the Draft 2016–2040 RTP/SCS, between 2012 and 2040, jobs are expected to increase in the County of Riverside by 90.4 percent to 1,174,300 jobs, in the County of San Bernardino by 53.6 percent to 1,028,100 jobs, and in the County of Orange by 24.4 percent to 1,898,900 jobs.

Table 3.2.1 provides employment growth patterns from 2012 to 2040 for the counties of Orange, Riverside, and San Bernardino and the cities of Anaheim, Orange, Yorba Linda, Chino, Chino Hills, Corona, and Riverside. According to the 2040 employment estimates from the 2016–2040 SCAG RTP/SCS, the number of jobs in the cities of Corona and Riverside will increase by nearly approximately 33.0 percent and 67.1 percent, respectively, from 2012 to 2040. The County of Riverside as a whole will experience a substantially higher job growth rate at 103 percent.

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1 SCAG. 2016–2040 Draft Regional Transportation Plan/Sustainable Community Strategy Growth Forecast Appendix (December 2015). Website: http://www.scag.ca.gov/Documents/2016DraftGrowthForecastByJurisdiction.pdf (accessed March 2, 2016).

2 Ibid.

3 Ibid.

Table 3.2.1 Job Growth from 2012 to 2040

Jurisdiction	Number of Jobs in 2012	Number of Jobs in 2040	Percent Change in Jobs from 2012 to 2040
County of Orange	1,562,500	1,898,900	24.4%
County of Riverside	616,600	1,174,300	90.4%
County of San Bernardino	659,500	1,028,100	53.6%
City of Anaheim	177,900	245,600	38.1%
City of Orange	94,100	105,500	11.7%
City of Yorba Linda	15,600	17,700	13.5%
City of Chino	42,600	50,600	18.8%
City of Chino Hills	11,500	18,600	61.7%
City of Corona	66,400	88,400	33.1%
City of Riverside	120,000	200,500	67.1%

Sources: United States Census 2010, and Southern California Association of Governments 2016–2040 Draft RTP/SCS Growth Forecast.
Note: Employment numbers consist of workers aged 16 and over.
RTP = Regional Transportation Plan
SCS = Sustainable Communities Strategy

Compared to the County of San Bernardino, the City of Chino will experience substantially lower job growth rates at approximately 18.8 percent between 2016 and 2040. However, the County of Orange is only projected to experience an increase in jobs by 24.4 percent, which is slightly higher compared to the cities of Orange and Yorba Linda within the County of Orange.

3.2.2.3 Housing

According to the 2010 U.S. Census and the 2016–2040 Draft SCAG RTP/SCS, the total number of households in both the counties of San Bernardino and Riverside will substantially increase between 2012 and 2040. However, the County of Orange housing will grow at a much slower rate, as shown in Table 3.2.2. The greatest increase by 2040 is projected to occur in the County of Riverside, where households are estimated to increase by 51.8 percent to 1,054,300. The City of Chino is expected to experience the highest growth rate between 2012 and 2040 compared to other Study Area cities.

Table 3.2.2 Household Growth from 2012 to 2040

Jurisdiction	Number of Households in 2012	Number of Households in 2040	Percent Change in Households from 2012 to 2040
County of Orange	999,500	1,074,700	7.5%
County of Riverside	694,400	1,054,300	51.8%
San Bernardino County	615,300	854,300	38.8%
City of Anaheim	99,200	122,600	23.6%
City of Orange	43,600	49,300	13.1%
City of Yorba Linda	21,900	23,400	6.8%
City of Chino	21,000	34,000	61.9%
City of Chino Hills	23,000	28,300	23.0%
City of Corona	45,300	52,000	14.8%
City of Riverside	92,400	118,600	28.3%

Sources: SCAG 2016-2040 Draft RTP/SCS Growth Forecast.
RTP = Regional Transportation Plan
SCAG = Southern California Association of Governments

3.2.2.4 Travel Patterns and Goods Movement

SCAG reports in the 2016–2040 Draft RTP/SCS that although SCAG supports a multimodal strategy to reduce per capita vehicle miles traveled (VMT) over the next 25 years, total demand for transportation will continue to increase due to projected growth throughout the SCAG region. As discussed above, more jobs have been located in the County of Orange despite rapid population growth in the counties of Riverside and San Bernardino. This creates an incremental demand for travel; however, the capacity and extent of the road system in the SCAG region has not kept pace with population and transportation demands. California's population and total VMT have more than doubled since 1970. However, expenditures on California's transportation infrastructure have decreased substantially since the 1970s, and the supply of roadway capacity has not matched the demand resulting from the growth that has occurred over the last four decades.

Table 3.2.3 provides commuter patterns and travel time for the Study Area cities and counties. The 2009–2013 American Community Survey (ACS) Census data shows that the majority of the employed residents in the Study Area cities in the County of Riverside (the cities of Corona and Riverside) and the County of San Bernardino (the cities of Chino and Chino Hills) work outside of that county. Both the counties of Riverside and San Bernardino overall have a higher proportion of employed residents who work outside of their county of residence in comparison to the County of Orange, where 83.9 percent of employed residents work within that county.

Table 3.2.3 Commuting Patterns

	State of California	County of Orange	County of Riverside	County of San Bernardino	City of Anaheim	City of Orange	City of Yorba Linda	City of Chino	City of Chino Hills	City of Corona	Coronita CDP
Work in County of Residence	13,474,530 (82.7%)	1,195,005 (83.9%)	587,446 (68.5%)	550,372 (69.8%)	127,040 (83.5%)	57,719 (87.7%)	23,753 (77.2%)	14,132 (44.4%)	13,239 (37.1%)	33,030 (49.0%)	693 (46.0%)
Work Outside of County of Residence	2,735,432 (16.8%)	223,847 (15.7%)	264,593 (30.9%)	233,990 (29.7%)	24,742 (16.3%)	7,876 (12.0%)	6,927 (22.5%)	17,557 (55.4%)	22,249 (62.4%)	34,022 (51.0%)	813 (54.0%)
Work in Place of Residence[1]	5,798,884 (36%)	351,927 (24.7%)	227,050 (26.5%)	194,444 (24.7%)	45,079 (29.6%)	16,469 (25.0%)	4,480 (14.6%)	6,015 (18.9%)	4,921 (13.8%)	20,281 (30.0%)	147 (9.8%)
Work Outside Place of Residence	9,684,789 (59.4%)	1,059,458 (74.3%)	605,869 (70.7%)	551,555 (70.0%)	107,036 (70.4%)	49,382 (75.0%)	26,277 (85.4%)	25,790 (81.8%)	30,740 (86.2%)	47,144 (70.0%)	1,359 (90.2%)
Travel Time to Work											
<30 minutes	8,997,490 (58.3%)	830,759 (58.3%)	436,734 (53.7%)	450,676 (59.5%)	85,023 (57.7%)	39.893 (63.2%)	13,950 (48.1%)	14,921 (48.3%)	13,546 (39.8%)	27,281 (42.5%)	549 (39.4%)
30–44 minutes	2,918,252 (18.9%)	315,587 (22.1%)	108,525 (13.3%)	133,950 (17.7%)	36,298 (24.6%)	15,282 (24.2%)	9,266 (32.0%)	7,015 (22.7%)	8,996 (26.4%)	13,917 (21.7%)	330 (23.7%)
45–59 minutes	1,240,299 (8.0%)	95,679 (6.7%)	76,047 (9.3%)	129,041 (17.0%)	10,774 (7.4%)	3,606 (5.7%)	2,594 (8.9%)	3,505 (11.4%)	4,472 (13.1%)	9,408 (14.7%)	215 (15.4%)
>60 minutes	1,558,740 (10.1%)	111,415 (7.8%)	141,133 (17.3%)	43,694 (5.8%)	13,501 (9.2%)	4,274 (6.8%)	3,183 (11.0%)	5,440 (17.6%)	7,056 (20.7%)	13,572 (21.1%)	300 (21.5%)

Source: United States Census Bureau, American Community Survey 2009–2013, Tables B08007, B08008, and B08303.

[1] Place of Residence is either a city or a CDP.

CDP = Census designated place

Likewise, only 12 percent of the employed population of the City of Orange works outside of the County of Orange, while 50.5 percent of the employed population of the City of Corona works outside of the County of Riverside.

As shown in Table 3.2.3, the majority of mean travel times for work trips in the Study Area counties are less than 30 minutes. The City of Orange has the smallest proportion of residents (2 percent) with a commute longer than 60 minutes, while the City of Corona has the largest (21.1 percent). Due to projected population growth in the Inland Empire, travel times are expected to continue to increase in and through the project Study Area.

3.2.2.5 Adopted Regional and Local Plans

Adopted regional and local plans that include growth management and transportation goals and policies are described by jurisdiction in Section 3.1, Land Use, which also provides additional information on existing land and planned land uses in the counties of Orange, Riverside, and San Bernardino and the five cities in the project Study Area.

3.2.3 Environmental Consequences

3.2.3.1 Temporary Impacts

Because potential growth-related effects represent permanent impacts of a project, there is no discussion of temporary impacts related to growth in this section.

3.2.3.2 Permanent Impacts

As required by the Caltrans Standard Environmental Reference,[1] a "first-cut screening analysis" for growth has been applied only to the Build Alternative (Two-Lane Express Lanes Connector) because the ETC Final EIR and Final EIS Alternative 1 (Corridor with West Leg) has already been reviewed in the original environmental documents for growth impacts, and the No Build Alternative does not have any growth impacts to analyze.

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative) First-Cut Screening Analysis

The "first-cut screening" analysis focuses on addressing the following four questions:

[1] Caltrans. Guidance for Preparers of Growth-Related Indirect Impact Analyses. Website: http://www.dot.ca.gov/ser/Growth- related_IndirectImpactAnalysis/GRI_guidance06May_files/gri_guidance.pdf (accessed February 15, 2015).

How, if at all, does the project potentially change accessibility?

The Build Alternative would improve the vehicle, person, and goods movement travel times on SR-241 and SR-91 to more effectively serve existing and future travel demand between and within the counties of Orange, Riverside, and San Bernardino. Currently, the northbound vehicles of SR-241 cannot directly access the eastbound *91 Express Lanes*, and the westbound *91 Express Lanes* motorists cannot directly access southbound SR-241. Existing access between northbound SR-241 and the eastbound *91 Express Lanes* and the westbound *91 Express Lanes* and the southbound SR-241 are provided by a two-lane connector that connects with the general purpose lanes on SR-91. Therefore, the Build Alternative would address deficiencies that negatively affect traffic flow and worsen congestion along SR-91 during peak hours, most notably the weaving in order to access the *91 Express Lanes*. The SR-241/SR-91 Express Lanes Connector improvements would more effectively serve existing and forecasted intra-regional travel demand, reduce congestion and air pollution, and improve both safety and traffic flow for the regional transportation system.

The improvements to the SR-241/SR-91 interchange are expected to result in improvements to operational performance and increase mobility, jobs, and services, etc. by improving commute times for users. However, because a connection already exists between SR-241 and SR-91, the SR-241 and *91 Express Lanes* connector would not substantially modify local, intra-regional, or inter-regional accessibility to and/or from SR-241 and SR-91.

How, if at all, do the project type, project location, and growth pressure potentially influence growth?

The Build Alternative is consistent with the SCAG 2016–2040 RTP/SCS and the goals and policies of the regional and local entities. The SR-91 is the only freeway corridor connecting the counties of Riverside and Orange. The Build Alternative is not expected to result in any changes to land use. The Study Area's regional and local areas have experienced rapid population, housing, and employment growth over the last few decades, as summarized above. This growth is associated with regional and local planning's existing land uses, future land uses, development, and economic growth. This area is projected to continue to experience growth in population and jobs even in the jurisdictions that are relatively constrained by limited land available for development. Growth in the counties and cities in the Project Area is expected to occur with or without the project because of the planned development anticipated by the General Plans and other planning documents for the counties, cities, and communities in the Project Area. The improved travel times expected to be achieved

as a result of the Build Alternative could have a slight influence on demand for residential and nonresidential uses in the Project Area or nearby cities; however, it would not be expected to be sufficient to result in the need to modify adopted General Plans to allow for greater levels of development (residential and nonresidential). The Build Alternative is expected to accommodate existing, approved, and planned growth in the area, but is not expected to influence the amount, timing, or location of growth in the area.

Is project-related growth reasonably foreseeable (as defined by NEPA, i.e., indirect impacts need only be evaluated if they are reasonably foreseeable as opposed to remote and speculative)?

The project responds to existing and forecasted traffic congestion on the SR-241 and SR-91 due to growth, both locally and regionally that has already occurred. The project limits along both freeways is already well known for its traffic delays during peak hours. In addition, this area is projected to continue to experience growth in population and jobs even in jurisdictions relatively constrained by limited land available for development. The Project Area includes highly urbanized areas with little remaining development capacity. SR-91 is also constrained on the south by the Cleveland National Forest and County of Orange Nature Preserves, and constrained on the north by Chino Hills State Park, the Santa Ana River, and Featherly Regional Park. The project is not expected to influence the amount, timing, or location of growth in the Project Area. Accordingly, there is no reasonably foreseeable project-related growth expected to result from the Proposed Project.

If there is project-related growth, how, if at all, will that impact resources of concern?

As discussed above, there are no reasonably foreseeable project-related growth impacts expected to result from the Proposed Project. Therefore, indirect impacts such as changes in land use, economic vitality, and population density are not expected as a result of the Proposed Project.

Based on this "First-Cut Screening" analysis, no further analysis is required.

No Build Alternative

The No Build Alternative does not include the operation of any of the improvements in the SR-241/SR-91 Express Lanes Connector project. As a result, the No Build Alternative would not result in any project-related permanent growth impacts.

3.2.4 Avoidance, Minimization, and/or Mitigation Measures

Consistent with the results of the "First-Cut Screening" analysis, no avoidance, minimization, and/or mitigation measures are required.

3.3 Community Impacts

3.3.1 Community Character and Cohesion

3.3.1.1 Regulatory Setting

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

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

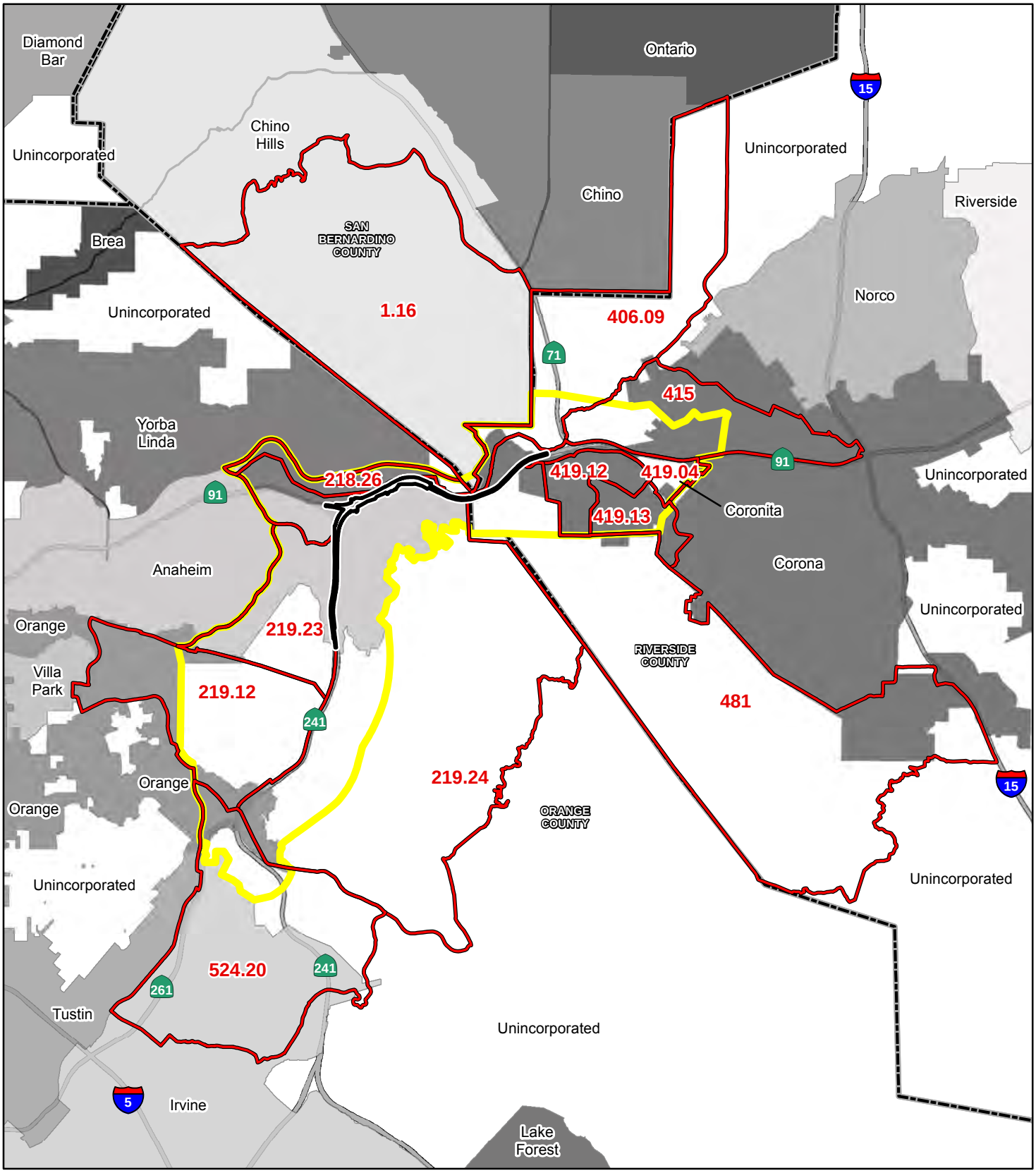
3.3.1.2 Affected Environment

The analysis of the potential for the Proposed Project to result in impacts related to community character and cohesion is described in this section.

Study Area

The Proposed Project's Community Impact Study Area is defined by the boundaries of the census tracts within and surrounding the Project Area (project footprint/ disturbance area) and within the cities and communities that could be reasonably affected by the Proposed Project as shown in Figure 3.3.1. These census tracts include parts of the cities of Anaheim, Yorba Linda, Orange, Chino Hills, and Corona; the Coronita census-designated place (CDP); and the counties of Orange, Riverside, and San Bernardino. Demographic data for San Bernardino County is presented in this section because Census Tract 1.16, in the City of Chino Hills, is located within the Community Impact Study Area.

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LEGEND

- Community Impacts Study Area
- Project Area
- Census Tracts
- County Boundary

N

0 1.25 2.5
MILES

SOURCE: SCAG (2008); US Census (2010)

I:\RBF1101\GIS\CensusTracts.mxd (3/21/2016)

FIGURE 3.3.1

SR-241/SR-91 Express Lanes Connector

Community Impacts Study Area and Census Tracts

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Orange County

City of Anaheim

The section of the City of Anaheim in the Study Area includes hillside residential developments west of SR-241. Open space areas form a buffer between the residential areas and SR-241. Open space exists to the east of SR-241 in the City of Anaheim. Sections of Census Tracts 219.23, 219.24, and 218.26 are located in the City of Anaheim.

City of Orange

The portion of the City within the Study Area includes the Santiago Canyon Road/SR-241/SR-261 interchange and generally consists of Open Space/ Recreation uses. Sections of Census Tracts 524.20 and 219.12 are located in the City of Orange.

City of Yorba Linda

The section of the City of Yorba Linda in the Study Area includes a mix of urban uses. Office, commercial, and industrial uses exist in the SAVI Ranch area east of Weir Canyon Road. Commercial, industrial, and residential uses are situated to the north of La Palma Avenue. Open space and recreation uses exist along the Santa Ana River channel. Sections of Census Tract 218.26 are located in the City of Yorba Linda.

San Bernardino County

City of Chino Hills

The small portion of the Study Area in the City of Chino Hills includes part of the Green River Golf Course. Census Tract 1.16 is located in the City of Chino Hills.

Riverside County

City of Corona

The section of the City of Corona in the Study Area includes part of the Green River Golf Course as well as residential, mixed-use, industrial, commercial, and open space/recreation uses. Sections of Census Tracts 406.09, 415, 419.04, and 481, and all of Census Tracts 419.12 and 419.13 are located in the City of Corona.

Coronita Census Designated Place

This small section of the Study Area includes mostly residential and open space/ recreation uses. A section of Census Tract 419.04 is located in Coronita, which is not an incorporated city but a Census Designated Place.

Community Cohesion Indicators

Community cohesion is the degree to which residents have a sense of belonging to their neighborhoods, a level of commitment to the community, and/or a strong attachment to neighbors, groups, and institutions usually as a result of continued association over time. Cohesion refers to the degree of interaction among the individuals, groups, and institutions that make up a community. The indicators described below were used to determine the degree of community cohesion in Study Area census tracts and local jurisdictions.

- **Age:** In general, communities with a high percentage of elderly residents (65 years or older) tend to demonstrate a greater social commitment to their communities. This is because the elderly population, which includes retirees, often tends to be more active in the community because they have more time available for volunteering and participating in social organizations.
- **Race/Ethnicity:** Homogeneity of the population generally contributes to higher levels of cohesion. Communities that are ethnically homogeneous often speak the same language, hold similar beliefs, and share a common culture, and are therefore more likely to engage in social interaction on a routine basis.
- **Housing Occupancy:** Communities with a high percentage of owner-occupied residences are typically more cohesive because their population tends to be less mobile. Because they have a financial stake in their communities, homeowners often take a greater interest in what is happening in their communities than renters do. This means they often have a stronger sense of belonging to their communities.
- **Household Size:** In general, communities with a high percentage of families with children are more cohesive than communities comprised of largely single people. This appears to be because children tend to establish friendships with other children in their communities. The social networks of children often lead to the establishment of friendships and affiliations among parents in the communities. Although the Census Bureau does not provide specific data regarding the number of children present in each household, it does provide data regarding the persons per household, which can serve as a proxy for households with children.
- **Housing Tenure:** Communities with a high percentage of long-term residents are typically more cohesive because a greater proportion of the population has had time to establish social networks and develop an identity with the community. The Census Bureau provides data regarding the year that each householder moved

into their current housing unit. For this analysis, households that moved into their current residences in 1999 or earlier are considered long-term residents.

- **Transit Dependency:** Communities with a high percentage of residents dependent on public transportation typically tend to be more cohesive than communities that are dependent on automobiles for transportation. This is because residents who walk or use public transportation for travel tend to engage in social interactions with each other more frequently than residents who travel by automobile. The transit-dependent population may include the disabled, the elderly, the young, low-income individuals, and households without vehicles available. Given that transit dependency can be attributed to a combination of factors, including age, income level, and ability to drive, transit-dependent populations are often difficult to identify based on Census data because these groups often overlap. In an effort to avoid double counting such populations, the transit-dependent population was calculated by taking the number of residents aged 15 and over (i.e., the approximate population legally old enough to drive), subtracting the number of persons living in group quarters (e.g., college residence halls, skilled nursing facilities, correctional facilities, and other group living environments for which driving is not typically required), subtracting the number of vehicles (cars, trucks, or vans) used for commuting, and then dividing the difference by the population aged 15 and over. This formula yields the approximate percentage of residents who are eligible to drive but do not commute via car, truck, or van.
- **Travel Time to Work:** Communities with a high percentage of residents with shorter travel times to work are generally more cohesive than communities with a high percentage of residents with longer commutes. When residents spend less time commuting, and have time to engage in their local communities, greater cohesion is generally demonstrated.
- **Work in County of Residence:** In general, communities with a high percentage of the population that resides and works in the same county tend to demonstrate higher levels of involvement and interaction with communities. Because residents presumably spend less time commuting, they often have more time to volunteer and participate in social organizations.

Community Profile

This section discusses the Study Area's setting, demographics, activity centers, and economics.

Setting

The Study Area is dominated by SR-241 and SR-91, which are surrounded by open space/undeveloped land to the north and south with some residential and commercial development on the west end in the cities of Anaheim and Yorba Linda and residential, commercial, and industrial uses on the east end in the City of Corona. Because the Project Area is surrounded by hilly open space to the south, east, and west, and borders the Santa Ana River to the north, the nearest residential community is The Summit of Anaheim Hills west of SR-241 and east of Serrano Avenue/Weir Canyon Road. There is no direct access to this community from SR-241 within the Project Area.

Several park and recreational facilities and multi-use trails are in the Project Vicinity including: Featherly Regional Park, the Santa Ana River Trail, Green River Golf Course, Chino Hills State Park, and several nature preserves. These facilities and trails are described in further detail in Section 3.1, Land Use.

Demographics

Demographic data compiled by the United States Census Bureau, including the 2010 Census and the 2009–2013 American Community Survey (ACS)[1] are used to measure a community's level of cohesion. The methodology for evaluating community cohesion involves comparing relevant census data sets for the communities in the Study Area to similar countywide data to determine if the community and the census tracts within the applicable county exhibit higher degrees of community cohesion indicators.

Race and Ethnicity

As shown later in this section, the counties of Orange, Riverside, and San Bernardino have similar minority population percentages ranging from 39.0 percent to 43.2 percent. Among the cities, the City of Chino Hills reported the highest minority population percentage while the City of Yorba Linda reported the lowest. The majority of the census tracts have lower percentages of minority populations than each's respective county; only Census Tracts 406.9 and 1.16 have larger minority populations than their respective counties. For the

[1] The American Community Survey is an ongoing survey conducted by the United States Census Bureau that provides yearly data, thereby supplying communities the current information needed to plan investments and services.

census tracts, the minority population ranges from 25.9 percent to 62.4 percent of the total population.

Of the counties, the Hispanic/Latino population is highest for the County of San Bernardino at 49.2 percent. Of the cities, the City of Yorba Linda demonstrates the lowest Hispanic/Latino population percentage at 14.4 percent, while the City of Anaheim has the highest Hispanic/Latino population percentage at 52.8 percent. Of the counties, the County of Orange has the lowest Hispanic/Latino county population at 33.7 percent. All the census tracts exhibit lower Hispanic/Latino population percentages than their respective counties.

Housing Occupancy

Owner-occupancy rates in the cities and the Coronita CDP range from 47.8 percent in City of Anaheim to 84.0 percent in the City of Yorba Linda, as shown in Table 3.3.1. For all the census tracts, with the exception of Census Tract 415, the percentages of owner-occupied residences are higher than the owner-occupancy rates in the respective county census tracts.

Elderly Residents

As shown in Table 3.3.1, the elderly resident population is similar across the cities, with the exception of the Cities of Corona and Chino Hills, which have the lowest elderly residential population percentage of 7.3 and 7.4 percent, respectively. However, all census tracts, with the exception of Census Tract 219.12, have smaller percentages of elderly residents than their respective counties overall.

Average Household Size

The Coronita CDP has a substantially higher average household size than the Study Area cities, at 3.68 average occupants, as shown in Table 3.3.1. Similarly, the average household size for the City of Anaheim is considerably higher than that for the County of Orange. All but three census tracts have larger average household sizes than their respective counties, with household sizes ranging from 2.6 to 4.40 occupants.

Transit-Dependent Population

As shown in Table 3.3.1, the City of Anaheim has the highest transit-dependent population in comparison to other cities and the Coronita CDP. Each census tract has a lower transit-dependent population than its respective county, with the

Table 3.3.1 Community Cohesion Indicators

Jurisdiction	Racial Minority Population (Non-White)[1]	Hispanic/ Latino Population[2]	Owner-Occupied Residences	Elderly Residents (>64 years old)	Average Household Size (persons)	Transit-Dependent Population[3]	Long-Term Residents (moved in 1999 or earlier)[4]
County of Orange	39.2%	33.7%	58.7%	349,677 (11.6%)	3.0	15.1%	347,301 (34.9%)
City of Anaheim	***47.3%***	***52.8%***	47.8%	31,222 (9.3%)	***3.38***	***23.2%***	31,443 (31.7%)
City of Yorba Linda	24.9%	14.4%	***84.0%***	7,606 (11.0%)	2.97	0.8%	***9,558 (43.7%)***
City of Orange	32.9%	***38.1%***	***59.5%***	15,318 (11.1%)	***3.07***	***16.4***	***15,847 (37.0%)***
Census Tract 218.26	27.0%	16.8%	***63.8%***	131 (4.9%)	2.6	4.8%	263 (26.5%)
Census Tract 219.12	25.9%	11.4%	***97.3%***	***780 (16.6%)***	***3.1***	1.3%	***551 (37.6%)***
Census Tract 219.23	33.3%	14.6%	***86.5%***	530 (8.0%)	2.82	3.9%	794 (32.6%)
Census Tract 219.24	36.9%	14.8%	***70.5%***	257 (6.1%)	***3.05***	0.9%	***558 (39.5%)***
Census Tract 524.20	***58.2%***	8.0%	***65.8%***	1,355 (6.2%)	***3.07***	11.9%	963 (13.3%)
County of Riverside	39.0%	45.5%	66.5%	258,586 (11.8%)	3.14	15.8%	174,558 (25.5%)
City of Corona	***40.3%***	43.6%	***67.3%***	11,180 (7.3%)	***3.38***	13.7%	***12,991 (29.2%)***
Coronita CDP	36.8%	***51.7%***	***80.5%***	287 (11.0%)	***3.68***	***17.8%***	***416 (46.4%)***
Census Tract 406.9	***62.4%***	37.5%	***85.6%***	378 (4.5%)	***3.8***	15.5%	80 (3.0%)
Census Tract 481	31.1%	23.1%	***87.8%***	679 (10.5%)	***3.51***	6%	291 (15.7%)
Census Tract 419.04	34.1%	41.2%	***84.5%***	415 (8.7%)	***3.37***	11.8%	***630 (43.9%)***
Census Tract 419.12	38.9%	25.0%	***85.7%***	376 (6.5%)	***3.32***	8.8%	***1,731 (37.4%)***
Census Tract 419.13	33.2%	27.7%	***73.0%***	411 (7.4%)	2.87	7.8%	***489 (25.7%)***
Census Tract 415	***56.2%***	***87.3%***	52.3%	182 (8.6%)	***4.40***	***32.1%***	***174 (35.2%)***
County of San Bernardino	43.2%	49.2%	61.9%	191,278 (9.3%)	3.26	20.6%	188,069 (31.0%)
City of Chino Hills	***49.2%***	29.1%	***79.6%***	5,554 (7.4%)	3.25	12.01%	***8,886 (39.0%)***
Census Tract 1.16	***52.3%***	24.5%	***84.8%***	686 (6.2%)	***3.32***	8.6%	975 (29.7%)

Source: United States Census Bureau. American Community Survey (ACS) 2009–2013; 2010 Census.
Note: ***Bold italicized*** numbers are greater than the corresponding demographic at the County level.

1 Includes individuals who identify themselves as Black/African American, Asian, Native Hawaiian/Pacific Islander, Native American/Native Alaskan, Some Other Race, or two or more races.

2 Persons of Hispanic/Latino Origin may be of any race.

3 The transit-dependent population was calculated by taking the number of residents aged 15 and over (as reported in Table B01001 of the 2009–2013 ACS), subtracting the number of persons living in group quarters (as reported in Table B26001 of the 2009–2013 ACS), subtracting the number of vehicles available (as reported in Table B25046 of the 2009–2013 ACS), and then dividing the difference by the population aged 15 and over.

4 Includes those residents who moved into their current residence in 1999 or earlier (as reported in Table DP04 of the 2009–2013 ACS).

CDP = Census Designated Place

exception of Census Tract 415. Census Tract 219.24 has notably lower transit-dependent populations in comparison to other census tracts and the County of Orange, at 0.9 percent.

Long-Term Residents

The City of Yorba Linda and the Coronita CDP exhibit a notably higher long-term resident population than the other cities, at 43.7 and 46.4 percent, respectively, as shown in Table 3.3.1. The percentage of long-term residents within the census tracts ranges from 3 percent to 43.9 percent. Census Tract 406.9 has a substantially lower number of long-term residents in comparison to other census tracts and the County of Riverside, at 3 percent.

Community Cohesion Summary

All the cities and the Coronita CDP exhibit at least one community cohesion indicator in comparison to their respective county populations. The City of Yorba Linda demonstrates the fewest indicators of community cohesion (two), while the Coronita CDP exhibits the most (five). Additionally, all the census tracts exhibit one or more community cohesion indicator in comparison to their respective county populations. Two of the census tracts, Census Tract 219.12 in the County of Orange and Census Tract 415 in the County of Riverside demonstrate four and five, respectively, of the seven community cohesion indicators, which are the highest among the Study Area census tracts. Overall, the census tracts in the County of Riverside demonstrate more indicators of community cohesion than census tracts in the County of Orange. Based on these factors, the Study Area appears to exhibit a moderate level of community cohesion.

Community Facilities/Activity Centers

Parks and recreational facilities are discussed in detail in Section 3.1, Land Use. Featherly Regional Park, on the north side of SR-91, contains a visitor center, park benches, picnic tables, and campsites, so it supports substantial community activities. Canyon RV Park is located within Featherly Park on land leased from the County of Orange. Canyon RV Park is privately owned and operated, and consists of ten cabins, two amphitheaters, campsites, and RV spaces for rental. Canyon RV Park is located approximately 480 feet (ft) from SR-91.

In addition, in the County of Orange, the Santa Ana River Trail extends 30 miles (mi) from Green River Golf Club to Huntington Beach, generally following the alignment of the river, and is accessible to many communities. Green River Golf Course, on the

north side of SR-91, is privately operated but is open to the public and contains a large conference room that is available for rent.

There is only one school within a 0.5 mi radius of the Project Area, Running Springs Elementary School on the west side of SR-241, in The Summit of Anaheim Hills community as shown on Figure 3.3.2. Running Springs Elementary School is a K–6 grade school within the Orange Unified School District, and is located in at 8670 Running Springs Drive, in Anaheim. Besides recreational areas, no additional community facilities such as libraries, post offices, or community centers are located in the Study Area. Community facilities/activity centers within 0.5 mi of the Project Area are shown on Figure 3.3.2.

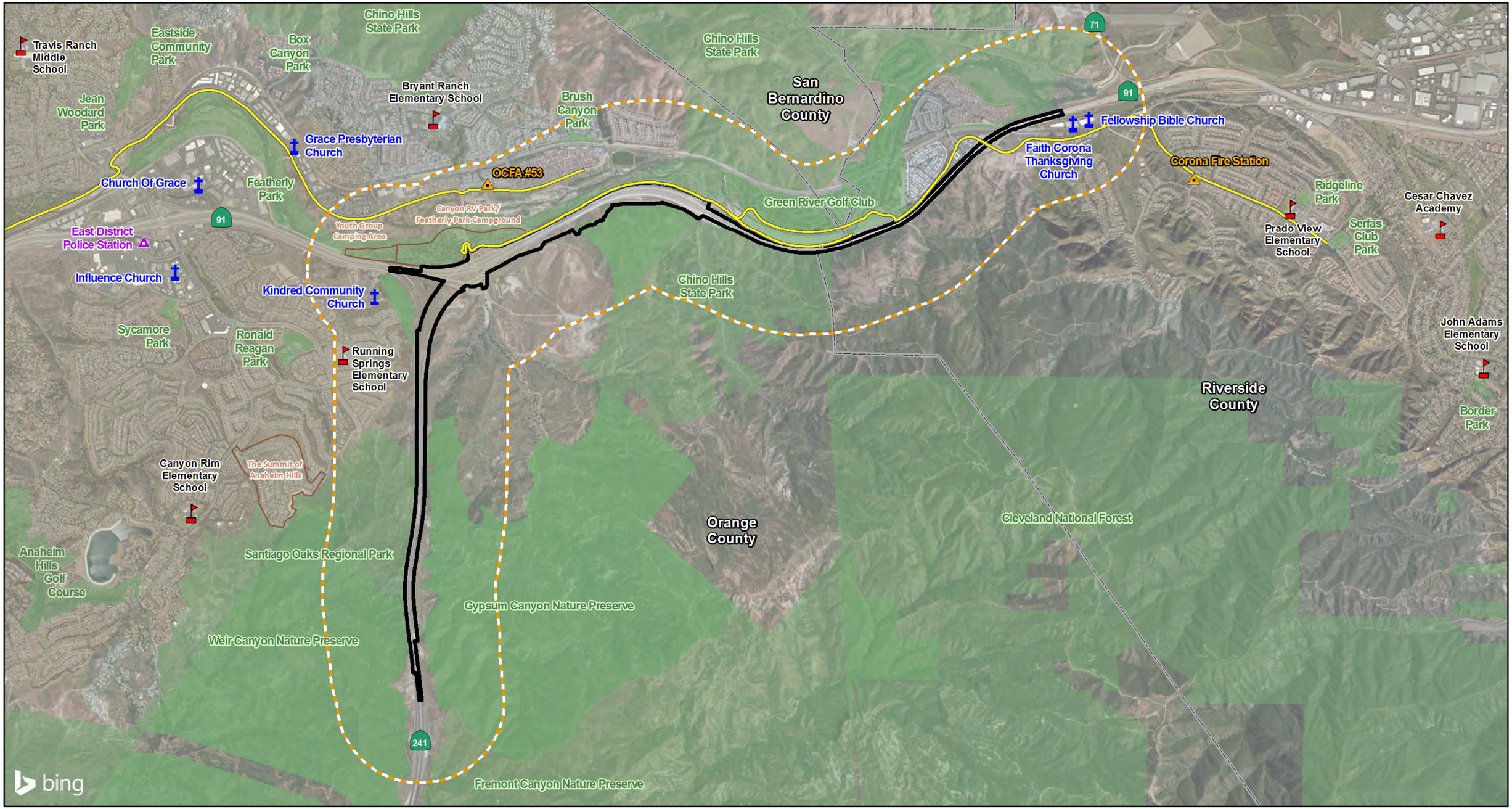
Employment

Table 3.3.2 provides information regarding the civilian labor force in the cities, the Coronita CDP, and census tracts in the Study Area, including the number of employed and unemployed persons and the unemployment rate, with comparisons to county employment statistics.

Table 3.3.2 Employment Status

Jurisdiction	Civilian Labor Force	Employed	Unemployed	Unemployment Rate
California	18,804,519	16,635,854	2,168,665	7.3%
County of Orange	1,604,290	1,453,951	150,339	6.2%
City of Anaheim	175,618	155,012	20,606	8.0%
City of Yorba Linda	34,593	31,735	2,858	5.5%
City of Orange	73,604	67,082	6,522	5.9%
Census Tract 218.26	1,499	1,331	168	8.8%
Census Tract 219.12	2,323	2,194	129	5.6%
Census Tract 219.23	4,172	3,897	275	5.2%
Census Tract 219.24	2,309	2,283	126	3.7%
Census Tract 524.20	11,465	10,882	583	5.1%
County of Riverside	1,030,145	877,030	153,115	9.1%
City of Corona	78,007	68,796	9,211	8.0%
Coronita CDP	1,621	1,506	115	4.0%
Census Tract 406.9	5,541	5,031	520	6.5%
Census Tract 481	3,248	2,835	413	12.7%
Census Tract 419.04	2,447	2,205	242	6.3%
Census Tract 419.12	3,270	3,046	224	5.0%
Census Tract 419.13	3,034	2,778	256	8.4%
Census Tract 415	1,008	758	250	24.8%
County of San Bernardino	938,164	801,850	136,314	14.5%
City of Chino Hills	41,138	36,652	4,486	10.9%
Census Tract 1.16	5,702	5,228	474	8.3%

Source: United States Census Bureau. 2009–2013 American Community Survey, Table DP03.



LEGEND

- Project Area
- Half-mile Radius from Project Area
- Parks and Recreational Resourcres
- Santa Ana River Trail
- County Boundary
- School
- Church
- Fire Station
- Police Station

*Note: There are no hospitals within approximately 5 miles of the project area.

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FEET

SOURCE: Bing Maps (2014); OC Parks (2012); Thomas Bros (2013)

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FIGURE 3.3.2

SR-241/SR-91 Express Lanes Connector

Community Facilities / Activity Centers

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The cities of Yorba Linda and Orange have lower unemployment rates than the County of Orange overall. In addition, the City of Corona and the Coronita CDP have lower unemployment rates than the County of Riverside overall. In San Bernardino County, the City of Chino Hills has a lower unemployment rate than the County overall. As shown in Table 3.3.2, most of the census tracts have lower unemployment rates than the counties of Orange and Riverside. However, one census tract in the County of Orange (218.26) and two census tracts in the County of Riverside (415 and 481) have a higher unemployment rate than their respective counties. Unemployment rates in the census tracts range from 3.7 to 24.8 percent.

Income and Poverty Level

As shown in Table 3.3.3, the City of Yorba Linda reported the highest annual median household income at $37,000 higher than that of the County of Orange. The City of Anaheim reported the lowest annual median household income at approximately $16,300 below the County of Orange average. In comparison to the County of Riverside overall, the annual median household income for the Coronita CDP and the City of Corona was approximately $20,000 higher. The median household income in the City of Chino Hills is substantially higher than the County of San Bernardino (approximately $50,000 higher).

Table 3.3.3 Income and Poverty Level

Jurisdiction	Total Population for whom Poverty is Determined	Median Household Income	Persons Living in Poverty (percent)
County of Orange	3,014,416	$75,422	12.4%
City of Anaheim	336,612	$59,165	16.1%
City of Yorba Linda	65,312	$112,259	3.1%
City of Orange	132,298	$78,838	11.8%
Census Tract 218.26	2,500	$78,142	2.3%
Census Tract 219.12	4,694	$152,634	2.9%
Census Tract 219.23	6,779	$115,284	1.5%
Census Tract 219.24	4,455	$109,068	2.4%
Census Tract 524.20	21,867	$119,258	4.1%
County of Riverside	2,193,762	$56,529	16.2%
City of Corona	154,504	$77,123	10.8%
Coronita CDP	3,227	$76,713	12.8%
Census Tract 406.9	11,317	$114,628	6.1%
Census Tract 481	4,892	$77,945	8.2%
Census Tract 419.04	5,733	$111,802	7.2%
Census Tract 419.12	6,446	$111,779	5.1%
Census Tract 419.13	5,506	$82,083	7.8%
Census Tract 415	2,089	$43,052	32.6%
County of San Bernardino	2,010,188	$54,090	18.7%
City of Chino Hills	75,380	$105,413	6.1%
Census Tract 1.16	11,121	$109,628	2.6%

Source: United States Census Bureau. 2009–2013 American Community Survey (ACS), Tables S1701 and S1903.

For 2014, the United States Department of Health and Human Services (DHHS) poverty guideline was $19,790 for a family of three and $23,850 for a family of four. Of the associated counties, the County of San Bernardino reports the highest poverty rate of 18.7 percent. Among the cities and the Coronita CDP, the City of Yorba Linda reported the lowest poverty rate at 3.1 percent and the City of Anaheim reported the highest poverty rate at 16.1 percent. All the census tracts reported lower poverty rates than their respective counties, with the exception of Census Tract 415. In addition, all the census tracts in the counties of Orange and San Bernardino reported substantially lower poverty rates than the census tracts in the County of Riverside.

Commuting Patterns

Traffic congestion and long commutes can have a negative impact on personal perceptions of quality of life. As employment and population continue to increase in the region, hours of traffic delays and daily vehicle miles traveled per person are projected to increase as well. One major transportation and mobility issue that the Inland Empire as a whole faces is that many residents work in neighboring counties. While this has become slightly less pronounced over time, the 2010 United States Census demonstrates that approximately 30 percent of the counties of Riverside and San Bernardino residents were employed outside their county of residence, which is nearly double the percentage of residents employed outside their county of residence in comparison to the State of California. The cities and the CDP in the counties of Riverside and San Bernardino further demonstrate this trend, with the majority of residents working outside their place of residence or county. The City of Chino Hills demonstrates a notably higher percentage of residents working outside of their county of residence at 62.4 percent, which is approximately four times the percentage of residents employed outside their county of residence in comparison to the State of California. Table 3.3.4 illustrates commute and travel time information for the Study Area cities, the CDP, and the associated counties.

The County of Riverside has nearly twice the percentage of residents that have a commute longer than 60 minutes in comparison to the County of Orange. The cities of Corona and Chino Hills and the Coronita CDP have substantially higher percentages of employed residents with a commute longer than 60 minutes than residents of the cities of Anaheim, Orange, and Yorba Linda.

Table 3.3.4 Commuting Patterns

	State of California	County of Orange	County of Riverside	County of San Bernardino	City of Anaheim	City of Orange	City of Yorba Linda	City of Chino Hills	City of Corona	Coronita CDP
Work in County of Residence	13,474,530 (82.7%)	1,195,005 (83.9%)	578,446 (68.5%)	550,372 (69.8%)	127,040 (83.5%)	57,719 (87.7%)	23,753 (77.2%)	13,239 (37.1%)	33,030 (49.0%)	693 (46.0%)
Work Outside of County of Residence	2,735,432 (16.8%)	223,847 (15.7%)	264,593 (30.9%)	233,990 (29.7%)	24,742 (16.3%)	7,876 (12.0%)	6,927 (22.5%)	22,249 (62.4%)	34,022 (51.0%)	813 (54.0%)
Work in Place of Residence[1]	5,798,884 (36%)	351,927 (24.7%)	227,050 (26.5%)	194,444 (24.7%)	45,079 (29.6%)	16,469 (25.0%)	4,480 (14.6%)	4,921 (13.8%)	20,281 (30.0%)	147 (9.8%)
Work Outside Place of Residence	9,684,789 (59.4%)	1,059,458 (74.3%)	605,869 (70.7%)	551,555 (70.0%)	107,036 (70.4%)	49,382 (75.0%)	26,277 (85.4%)	30,740 (86.2%)	47,144 (70.0%)	1,359 (90.2%)
Travel Time to Work										
<30 minutes	8,997,490 (58.3%)	830,759 (58.3%)	436,734 (53.7%)	450,676 (59.5%)	85,023 (57.7%)	39.893 (63.2%)	13,950 (48.1%)	13,546 (39.8%)	27,281 (42.5%)	549 (39.4%)
30–44 minutes	2,918,252 (18.9%)	315,587 (22.1%)	108,525 (13.3%)	133,950 (17.7%)	36,298 (24.6%)	15,282 (24.2%)	9,266 (32.0%)	8,996 (26.4%)	13,917 (21.7%)	330 (23.7%)
45–59 minutes	1,240,299 (8.0%)	95,679 (6.7%)	76,047 (9.3%)	129,041 (17.0%)	10,774 (7.4%)	3,606 (5.7%)	2,594 (8.9%)	4,472 (13.1%)	9,408 (14.7%)	215 (15.4%)
>60 minutes	1,558,740 (10.1%)	111,415 (7.8%)	141,133 (17.3%)	43,694 (5.8%)	13,501 (9.2%)	4,274 (6.8%)	3,183 (11.0%)	7,056 (20.7%)	13,572 (21.1%)	300 (21.5%)

Source: United States Census Bureau, American Community Survey 2009–2013, Tables B08007, B08008, and B08303.
[1] Place of Residence is either a city or a CDP.
CDP = Census designated place

3.3.1.3 Environmental Consequences

Temporary Impacts

Temporary impacts to community cohesion generally depend on whether a project is likely to create a barrier or disrupt connectivity of a community. Either of these can be a result of disruptions in access or residential and business acquisitions.

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

The Build Alternative could potentially result in temporary impacts to community character and cohesion related to construction activities, including short-term air quality, noise, and traffic/access, and visual impacts.

Construction activities would result in temporary impacts associated with construction equipment noise and air emissions. However, a large part of the Project Area is surrounded by open space/undeveloped land where construction activities would not disrupt community character and cohesion. The Summit of Anaheim Hills, the closest residential neighborhood to the Project Area (approximately 1,400 ft from the nearest construction staging area), is in the hills above and west of SR-241, south

of the SR-241/SR-91 interchange. This residential community and visitors at Featherly Regional Park, which is located approximately 380 ft from the nearest construction staging area, have the potential to be impacted by minimal dust and equipment noise during construction activities; however, construction activities would be limited to the immediate vicinity where physical improvements associated with the Build Alternative would be constructed. In addition, construction impacts related to air quality and noise would be minimized through compliance with Caltrans standards for noise and emissions as discussed later in Sections 3.12, Air Quality, and 3.13, Noise. Refer to Section 3.1, Land Use, for additional discussion regarding potential impacts to parks and recreational resources, including Featherly Regional Park, during construction. Refer to Section 3.4, Utilities/Emergency Services, for discussion regarding the potential impacts to police and fire stations and hospitals during construction.

All construction access and staging areas would occur within existing Caltrans right-of-way, and no temporary construction easements (TCEs) would be required on private property. However, the Build Alternative would require temporary closure of one lane in each direction on SR-241 and SR-91 at various times to construct the median-to-median connector and install advance signage. In addition, temporary detours and weekend or nighttime closures would be required at the SR-91/Gypsum Canyon Road Interchange ramps to realign the ramps and construct bridge supports for the new connector. Similarly, temporary detours and weekend or nighttime closures would be required at the existing northbound SR-241 to eastbound SR-91 connector to widen SR-91 to the south. To minimize traffic disruptions during construction, the Transportation Management Plan (TMP) would be finalized and approved during Final Design. The Transportation Management Plan Data Sheet is provided in Appendix I. The TMP would be implemented during construction to reduce project-related temporary impacts to community character and cohesion. Refer to Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, for additional discussion regarding the TMP. Additionally, Measure V-5, Construction Lighting, requires that necessary lighting for safety and nighttime construction activities be contained and directed toward the construction areas.

No Build Alternative

The No Build Alternative does not include the construction of any transportation improvements in the Project Area. As a result, the No Build Alternative would not result in any short-term substantial impacts on community character and cohesion.

Permanent Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

The Build Alternative would not result in residential or non-residential displacements; most residences are more than 0.5 mi from the Project Area.

As discussed in further detail in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, the Build Alternative would improve access and circulation along SR-241 and SR-91 in the Project Area by providing a direct connection between SR-241 and the *91 Express Lanes*. The *Traffic Analysis Report* (July 2015) forecasted traffic volumes on SR-241 to increase due to this improved accessibility between SR-241 and the *91 Express Lanes*. In the AM peak period from westbound SR-91 to the southbound SR-241, this would amount to 850 vehicles per hour in 2017 and 1,320 vehicles per hour in 2040. In the PM peak period from northbound SR-241 to the eastbound SR-91, this would amount to 190 vehicles per hour in 2017. By 2040, there is no shift due to the increased number of lanes on SR-91 as a result of the Ultimate SR-91 Corridor Improvement Project improvements. The increase in traffic volume on SR-241 would not result in substantial traffic, air quality, or noise impacts on adjacent communities due to improvement in the overall efficiency of the system in the Project Area (i.e., reduced congestion). The Build Alternative would improve mobility and increase the efficiency of the existing circulation system without dividing or otherwise substantially affecting the character of adjacent communities.

The Build Alternative would add to the already large-scale roadway facilities, adding hardscape and further urbanizing the character; however, it would not have a substantial impact since most communities are not immediately adjacent to the Project Area. The existing roadways and Santa Ana River currently divide the communities, and while the Build Alternative would widen SR-241 and SR-91, it would have a minimal effect on community cohesion. Please refer to Section 3.6, Visual/Aesthetics, for more detail on the visual character. The project will incorporate Context Sensitive Design, as described in the nationally recognized Federal Highway Administration (FHWA) Principles of Context Sensitive Design Standards, to the greatest extent possible. Please refer to Section 3.6.5 for avoidance, minimization, and/or mitigation measures that address visual impacts within the Project Area.

The Build Alternative would not result in substantial permanent impacts to community character and cohesion. Refer to Section 3.1, Land Use, for additional discussion regarding potential long-term impacts to parks and recreational resources.

Refer to Section 3.4, Utilities/Emergency Services, for discussion regarding the potential long-term impacts to police and fire stations and hospitals. Refer to Section 3.6, Visual, for discussion regarding long-term visual and aesthetic impacts. Measures V-1 through V-7, in Section 3.6.5, will minimize potential permanent impacts to visual resources.

No Build Alternative

The No Build Alternative does not include the operation of any transportation improvements in the Project Area. As a result, the No Build Alternative would not result in permanent substantial impacts on community character and cohesion. As discussed in Section 1.2.2, Need for the Proposed Project, the communities in the Study Area are affected by traffic congestion and reduced mobility in the SR-241/ SR-91 interchange area. Under the No Build Alternative, this congestion would increase, thereby exacerbating existing mobility conditions associated with a lack of a direct connector between SR-241 and the *91 Express Lanes*.

3.3.1.4 Avoidance, Minimization, and/or Mitigation Measures

Measure TR-1 in Section 3.5 (implementation of a TMP), would minimize temporary impacts to community character and cohesion.

Temporary air quality impacts would be minimized based on implementation of Measures AQ-1 through AQ-5, which are provided in Section 3.12, Air Quality. These measures require the control of dust and equipment emissions during construction.

Temporary noise impacts would be minimized based on implementation of Measure N-1, which is provided in Section 3.13, Noise. Measure N-1 requires the construction contractor to comply with California Department of Transportation (Caltrans) Standard Specifications regarding noise control during construction. Operational noise impacts would be minimized based on implementation of Measure N-2, provided in Section 3.13, Noise. Measure N-2 requires implementation of quieter deck texture specifications. Measures V-1 through V-5, provided in Section 3.6.5, will minimize potential impacts to visual resources. No additional measures are required.

Measures V-1 through V-7, in Section 3.6.5, will minimize permanent impacts to community character.

3.3.2 Relocations and Real Property Acquisitions

3.3.2.1 Regulatory Setting

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

All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 United States Code [USC] 2000d, et seq.). Please see Appendix C for a copy of the Department's Title VI Policy Statement.

3.3.2.2 Affected Environment

The Project Area and Project Vicinity are dominated by the two freeways, parkland, hillside open space and the Santa Ana River. There is residential and commercial development on the west end of the Project Area in the cities of Anaheim and Yorba Linda and residential, commercial, and industrial uses at the east end of the Project Area in the City of Corona.

Based on the *Final Relocation Impact Memorandum* (July 2017), the Proposed Project would require partial acquisition of one property owned by the County of Orange. No other right-of-way acquisition is necessary. There are no impacts to owners, tenants, businesses, or persons in possession of real property to be acquired who would qualify for relocation assistance benefits, or entitlements under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act). The Uniform Act, passed by Congress in 1970, is a federal law that establishes minimum standards for federally funded programs and projects that require the acquisition of real property (real estate) or displace persons from their homes, businesses, or farms.

3.3.2.3 Environmental Consequences

Temporary Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Construction of the Build Alternative would not require any TCEs on private property. Therefore, the Proposed Project would not result in any temporary impacts related to temporary right-of-way acquisitions.

No Build Alternative

The No Build Alternative does not include construction of any transportation improvements in the Project Area. As a result, the No Build Alternative would not result in any temporary impacts related to temporary right-of-way acquisitions.

Permanent Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

The Build Alternative would result in the partial acquisition of one undeveloped County of Orange-owned property (Assessor's Parcel Number 085-071-56). The area where right-of-way would be required for the Build Alternative is along SR-91 and begins at the slope approximately 3,600 ft west of Coal Canyon. The partial acquisition would not result in the displacement or relocation of any residents or businesses, and no loss of sales or property tax would occur. Therefore, no permanent direct or indirect impacts related to relocations or real property acquisitions would occur as a result of the Build Alternative.

No Build Alternative

The No Build Alternative does not include the operation of any transportation improvements in the Project Area. As a result, the No Build Alternative would not result in permanent acquisition of any partial or full parcel properties.

3.3.2.4 Avoidance, Minimization, and/or Mitigation Measures

Measures for Real Property Acquisition and Relocations

The Proposed Project would not result in acquisition of property that would displace residents or businesses. Measure LU-1 would require compliance with the provisions of the Uniform Act (as amended), Title 49 CFR Part 24, as applicable. No other measures are required.

3.3.3 Environmental Justice

3.3.3.1 Regulatory Setting

All projects involving a federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, signed by President William J. Clinton on February 11, 1994. EO 12898 directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines, which for 2013 was $23,550 for a family of four.

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have also been included in this project. Caltrans' commitment to upholding the mandates of Title VI is demonstrated by its Title VI Policy Statement, signed by the Director, which can be found in Appendix C of this document.

3.3.3.2 Affected Environment

The Study Area for the consideration of adverse effects on environmental justice populations was defined as the census tracts for the associated cities, the Coronita CDP, and the associated counties used to assess the Proposed Project's effects on community character and cohesion. This environmental justice analysis applies the following methodology to identify minority and low-income populations in the Study Area that are meaningfully larger than those populations in the counties of Orange, Riverside, and San Bernardino.

The environmental justice analysis was conducted using census information from the 2010 Census and 2009–2013 ACS for the total populations of the counties of Orange, Riverside, and San Bernardino; the cities of Anaheim, Yorba Linda, Orange, Chino Hills, and Corona; the Coronita CDP; and the census tracts in the Study Area. The following three populations were considered in assessing whether or not the Proposed Project would result in disproportionate adverse impacts to environmental justice populations and whether or not the Proposed Project would result in benefits for those populations:

- **Minority Population:** A census tracts is considered to have minority populations if the percentage of minority residents in the census tract is more than 10 percentage points higher than the county average (i.e., 49.2 percent,

49.0 percent, and 43.2 percent for the counties of Orange, Riverside, and San Bernardino, respectively).

- **Hispanic/Latino Population:** Defined as persons of Hispanic/Latino origin, a descriptor of ethnic origin for someone who may be of any race. A census tract is considered to have a Hispanic/Latino population if the percentage of Hispanic/ Latino residents in the census tract is more than 10 percentage points higher than the county overall (i.e., 44.7 percent, 55.5 percent, and 53.2 percent for the counties of Orange, Riverside, and San Bernardino, respectively).
- **Low-Income Population:** Low-income populations are those persons living below the poverty level, defined as the Census Bureau's poverty threshold of $23,850 for a family of four. A census tract is considered to have low-income populations if the percentage of residents in the census tract who are living below the Census Bureau's defined poverty threshold is more than 5 percentage points higher than the county average (i.e., 17.4 percent, 21.2 percent, and 23.7 percent for the counties of Orange, Riverside, and San Bernardino, respectively).

Table 3.3.5 summarizes these environmental justice demographic characteristics for the Study Area counties, cities, the CDP, and the associated census tracts. There are no environmental justice populations near the Project Area because there are no residential properties near the Project Area, with the exception of The Summit of Anaheim Hills, in Census Tract 219.23 in the City of Anaheim.

Minority Population and Hispanic Population

As shown in Table 3.3.5, the counties exhibit similar non-white minority population percentages; the Hispanic/Latino population percentage is lowest for the County of Orange and highest for the County of San Bernardino. Among the cities, as well as the Coronita CDP, the City of Chino Hills has the largest percentage of minority residents and the City of Anaheim has the largest percentage of Hispanic residents. The City of Yorba Linda has the smallest percentage of minority and Hispanic residents.

Minority populations in the Study Area census tracts range between 25.9 percent and 62.4 percent. Census Tracts 406.9, 419.04, and 415 exhibit substantially higher minority populations than the County of Riverside, overall. In addition, Census Tract 524.20 exhibits a substantially higher minority population proportion than the County of Orange, overall.

Table 3.3.5 Minority, Hispanic, and Low-Income Populations for the Study Area

Area	Percent Environmental Justice Population		
	Racial Minority Population (Non-White)[1]	Hispanic	Below Poverty Level
County of Orange	39.2%	33.7%	12.4%
City of Anaheim	47.3%	**52.8%**	16.1%
City of Yorba Linda	24.9%	14.4%	3.1%
City of Orange	32.9%	38.1%	11.8%
Census Tract 218.26	27.0%	16.8%	2.3%
Census Tract 219.12	25.9%	11.4%	2.9%
Census Tract 219.23	33.3%	14.6%	1.5%
Census Tract 219.24	36.9%	14.8%	2.0%
Census Tract 524.20	**58.2%**	8.0%	4.1%
County of Riverside	39.0%	45.5%	16.2%
City of Corona	40.3%	43.6%	10.8%
Coronita CDP	36.8%	51.7%	12.8%
Census Tract 406.9	**62.4%**	37.5%	6.1%
Census Tract 481	33.2%	23.1%	5.1%
Census Tract 419.04	**56.1%**	41.2%	8.2%
Census Tract 419.12	34.1%	25.0%	7.2%
Census Tract 419.13	33.2%	27.7%	7.8%
Census Tract 415	**56.2%**	**87.3%**	**32.6%**
County of San Bernardino	43.2%	49.2%	18.7%
City of Chino Hills	49.2%	29.1%	6.1%
Census Tract 1.16	52.3%	24.5%	2.6%

Source: United States Census Bureau. 2010 Census and 2009–2013 American Community Survey.
Note: **Bold** numbers indicate the values that are substantially greater than the percentage for the particular county as a whole. For racial minority, "substantially greater" means 10 percentage points higher than the percentage for the respective county (i.e., 49.2 percent, 49.0 percent, and 53.2 percent for the counties of Orange, Riverside, and San Bernardino, respectively). For Hispanic/Latino populations "substantially greater" means 10 percentage points higher than the percentage for the respective county (i.e., 43.7 percent, 55.5 percent, and 59.2 percent for the counties of Orange, Riverside, and San Bernardino, respectively. For low-income populations, "substantially greater" means 5 percentage points higher than the percentage for the respective county (i.e., 17.4 percent, 21.2 percent, and 23.7 percent for the counties of Orange, Riverside, and San Bernardino, respectively).
CDP = Census Designated Place

Hispanic/Latino populations in the Study Area census tracts range between 8.0 percent and 87.3 percent. None of the census tracts demonstrate substantially higher Hispanic/Latino population percentages than their respective counties, with the exception of Census Tract 415 in Riverside County. Overall, the census tracts in the County of Orange report lower minority and Hispanic populations than the census tracts in the counties of Riverside and San Bernardino.

Poverty Level

As shown in Table 3.3.5, the County of San Bernardino reported the highest poverty rate at approximately 18.7 percent. The City of Yorba Linda reported the lowest percentage of population living below the poverty level at approximately 3 percent, while the City of Anaheim demonstrated the highest poverty rate at approximately

16 percent. Each of the census tracts reported a lower poverty rate than its respective county, with the exception of Census Tract 415.

3.3.3.3 Environmental Consequences

Temporary Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

The Study Area includes four census tracts with an environmental justice population. These environmental justice populations, as well as other non-environmental justice populations in the Study Area, would potentially experience short-term air, noise, and traffic impacts during construction of the project improvements. However, the census tracts that contain an environmental justice population are not within the construction footprint area. As described in Section 3.5.3, some of the parks and recreation resources in the Study Area would potentially experience short-term air, noise, and traffic impacts during construction. These short-term noise, air quality, visual, and transportation impacts would be substantially reduced through implementation of the avoidance, minimization, and/or mitigation measures discussed in Sections 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities; 3.12, Air Quality; 3.13, Noise; and 3.6, Visual/Aesthetics. With implementation of these measures, construction of the Build Alternative would not result in adverse impacts that are appreciably more severe or greater in magnitude on environmental justice populations than the adverse effects experienced by non-environmental justice populations. Therefore, the Build Alternative would not cause disproportionately high and adverse temporary effects on minority or low-income populations.

No Build Alternative

The No Build Alternative does not include construction of any transportation improvements in the Project Area. As a result, the No Build Alternative would not result in short-term impacts on environmental justice populations.

Permanent Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

The Build Alternative would partially acquire one County of Orange open space property, but would not result in the displacement of any residential or non-residential uses. The partial acquisition required for the Build Alternative is not within any of the census tracts that include environmental justice populations. Further, the Proposed Project improvements would be mainly within the State's existing right-of-way and

would not divide a community or neighborhood. Therefore, the Build Alternative would not result in permanent impacts to environmental justice or non-environmental justice populations related to the permanent acquisition for the Proposed Project.

Permanent impacts to parks and recreation resources are discussed in Section 3.1.3.

The Build Alternative includes improvements that are intended to improve circulation at the junction of SR-241 and SR-91, but would not be expected to increase system efficiency to a level that would substantially increase the overall capacity of the transportation system. The increased mobility and system efficiency provided by the Build Alternative would benefit the traveling public, including environmental justice and non-environmental justice populations, using both private vehicles and public transit. Therefore, operation of the Build Alternative would not result in adverse impacts that are appreciably more severe or greater in magnitude on environmental justice populations than the adverse effects experienced by non-environmental justice populations.

No Build Alternative

The No Build Alternative would not result in the construction of any transportation improvements in the Project Area. Therefore, the No Build Alternative would not result in permanent impacts on environmental justice populations. However, because the No Build Alternative would not provide any improvements to the transportation and circulation systems, it would not provide the benefits to the traveling public (including environmental justice populations) that would occur under the Build Alternative.

3.3.3.4 Avoidance, Minimization, and/or Mitigation Measures Related to Environmental Justice

The Build Alternative would not cause disproportionately high or adverse effects on any minority or low-income populations per EO 12898 regarding environmental justice. Therefore, no avoidance, minimization, or mitigation measures are required. Avoidance, minimization, or mitigation measures described elsewhere in this document (air quality, noise, traffic, transportation, and visual, etc.) would not result in adverse temporary impacts to all affected populations, including low-income and minority populations.

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3.4 Utilities/Emergency Services

3.4.1 Affected Environment

This section is based on a review of the existing utility and emergency service providers and facilities in the Study Area and the *Final Project Report* (2020).

The Study Area for Utilities is the project limits. The project limits are defined as the right-of-way limits for the Build Alternative. The project limits include areas within the ultimate right-of-way as well as areas temporarily disturbed during project construction. The Study Area is defined by emergency services provision areas that include the project limits.

3.4.1.1 Utilities

The following utilities are within the project limits:

- Southern California Gas Company (SCG) – Gas
- Southern California Edison (SCE) – Electrical
- Four Corners Pipeline (Questar) – Inactive Crude Oil Pipe Line
- AT&T – Communication
- F/ETCA – Fiber Optic

The Santa Ana Regional Interceptor Wastewater Sewer Facility parallels westbound SR-91, adjacent to Caltrans right-of-way and the Project Area. There are no water distribution lines or solid waste/recycling facilities in the Project Area.

The existing surface drainage/storm drain system along the project alignment consists of earthen swales and drop inlets that convey runoff to cross culverts, ditches, and trapezoidal channels which discharge into the Santa Ana River.

3.4.1.2 Law Enforcement Services

Law enforcement services operating in or near the project limits are provided by the cities of Anaheim and Corona. The Orange County Sheriff's Department (OCSD) provides law enforcement services for the City of Yorba Linda (under contract) and unincorporated areas in the County of Orange. The San Bernardino County Sheriff's Department (SBSD) provides law enforcement services for unincorporated areas in the County of San Bernardino. The police/sheriff service headquarters in or near the project limits is listed in Table 3.4.1.

Table 3.4.1 Police/Sheriff Service Areas in the Vicinity of the Project Limits

Police Department	Service Area	Station and Address
Anaheim Police Department	City of Anaheim	East District Station 8201 East Santa Ana Canyon Road Anaheim, CA 92808
Orange County Sheriff's Department	City of Yorba Linda and unincorporated areas in Orange County	North Patrol Station 550 North Flower Street Santa Ana, CA 92703
Corona Police Department	City of Corona	849 West Sixth Street Corona, CA 92882
San Bernardino County Sheriff's Department	Unincorporated areas of San Bernardino County	Sheriff/Coroner 655 East Third Street San Bernardino, CA 92415

Source: LSA Associates, Inc. (2015).

California Highway Patrol

The project segments of SR-241 and SR-91 are in the jurisdictions of the California Highway Patrol (CHP) Border and Inland Divisions. The Study Area is served by CHP Santa Ana Area Office No. 675 at 2031 East Santa Clara Avenue in the City of Santa Ana.

There are existing CHP enforcement refuge areas in the median (i.e., center) of SR-91 in the project limits. A refuge area is a space in the median where vehicles can safely stop outside travel lanes in response to law enforcement directions or in the event a vehicle must leave the travel lanes. In the County of Orange, there are two median refuge areas on SR-91 within the project limits, one eastbound and one westbound. Both refuge areas are located east of the Gypsum Canyon undercrossing at Post Mile ORA-91-17.0 and Post Mile ORA-91-18.0, respectively. There are no CHP enforcement refuge areas on SR-241 in the project limits.

3.4.1.3 Fire Protection and Emergency Medical Services

Fire protection and emergency medical services in or near the project limits are provided by the cities of Anaheim and Corona Fire Departments for areas along SR-91 in the project limits. The Orange County Fire Authority (OCFA) provides fire and emergency medical services for the City of Yorba Linda along SR-91 and the unincorporated areas in Orange County including SR-241 via Station No. 53, which is the closest fire station to the project limits. The fire stations in or near the project limits are listed in Table 3.4.2.

Table 3.4.2 Local Fire Stations in the Vicinity of the Project Limits

Fire Department and Service Area	Station Number and Address	
Anaheim Fire Department, City of Anaheim	East District Weir Canyon Station No. 10 8270 East Monte Vista Anaheim, CA 92808	
Orange County Fire Authority, City of Yorba Linda	Station No. 32 20990 Yorba Linda Boulevard Yorba Linda, CA 92887	Station No. 53 25415 La Palma Avenue Yorba Linda, CA 92887
Corona Fire Department, City of Corona	Station No. 5 1200 Canyon Crest Corona, CA 92882	
Orange County Fire Authority City of Yorba Linda	Station No. 53 25415 La Palma Avenue Yorba Linda, CA 92887	

Sources: CAL FIRE Website: www.fire.ca.gov.
CAL FIRE = California Department of Forestry and Fire Protection

The California Department of Forestry and Fire Protection (CAL FIRE) is an emergency response and resource protection department. CAL FIRE protects people, property, and natural resources from fire; responds to emergencies of all types; and protects and preserves timberlands, wildlands, and urban forests. The CAL FIRE Southern Region Riverside Unit provides services in the Study Area from local fire stations. CAL FIRE has a Cooperative Fire Protection Agreement with the County of Riverside and a Wildland Fire Protection Agreement with the City of Anaheim.

Emergency service providers access areas north and south of SR-91 and east and west of SR-241 project limits via local arterial and secondary roads at the crossings of these freeways.

3.4.1.4 Emergency Medical Facilities

Table 3.4.3 summarizes the hospital and medical centers near the project limits.

Table 3.4.3 Hospitals and Medical Facilities in the Vicinity of the Project Limits

Hospitals and Medical Facilities	Service Area	Address
Kaiser Permanente Hospital	City of Anaheim	460 E La Palma Avenue Anaheim, CA 92806
Placentia-Linda Hospital	Cities of Placentia and Yorba Linda	1301 North Rose Drive Placentia, CA 92870
Corona Regional Medical Center	City of Corona	800 South Main Street Corona, CA 92882
Corona Regional Medical Center Rehabilitation Hospital	Cities of Corona and Norco, and unincorporated areas in the County of Riverside	730 Magnolia Avenue Corona, CA 92879

Source: LSA Associates, Inc. (2010).

3.4.2 Environmental Consequences

3.4.2.1 Temporary Impacts

Utilities

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Impacts to utility facilities would occur within or adjacent to the project construction area. Utility facility protection in place would be necessary in areas where project construction would occur. Utility services could be temporarily interrupted and there is the potential for facilities to be damaged.

Two known utility conflicts have been identified as follows:

- Approximately 8,100 linear feet of Fiber Optic Lines (and manholes) owned by F/ETCA require relocation to accommodate the widening on eastbound SR-91.
- Approximately 150 linear feet of Underground Telephone lines owned by AT&T require relocation to accommodate the reconstruction of the eastbound SR-91 off-ramp and the eastbound SR-91 on- ramp at Gypsum Canyon Road.

Table 3.4.4 lists the anticipated relocations and in-place utility protection that would occur under the Build Alternative. The decision to protect in place would be made during Final Design in consultation with the owner of each affected utility.

Table 3.4.4 Potential Utility Relocations and Protection In Place under the Build Alternative

Southern California Gas Company: Underground Natural Gas Lines
Southern California Edison: Underground and Overhead Electric Lines
Four Corners Pipeline (Questar) Inactive High Pressure Oil Pipeline
AT&T: Underground and Overhead Telephone Lines
F/ETCA Fiber Optics

Source: *Final Project Report* (2019).
Note: **Bold** represents high-risk facilities.

Caltrans has mandatory standards and procedures for the placement and protection of underground utility facilities within State highway rights-of-way. Two of the utilities in Table 3.4.4 have been identified as "high risk" under the *Policy on High and Low Risk Underground Facilities within the Highway Rights-of-Way* (Caltrans Right-of-Way Manual, January 1997). This Policy provides for a safe environment for Caltrans employees, construction contractors and workers, and the traveling public. The Policy

states that facilities transporting the following, whether encased or not, are considered high-risk facilities:

- Petroleum products
- Oxygen
- Chlorine
- Toxic or flammable gases

The following additional types of utility facilities are also considered high risk:

- Natural gas in pipelines with a greater than 6-inch pipe diameter or in pipelines with normal operating pressures greater than 60 pounds per square inch gauge
- Underground electric supply lines, conductors, or cables with potential to ground more than 300 volts, either directly buried or induct or conduit, which do not have concentric grounded or other effectively grounded metal shields or sheaths

Digging, potholing, or other acceptable methods would be used to locate existing utility facilities that cross the existing or proposed improvements or which are in the rights-of-way under for the proposed improvements under the Build Alternative. The only acceptable method of locating high-risk utilities is hand excavation, and would only be allowed once permission to access those high-risk facilities has been received from the utility owners. This would avoid indirect impacts related to degradation of utilities over time due to mishandling.

During Final Design, final determinations would be made as to whether additional relocations are necessary. That assessment would be conducted in consultation with the owner of each affected utility facility. Detailed plans for the utility relocations, removals, and protection in place under the Build Alternative would be developed as part of the Final Design.

No Build Alternative

The No Build Alternative would not result in the construction of any project improvements on SR-241 or SR-91. Therefore, the No Build Alternative would not result in temporary impacts to utility facilities.

Law Enforcement, and Fire and Emergency Medical Services, and Medical Facilities

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Construction of the Build Alternative could result in temporary traffic delays, road closures, lane closures, or detours that may impair the ability of law enforcement, fire, and other emergency service providers to meet response time goals.

Non-fire-related medical emergencies could temporarily increase with the presence of construction workers and heavy machinery in the construction area during construction of the Build Alternative.

Construction of the Build Alternative would be scheduled in phases to minimize temporary impacts to motorists, which would include emergency service providers. The Build Alternative includes a Traffic Management Plan (TMP) that would facilitate coordination with law enforcement, CHP, fire protection, emergency service providers, and the public during the design phase and prior to and during project construction activities, including any closures on SR-241 and SR-91. Key elements of the TMP include a public awareness campaign, motorist information strategies, and alternate route strategies. Temporary construction-related impacts on emergency service providers would be addressed in the TMP to minimize localized congestion and travel delays. Section 3.4.5, Avoidance, Minimization, and/or Mitigation Measures, provides Measure TR-1, which describes the TMP in detail.

No Build Alternative

The No Build Alternative would not result in the construction of the Proposed Project and, therefore, would not result in temporary impacts to law enforcement, CHP, fire protection, or emergency service providers. No delays to emergency service providers due to detours or closures would occur under the No Build Alternative.

3.4.2.2 Permanent Impacts

Utilities

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Along SR-91, on completion of construction, including any project-related utility relocations, removals, and protection in place, no permanent impacts to utility providers and facilities would occur under the Build Alternative.

No Build Alternative

The No Build Alternative does not propose any improvements and, therefore, would not result in any permanent impacts to utility facilities.

Law Enforcement, Fire, and Emergency Medical Services

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

The Build Alternative would improve traffic throughput and travel times, and reduce delays for travelers on SR-241 and SR-91 within the project limits. These improvements would have beneficial effects for law enforcement, fire protection, and emergency service providers because the Build Alternative may improve response times for emergency services using SR-241 and SR-91. In addition, emergency service providers would be able to use the direct connector under the Build Alternative when the other travel lanes are experiencing heavy traffic volumes and slow travel speeds.

No Build Alternative

The No Build Alternative does not propose any project improvements and, therefore, would not provide benefits to police, fire, and emergency services. Traffic congestion on the project segments of SR-241 and SR-91 under the No Build Alternative would potentially result in increased delays and increased response times for emergency service providers in the future.

3.4.3 Avoidance, Minimization, and/or Mitigation Measures

The following measures would be implemented with the Build Alternative and would minimize or avoid impacts related to utilities and public services. These include applicable, previously adopted measures from the ETC Final EIR and Final EIS.

Section 3.5.4, Measure TR-1, describes the TMP that will be implemented to minimize temporary congestion and travel delays to emergency services.

Measure UES-1 **Utilities.** During Final Design, utility protection-in place plans will be prepared in consultation with the affected utility providers/owners for those utility facilities anticipated to be relocated, removed, and protected in place. Final design will focus on avoiding utility relocations. If relocation is necessary, final design will focus on relocating utilities within the State right-of-way or within other existing public rights-of-way and/or easements. If relocation outside of existing or the

additional public rights-of-way and/or easements required for the Proposed Project is necessary, final design will focus on relocating those facilities in such a manner as to minimize environmental impacts as a result of project construction and ongoing maintenance and repair activities. The utility relocation plans will be included in the project specifications.

Prior to and during construction, the F/ETCA will ensure that the components of any utility relocation plans provided in the project specifications are properly implemented by the construction contractor.

Measure UES-2 **Law Enforcement, Fire Protection, and Emergency Medical Service Providers.** Prior to and during construction, F/ETCA will require the construction contractor to coordinate all temporary ramp and lane closures and detour plans with law enforcement, fire protection, and emergency medical service providers to minimize temporary delays in emergency response times. The plans shall be developed in coordination with the affected agencies and shall include the identification of alternative routes and access to construction areas for emergency vehicles.

Measure UES-3 **Law Enforcement, Fire Protection, and Emergency Medical Service Providers.** Prior to operation of the connector, an emergency call box shall be placed along the alignment in compliance with Orange County Transportation Authority Call Box placement policies.

3.4.3.1 ETC Final EIR and Final EIS

Measure U-2 *In conjunction with final design, the TCA shall explore the joint use of Corridor maintenance roads, if needed, by the County and utility companies.* (*North and East Legs*)

Measure PS-2 *The impact on other law enforcement agencies is considered to be minor. Implementation of several measures by the TCA shall assist law enforcement agencies in fulfilling their responsibilities and in avoiding confusion in providing service to their jurisdictions. These measures are: clear identification*

of jurisdictional boundaries along the Corridor, clearly signed and well lit intersections, and distance location markers along the Corridor. (*North and East Legs*)

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3.5 Traffic and Transportation/Pedestrian and Bicycle Facilities

3.5.1 Regulatory Setting

The Department, as assigned by the Federal Highway Administration (FHWA), 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 [CFR] 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 USDOT regulations (49 CFR Part 27) implementing Section 504 of the Rehabilitation Act (29 United States Code [USC] 794). FHWA 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 ADA requirements to Federal-aid projects, including Transportation Enhancement Activities.

3.5.2 Affected Environment

This section is based on the *Traffic Analysis Report* (July 2015) and the *Traffic Analysis Report Errata Sheet* (July 2016) prepared for the Proposed Project.

The Study Area for traffic includes SR-91 from west of the Weir Canyon Road interchange in Anaheim Hills to east of the Serfas Club Drive/Auto Center Drive interchange in the City of Corona. The Study Area also includes SR-241 from north of the Santiago Canyon Road interchange to SR-91 and State Route 71 (SR-71) south of the Butterfield Ranch Road interchange to SR-91.

Existing and planned Class II and III bikeways[1] in the Project Area and Vicinity are shown on Figure 3.5.1. There are no pedestrian facilities in the Project Area, although there are two planned trails along Santa Ana Canyon Road and Gypsum Canyon Road as discussed in Section 3.1, Land Use.

3.5.2.1 Existing (2013) Volume Served

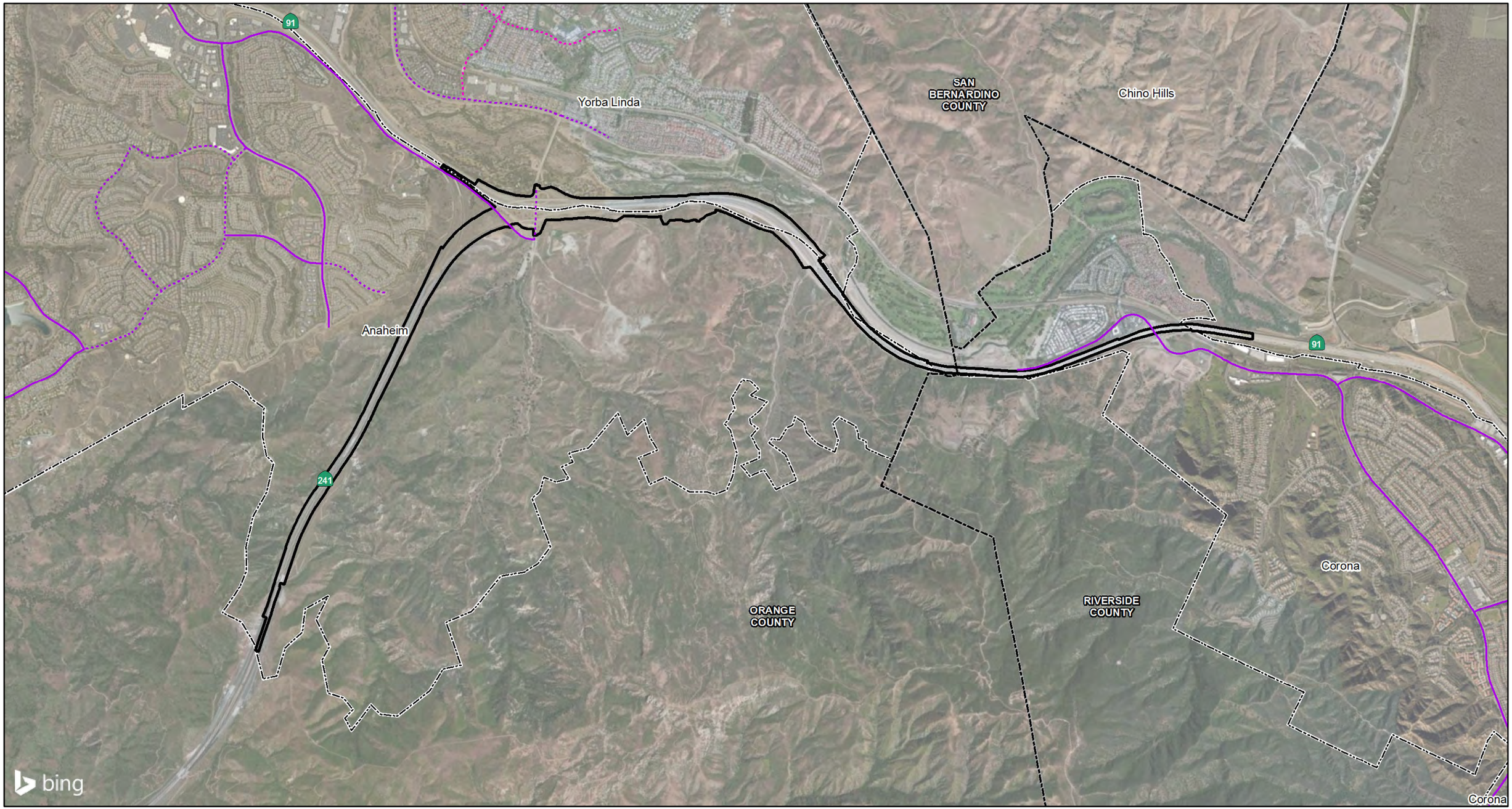
Traffic volumes represent the number of vehicles on the roadway. Vehicle throughput on a freeway is the number (volume) of vehicles that travel through the system over a given period such as an hour. It is important to note that freeway traffic volumes are different than freeway traffic demands. Vehicle demand is the number of vehicles wanting to enter the system over a given period of time. With congestion, not all traffic can be served; therefore, traffic demands are invariably higher than traffic volumes and queuing will occur. Along a congested corridor such as SR-91, this issue affects all freeway traffic in the corridor, during both peak periods. The peak periods are defined as the entire morning and evening commute periods: 6:00 AM to 9:00 AM and 3:00 PM to 7:00 PM, respectively.

Table 3.5.1 shows the existing traffic demand, throughput, and percent of unserved traffic in the traffic Study Area for the peak periods. As shown in Table 3.5.1, demand is higher than throughput in the westbound direction in the AM peak period and in the eastbound direction in the PM peak period. This is indicative of a congested freeway system, with all vehicle demand not being served by the facility. In the existing conditions shown in Table 3.5.1, the percent of unserved traffic is up to 3.3 percent in the westbound direction during the AM peak period and up to 6.1 percent in the eastbound direction in the PM peak period.

3.5.2.2 Existing (2013) Vehicle Speed and Travel Times

In existing (2013) conditions, heavy peak period flows occur in the westbound direction in the morning and in the eastbound direction in the evening. Table 3.5.2 shows speeds and travel times during peak hours.

[1] Class II Bikeways provide a restricted right-of-way designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and crossflows by pedestrians and motorists permitted. Class III Bikeways are facilities shared with motor vehicles on the street, which are established by placing bike route signs along roadways.



LEGEND

- Project Area
- Existing Class II Bikeway
- Proposed Class II Bikeway
- Existing Class III Bikeway
- Proposed Class III Bikeway
- City Boundary
- County Boundary

0 1250 2500
FEET

SOURCE: Bing Maps (2014); City of Anaheim General Plan (2015); City of Corona (2015); County of Orange Master Plan (2014); Gaia GPS (2015), OCTA (2013)

I:\RBF1101\GIS\Class2and3Bikeways.mxd (2/3/2017)

FIGURE 3.5.1

SR-241/SR-91 Express Lanes Connector

Existing and Proposed Class II and Class III Bikeways

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Table 3.5.1 Existing (2013) Peak Period Vehicle Throughput Comparison

Location	Demand Volume			Throughput Volume			Percent Unserved		
	GP Lanes	Express Lanes	Overall	GP Lanes	Express Lanes	Overall	GP Lanes	Express Lanes	Overall
Westbound AM (6:00 AM to 9:00 AM)									
East of Serfas Club/Auto Center Drive	22038	5454	27492	21162	5436	26598	4.0%	0.3%	3.3%
Between Serfas Club/Auto Center Drive and SR-71	24026	5454	29480	23672	5436	29108	1.5%	0.3%	1.3%
Between SR-71 and Green River Road	24334	5454	29788	23999	5436	29435	1.4%	0.3%	1.2%
Between Green River Road and SR-241 Ramp (WB to SB)	27008	5454	32462	27927	5436	33363	-3.4%	0.3%	-2.8%
Between SR-241 GP Ramp (WB to SB) and Gypsum Canyon Road	20984	6888	27872	21231	6209	27440	-1.8%	9.9%	1.6%
Between Gypsum Canyon Road and SR-241 Ramp (NB to WB)	20438	6888	27326	20788	6209	26997	-1.7%	9.9%	1.2%
Between SR-241 Ramp (NB to WB) and Weir Canyon Road	21297	6888	28185	21632	6209	27841	-1.6%	9.9%	1.2%
West of Weir Canyon Road	21847	6888	28735	22043	6209	28252	-0.9%	9.9%	-1.7%
Eastbound PM (3:00 PM to 7:00 PM)									
West of Weir Canyon Road	30649	11017	41666	30099	10978	41077	1.8%	0.4%	1.4%
Between Weir Canyon Road and SR-241 Ramp (EB to SB)	27226	11017	38243	27118	10978	38096	0.4%	0.4%	0.4%
Between SR-241 Ramp (EB to SB) and Gypsum Canyon Road	26357	11017	37374	25755	10978	36733	2.3%	0.4%	1.7%
Between Gypsum Canyon Road and SR-241 Ramp (NB to EB)	28281	11017	39298	27432	10978	38410	3.0%	0.4%	2.3%
Between SR-241 Ramp (NB to EB) and Green River Road	37661	11017	48678	34718	10978	45696	7.8%	0.4%	6.1%
Between Green River Road and SR-71	35018	11017	46035	34177	10978	45155	2.4%	0.4%	1.9%
Between SR-71 and Serfas Club/Auto Center Drive	33432	5835	39267	33319	5662	38981	0.3%	3.0%	0.7%
East of Serfas Club/Auto Center Drive	33628	5835	39463	33628	5662	39290	0%	3.0%	0.4%

Source: *Traffic Analysis Report* (July 2015).
EB = eastbound
GP = general purpose
NB = northbound
SB = southbound
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241
WB = westbound

Table 3.5.2 Existing (2013) AM and PM Peak Hour Travel Speeds and Travel Times

Segment Description		AM Peak Hours						PM Peak Hours							
		6:00–7:00		7:00–8:00		8:00–9:00		3:00–4:00		4:00–5:00		5:00–6:00		6:00–7:00	
		Speed (mph)	Time (mins)	Speed (mph)	Time (mins)	Speed (mph)	Time (mins)	Speed (mph)	Time (mins)	Speed (mph)	Time (mins)	Speed (mph)	Time (mins)	Speed (mph)	Time (mins)
Westbound	SR-91 east of Serfas Club Drive/Auto Center Drive to SR-91 County Line	38	4.9	37	5.1	45	4.2	68	2.8	67	2.8	67	2.8	68	2.7
	SR-91 County Line to SR-91 NB SR-241 merge	57	2.7	52	3.0	58	2.7	62	2.5	62	2.5	61	2.5	61	2.5
	SR-91 NB SR-241 merge to SR-91 west of Weir Canyon Road	67	3.5	67	3.5	68	3.5	64	3.7	65	3.7	65	3.7	64	3.7
	SR-71 north of SR-91 to SR-91 County Line	24	10.9	31	8.5	56	4.8	53	5.0	45	5.9	37	7.1	46	5.7
	SR-241 Windy Ridge to SR-91 west of Weir Canyon Road	64	7.2	64	7.2	64	7.2	64	7.2	60	7.7	48	9.7	36	12.9
Eastbound	SR-91 west of Weir Canyon Road to NB SR-241 merge	68	3.5	67	3.5	67	3.5	28	8.5	16	15.0	13	18.6	13	18.0
	SR-91 NB SR-241 merge to SR-91 County Line	68	2.3	67	2.3	67	2.3	18	8.7	21	7.5	20	7.9	22	7.0
	SR-91 County Line to SR-91 east of Serfas Club Drive/Auto Center Drive	67	2.8	65	2.8	65	2.8	18	10.5	21	8.8	20	9.1	29	6.4
	SR-241 Windy Ridge to SR-91 NB SR-241 merge	63	5.8	63	5.8	63	5.8	29	12.8	20	17.9	16	22.5	14	26.7
	SR-71 north of SR-91 to SR-91 east of Serfas Club Drive/Auto Center Drive	30	10.9	38	8.6	59	5.5	29	11.3	27	12.1	24	13.6	34	9.4
	SR-91 west of Weir Canyon Road to SR-241 Windy Ridge	64	7.1	64	7.2	64	7.2	56	8.1	30	15.4	25	18.4	26	17.6
	SR-91 County Line to SR-71 north of SR-91	61	5.0	60	5.1	60	5.1	29	10.7	34	9.0	32	9.5	31	9.8

Source: *Traffic Analysis Report* (July 2015).
mins = minutes
mph= miles per hour
NB = northbound
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241

As shown in Table 3.5.2, during the AM peak hours (between 6:00 AM and 9:00 AM), westbound traffic traveling on SR-91 is congested, with speeds at 24 to 31 miles per hour (mph) between SR-71 and the County Line[1] and at 37 to 38 mph between east of Serfas Club Drive/Auto Center Drive and the County Line.

Therefore, travel times in these areas are almost two times longer than non-peak hours with free-flowing traffic. This congestion results in a bottleneck on the westbound SR-91 mainline between the Green River Road interchange and the *91 Express Lane*s ingress near the Riverside/Orange County line in the AM peak period.

During the PM peak hours, eastbound speeds range from 13 to 24 mph for the majority of the Study Area freeway segments. There is a bottleneck for vehicles traveling from northbound SR-241 to eastbound SR-91 in the PM peak period. Between SR-241 at Windy Ridge to the SR-91 northbound SR-241 merge, speeds are as low as 14 to 16 mph between 5:00 PM and 7:00 PM. Eastbound SR-91 between west of Weir Canyon Road to the northbound SR-241 merge is also congested in the PM peak hours, with speeds at 13 to 16 mph between 4:00 PM and 7:00 PM. Therefore, travel times in these areas are almost four times longer than non-peak hours with free-flowing traffic traveling at the posted speed limit of 65 mph.

3.5.3 Environmental Consequences

3.5.3.1 Temporary Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Traffic delays are expected during construction of the Build Alternative. Temporary detours and weekend or night time closures would be required at the Gypsum Canyon Road on- and off-ramps, along Gypsum Canyon Road, and at the northbound SR-241 to the eastbound SR-91 connector. These detours and closures are expected to result in some delay to the traveling public. During these times, vehicles and bicycles would be detoured to adjacent interchanges or local roads, as applicable.

Short-term closures of the *91 Express Lanes* would be required to allow construction access, erect falsework, stripe lanes, and install median signs. These closures would be coordinated with Caltrans and OCTA during the Final Design phase. The SR-241 and SR-91 mainline lanes would remain open during the construction period.

[1] The boundary between the County of Orange and the County of Riverside lies between SR-241 and Green River Road, as shown on Figure 3.5.1.

A Transportation Management Plan (TMP) with traffic control plans and related specifications during project construction is necessary to minimize circulation and delay impacts for all travelers. With implementation of Measure TR-1, provided later in Section 3.5.4, temporary transportation-related construction impacts of the Build Alternative would not be substantial.

No Build Alternative

The No Build Alternative does not include any improvements to the interchange or local roads in the Project Area. Therefore, the No Build Alternative would not result in temporary impacts related to traffic, transportation, or bicycle and pedestrian facilities.

3.5.3.2 Permanent Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

The Proposed Project was originally planned for opening in 2017 and was evaluated as such in the *Traffic Analysis Report* (July 2015). However, due to design modifications and the need to avoid conflicts with the SR-91 Corridor Improvement Project (CIP), the revised planned opening year is 2020. As discussed in the *Traffic Analysis Report* (July 2015) and the *Traffic Analysis Report Errata Sheet* (July 2016), the difference in traffic operations between 2017 and 2020 in the Study Area would be nominal in the peak hours due to over-saturated conditions that would remain on the general purpose lanes. Although the revised opening year is 2020, all of the tables and analysis for the Opening Year still refer to 2017, as this is the year for which the modeling was completed. The Proposed Project is planned to open in 2020. The year 2040 was chosen to represent the long-term horizon year.

Volume Served

2017 Conditions (Opening Year)

AM Peak Period

Table 3.5.3 compares volume throughput and percent demand unserved between the No Build Alternative and the Build Alternative in the AM peak period (6:00 AM to 9:00 AM) in 2017. As shown in Table 3.5.3, in the AM peak period, the No Build Alternative and the Build Alternative would have similar combined demand (general purpose and express lane trips) in the westbound direction of travel west of the SR-241/SR-91 interchange (between the Serfas Club/Auto Center Drive interchange and the SR-241 Ramp [westbound SR-91 to southbound SR-241]); however, the Build Alternative

Table 3.5.3 2017 Data Vehicle Throughput Comparison

Screenline Location	No Build Alternative									Build Alternative									Throughput Volume Difference	
	Demand Volume			Throughput Volume			Percent Unserved			Demand Volume			Throughput Volume			Percent Unserved				
	GP Lanes	Express Lanes	Overall	General Purpose Lanes	Express Lanes	Overall	General Purpose Lanes	Express Lanes	Overall	General Purpose Lanes	Express Lanes	Overall	General Purpose Lanes	Express Lanes	Overall	General Purpose Lanes	Express Lanes	Overall	Change	% Change
Westbound SR-91 and Express Lanes, AM Peak Period (6:00 AM to 9:00 AM)																				
East of Serfas Club/Auto Center Drive	22367	9185	31552	21575	9143	30718	3.5%	0.5%	2.6%	22349	9184	31533	21866	9143	31009	2.2%	0.4%	1.7%	291	0.9%
Between Serfas Club/Auto Center Drive and SR-71	25820	9185	35005	24038	9143	33180	6.9%	0.5%	5.2%	25794	9184	34978	25261	9143	34405	2.1%	0.4%	1.6%	1225	3.7%
Between SR-71 and Green River Road	26530	9185	35715	21917	9143	31059	17.4%	0.5%	13.0%	26511	9184	35695	24077	9143	33220	9.2%	0.4%	6.9%	2161	7.0%
Between Green River Road and SR-241 Ramp (WB to SB)	33680	9185	42865	26256	9143	35398	22.0%	0.5%	17.4%	33659	9184	42843	29011	9143	38154	13.8%	0.4%	10.9%	2756	7.8%
Between SR-241 GP Ramp (WB to SB) and Gypsum Canyon Road	26790	8040	34830	21368	7421	28789	20.2%	7.7%	17.3%	24334	8033	32367	21119	7605	28724	13.2%	5.3%	11.3%	-66	-0.2%
Between Gypsum Canyon Road and SR-241 Ramp (NB to WB)	25631	8040	33671	20951	7421	28372	18.3%	7.7%	15.7%	23187	8033	31220	20641	7605	28245	11.0%	5.3%	9.5%	-127	-0.4%
Between SR-241 Ramp (NB to WB) and Weir Canyon Road	26493	8040	34533	21738	7421	29159	17.9%	7.7%	15.6%	24049	8033	32082	21456	7605	29061	10.8%	5.3%	9.4%	-99	-0.3%
West of Weir Canyon Road	26041	8040	34081	22091	7421	29512	15.2%	7.7%	13.4%	23598	8033	31631	21513	7605	29117	8.8%	5.3%	7.9%	-395	-1.3%
																			Average =	**2.1%**
Eastbound SR-91 General Purpose and Express Lanes, PM Peak Period (3:00 PM to 7:00 PM)																				
West of Weir Canyon Road	44952	12164	57116	23492	12079	35570	47.7%	0.7%	37.7%	44278	12160	56438	22231	12147	34379	49.8%	0.1%	39.1%	-1192	-3.4%
Between Weir Canyon Road and SR-241 Ramp (EB to SB)	43963	12164	56127	25622	12079	37701	41.7%	0.7%	32.8%	43288	12160	55448	24469	12147	36616	43.5%	0.1%	34.0%	-1085	-2.9%
Between SR-241 Ramp (EB to SB) and Gypsum Canyon Road	42981	12164	55145	25006	12079	37084	41.8%	0.7%	32.8%	42303	12160	54463	23997	12147	36144	43.3%	0.1%	33.6%	-940	-2.5%
Between Gypsum Canyon Road and SR-241 Ramp (NB to EB)	46765	12164	58929	28490	12079	40569	39.1%	0.7%	31.2%	46080	12160	58240	27876	12147	40023	39.5%	0.1%	31.3%	-546	-1.3%
Between SR-241 Ramp (NB to EB) and Green River Road	56264	12160	68424	37201	10845	48046	33.9%	10.8%	29.8%	58075	12160	70235	38555	10804	49359	33.6%	11.2%	29.7%	1313	2.7%
Between Green River Road and SR-71	47246	12160	59406	33517	10845	44363	29.1%	10.8%	25.3%	49097	12160	61257	34409	10804	45213	29.9%	11.2%	26.2%	850	1.9%
Between SR-71 and Serfas Club/Auto Center Drive	46179	12160	58339	35152	10845	45997	23.9%	10.8%	21.2%	48034	12160	60194	36088	10804	46892	24.9%	11.2%	22.1%	895	1.9%
East of Serfas Club/Auto Center Drive	41019	12160	53179	32247	10845	43092	21.4%	10.8%	19.0%	42816	12160	54976	32876	10804	43680	23.2%	11.2%	20.5%	588	1.4%
																			Average =	**-0.3%**

Source: Traffic Analysis Report (July 2015).
EB = eastbound
GP = general purpose
NB = northbound
SB = southbound
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241
WB = westbound

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would have approximately 7 percent lower combined demand (or 2,400 vehicles) west of the SR-241/SR-91 interchange (between the SR-241 Ramp [westbound SR-91 to southbound SR-241] and Gypsum Canyon Road to west of Weir Canyon Road) due to a shift of travel patterns that increases demand southbound on SR-241. Five percent of the 2,400 vehicles (120 vehicles) that shift to southbound SR-241 in the AM peak period are projected to be trucks.

For the Build Alternative, the volume served on SR-91 westbound east of the SR-241/SR-91 interchange would be 5 percent greater on average than the No Build Alternative. Also, the Build Alternative would have similar throughput volume compared to the No Build Alternative west of the SR-241/SR-91 interchange, while the percent unserved would be approximately 6 percent lower for the Build Alternative than the No Build Alternative. The SR-91 westbound-to-SR-241 southbound ramps would serve approximately 2,800 more vehicles in the AM peak period for the Build Alternative compared to the No Build Alternative, due to the addition of the direct-connector ramp.

In the 2017 AM peak period, the Build Alternative would allow the corridor to serve additional vehicles (about 2 percent) and more vehicles would be able to enter the Study Area. This represents a considerable improvement in the overall efficiency of the system compared to the No Build Alternative.

PM Peak Period

Table 3.5.3 compares volume throughput and percent demand unserved between the No Build and the Build Alternative in 2017 in the PM peak period (3:00 PM to 7:00 PM). As shown in Table 3.5.3, in the PM peak period, the Build Alternative would have slightly less combined demand (general purpose and express lane trips) in the eastbound direction of travel on SR-91 west of the SR-241/SR-91 interchange (west of Weir Canyon Road to between Gypsum Canyon Road and the SR-241 Ramp [northbound SR-241 to eastbound SR-91]) when compared to the No Build Alternative (approximately 700 less vehicles) due to a shift of travel patterns that increases demand northbound on SR-241. Five percent of the 700 vehicles (35 vehicles) that shift to northbound SR-241 in the PM peak period are projected to be trucks.

However, the Build Alternative would have slightly higher combined demand east of the SR-241/SR-91 interchange (approximately 1,800 more vehicles).

This is due to an increase in demand at the SR-241 northbound-to-SR-91 eastbound movement for the Build Alternative caused by the addition of the direct-connector ramp. The Build Alternative would attract trips to SR-241 from the regional freeway system (e.g., State Route 55 [SR-55]) and local arterials. For the Build Alternative, the changes in volume served compared to the No Build Alternative are:

- West of the SR-241/SR-91 interchange, the volume served is slightly lower (approximately 940 total fewer vehicles during the PM peak period) than the No Build Alternative along the peak direction of travel (eastbound). This change is due to the heavy general purpose lane demand on SR-91 eastbound just downstream of the *91 Express Lanes* egress/ingress.[1]
- East of the SR-241/SR-91 interchange, the volume served is slightly higher (approximately 900 total more vehicles during the PM peak period) than the No Build Alternative along the peak direction of travel (eastbound). This change is due to the increase in demand through the *91 Express Lanes*.

Table 3.5.3 shows that in the 2017 PM peak period, the overall average difference in volume served between the No Build Alternative and Build Alternative would be 0.3 percent in the eastbound direction for the reasons listed in the bullet points above. This overall eastbound corridor difference is considered nominal and the Build Alternative is not projected to have a noticeable effect on the general purpose travel lanes in comparison to the No Build Alternative in the PM peak period.

2040 Conditions (Design Year)

AM Peak Period

Table 3.5.4 compares volume throughput and percent demand unserved between the No Build Alternative and Build Alternative in 2040 in the AM peak period (6:00 AM to 9:00 AM). During the AM peak period, the Build Alternative would have slightly higher combined demand on SR-91 westbound east of the SR-241/SR-91 interchange when compared to the No Build Alternative (approximately 440 more vehicles), but the Build

[1] The *91 Express Lane*s egress/ingress are located near the boundary of the County of Orange and the County of Riverside Line between SR-241 and Green River Road.

Table 3.5.4 2040 Vehicle Throughput Comparison

Screenline Location	No Build Alternative									Build Alternative									Throughput Volume Difference	
	Demand Volume			Throughput Volume			Percent Unserved			Demand Volume			Throughput Volume			Percent Unserved				
	General Purpose Lanes	Express Lanes	Overall	General Purpose Lanes	Express Lanes	Overall	General Purpose Lanes	Express Lanes	Overall	General Purpose Lanes	Express Lanes	Overall	General Purpose Lanes	Express Lanes	Overall	General Purpose Lanes	Express Lanes	Overall	Change	% Change
Westbound SR-91 General Purpose and Express Lanes, AM Peak Period (6:00 AM to 9:00 AM)																				
East of Serfas Club/Auto Center Drive	27218	9185	36403	25992	9135	35127	4.5%	0.5%	3.5%	27744	9184	36928	27121	9136	36257	2.2%	0.5%	1.8%	1129	3.2%
Between Serfas Club/Auto Center Drive and SR-71	31564	9185	40749	30055	9135	39191	4.8%	0.5%	3.8%	31983	9184	41167	30821	9136	39956	3.6%	0.5%	2.9%	766	2.0%
Between SR-71 and Green River Road	32331	9185	41516	28451	9135	37586	12.0%	0.5%	9.5%	32744	9184	41928	28684	9136	37820	12.4%	0.5%	9.8%	234	0.6%
Between Green River Road and SR-241 Ramp (WB to SB)	41137	9185	50322	33034	9135	42169	19.7%	0.5%	16.2%	41540	9184	50724	32613	9136	41749	21.5%	0.5%	17.7%	-421	-1.0%
Between SR-241 GP Ramp (WB to SB) and Gypsum Canyon Road	33614	8040	41654	27200	7518	34718	19.1%	6.5%	16.7%	29804	8033	37837	23724	7364	31088	20.4%	8.3%	17.8%	-3630	-10.5%
Between Gypsum Canyon Road and SR-241 Ramp (NB to WB)	32124	8040	40164	27028	7518	34546	15.9%	6.5%	14.0%	28388	8033	36421	23641	7364	31005	16.7%	8.3%	14.9%	-3541	-10.3%
Between SR-241 Ramp (NB to WB) and Weir Canyon Road	33188	8040	41228	28005	7518	35523	15.6%	6.5%	13.8%	29444	8033	37477	24662	7364	32026	16.2%	8.3%	14.5%	-3497	-9.8%
West of Weir Canyon Road	32492	8040	40532	28228	7518	35746	13.1%	6.5%	11.8%	28894	8033	36927	25081	7364	32445	13.2%	8.3%	12.1%	-3301	-9.2%
																			Average =	**-4.4%**
Eastbound SR-91 General Purpose and Express Lanes, PM Peak Period (3:00 PM to 7:00 PM)																				
West of Weir Canyon Road	55164	12164	67328	28247	12079	40326	48.8%	0.7%	40.1%	55162	12160	67322	28476	12121	40597	48.4%	0.3%	39.7%	270	0.7%
Between Weir Canyon Road and SR-241 Ramp (EB to SB)	54771	12164	66935	31232	12079	43311	43.0%	0.7%	35.3%	54614	12160	66774	31362	12121	43483	42.6%	0.3%	34.9%	172	0.4%
Between SR-241 Ramp (EB to SB) and Gypsum Canyon Road	53563	12164	65727	30457	12079	42536	43.1%	0.7%	35.3%	53382	12160	65542	30548	12121	42669	42.8%	0.3%	34.9%	134	0.3%
Between Gypsum Canyon Road and SR-241 Ramp (NB to EB)	58054	12164	70218	34548	12079	46627	40.5%	0.7%	33.6%	58009	12160	70169	35202	12121	47323	39.3%	0.3%	32.6%	696	1.5%
Between SR-241 Ramp (NB to EB) and Green River Road	68537	12160	80697	45851	10863	56714	33.1%	10.7%	29.7%	68157	12097	80254	46653	10539	57192	31.6%	12.9%	28.7%	478	0.8%
Between Green River Road and SR-71	35516	12160	47676	24751	10863	35614	30.3%	10.7%	25.3%	35662	12097	47759	25022	10539	35561	29.8%	12.9%	25.5%	-53	-0.1%
Between SR-71 and Serfas Club/Auto Center Drive	46089	12160	58249	35080	10863	45943	23.9%	10.7%	21.1%	46576	12097	58673	35683	10539	46223	23.4%	12.9%	21.2%	280	0.6%
East of Serfas Club/Auto Center Drive	39790	12160	51950	31361	10863	42224	21.2%	10.7%	18.7%	40044	12097	52141	31858	10539	42398	20.4%	12.9%	18.7%	174	0.4%
																			Average =	**0.6%**

Source: Traffic Analysis Report (July 2015).
EB = eastbound
GP = general purpose
NB = northbound
SB = southbound
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241
WB = westbound

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Alternative would have approximately 9 percent lower demand west of the SR-241/SR-91 interchange (approximately 3,700 less vehicles). This is due to a shift of travel patterns that would increase demand southbound on SR-241. Five percent of the 3,700 vehicles (185 vehicles) that shift to southbound SR-241 in the AM peak period are projected to be trucks.

The Build Alternative would serve slightly more vehicles east of the SR-241/SR-91 interchange than the No Build Alternative (approximately 430 more vehicles or 1 percent), but approximately 3,500 fewer vehicles west of the SR-241/SR-91 interchange.

However, the SR-91 westbound to SR-241 southbound movement would serve approximately 3,300 more vehicles for the Build Alternative compared to the No Build Alternative due to the addition of the direct connector ramp, offsetting this difference. Furthermore, the average percent of unserved traffic along the entire length of SR-91 would be the same for both the Build Alternative and the No Build Alternative.

In the 2040 AM peak period, the Build Alternative would be able to serve the same or slightly more vehicles in the westbound direction of SR-91 upstream of the *91 Express Lanes* ingress/egress area, and more vehicles along SR-241 southbound. Due to a shift in travel patterns, the Build Alternative would serve more vehicles along southbound SR-241 and less vehicles along westbound SR-91 downstream of the *91 Express Lanes* ingress/egress area. This represents a slight improvement in the overall efficiency of the system compared to the No Build Alternative.

PM Peak Period

Table 3.5.4 compares volume throughput and percent demand unserved between the No Build and Build Alternatives in 2040 in the PM peak period (3:00 PM to 7:00 PM). As shown in Table 3.5.4, in the PM peak period, the Build Alternative would have the same combined demand (general purpose and express lane trips) in the peak eastbound direction of travel when compared to the No Build Alternative. Under the Build Alternative, the volume served would be slightly greater (about 300 vehicles during the PM peak period) than the No Build Alternative in the eastbound direction of travel. This change would occur due to the shift of approximately 800 peak hour trips from the SR-241 northbound to the SR-91 eastbound general

purpose ramp over to the Express Lane ramp, which would slightly lower demand in the general purpose lanes. In the 2040 PM peak period, the Build Alternative would allow the corridor to serve slightly more vehicles, and more vehicles would be able to enter the Study Area. This represents an improvement in the overall efficiency of the system compared to the No Build Alternative.

Vehicle Speed

2017 Conditions (Opening Year)

AM Peak Period

In 2017, in the AM peak period, both the No Build Alternative and the Build Alternative would have a similar congestion pattern upstream (or east) of the weaving segment between the SR-241 and the Green River Road interchange (the *91 Express Lanes* ingress/egress area). The No Build Alternative queue would extend almost 1 mile further upstream (or east) than the Build Alternative.

The Build Alternative would provide some congestion relief in the 2017 AM peak period by reducing the extent of the westbound bottleneck by approximately 1 mile compared to the No Build Alternative.

In the 2017 AM peak period (7:00 AM to 8:00 AM, the worst hour of the peak period), the Build Alternative is expected to increase speed by approximately 13 mph on the westbound SR-91 general purpose lanes east of the SR-241 interchange in the AM peak period compared to the No Build Alternative (from 15 mph in the No Build Alternative up to 28 mph in the Build Alternative).

PM Peak Period

In the 2017 PM peak period, the SR-91 eastbound mainline would have the same congestion pattern for the No Build Alternative and the Build Alternative. For the Build Alternative, a slight decrease in speed is expected on the SR-91 general purpose lanes east of the SR-241/SR-91 interchange between SR-241 and the Green River Road interchange. This slight decrease in speeds would be a result of the additional friction in the ingress/egress area between the *91 Express Lanes* and the slow-moving general purpose lanes.

In the 2017 peak hour (4:00 PM to 5:00 PM, the worst hour of the peak period), the Build Alternative is expected to slightly decrease speed on the eastbound SR-91 general purpose lanes upstream (or west) of the *91 Express Lanes* ingress/egress locations in the PM peak period compared to the No Build Alternative. This decrease would occur due to the increased demand on the general purpose lanes downstream of the *91 Express Lanes* ingress/egress caused by the Build Alternative. This slight decrease in speeds (1–6 mph) on the eastbound general purpose lanes (west of the *91 Express Lanes* ingress/egress locations) is considered nominal given the increase in combined throughput (general purpose and *91 Express Lanes*) in the Build Alternative compared to the No Build Alternative.

2040 Conditions (Design Year)

AM Peak Period

In 2040, in the AM peak period, the Build Alternative is expected to increase speeds on the westbound SR-91 general purpose lanes between the *91 Express Lanes* ingress and Gypsum Canyon Road between 6:45 AM and 8:30 AM compared to the No Build Alternative (from 30–40 mph to 60 mph). This increase would result from an increase in the throughput volume in the ingress/egress area between the Green River Road interchange and SR-241. Speeds would also be higher for the Build Alternative east of the Serfas Club Drive/Auto Center Drive interchange during the 6:00 AM to 7:00 AM hour compared to the No Build Alternative (from approximately 30 to 60 mph).

In the 2040 AM peak hour (7:00 AM to 8:00 AM, the worst hour of the peak period), the Build Alternative is expected to increase speed by approximately 30 mph (from 33 to 63 mph) on the SR-91 general purpose lanes west of SR-241 interchange compared to the No Build Alternative. Therefore, in the 2040 AM peak period, the Build Alternative would provide some congestion relief by reducing the limits and duration of the westbound bottleneck compared to the No Build Alternative.

PM Peak Period

In the 2040 PM peak period, speeds along eastbound SR-91 would generally be the same for the Build Alternative and the No Build Alternative in most segments of the corridor, with the exception of the segment between the SR-241 on-ramp and the SR-71 collector-distributor off-ramp. At this location, speeds would be approximately 5 mph higher for the Build

Alternative compared to the No Build Alternative. In the *91 Express Lanes*, the speeds are projected to remain near free-flow in the ingress/egress area. Therefore, the Build Alternative provides benefit in terms of increased speeds in the eastbound general purpose lanes in the Build Alternative compared to the No Build Alternative in 2040.

In the PM peak hour (4:00 PM to 5:00 PM, the worst hour of the peak period), the speeds in the eastbound SR-91 general purpose lanes would generally be the same between the No Build Alternative and the Build Alternative, with the exception of the area between the SR-241 general purpose on-ramp and the Green River Road interchange. At this location, speeds would be approximately 5 mph higher for the Build Alternative (60 to 65 mph) compared to the No Build Alternative (55 to 60 mph). The improvements associated with the Ultimate SR-91 CIP improvements were found to provide enough capacity in 2040 to accommodate the friction between the *91 Express Lanes* and the general purpose lanes in the eastbound ingress/egress area.

Travel Time

2017 Conditions (Opening Year)

AM Peak Period

Table 3.5.5 compares travel times between the No Build Alternative and the Build Alternative in 2017 in the AM peak period (6:00 AM to 9:00 AM). In the 2017 AM peak period, travel times in the Study Area segments would either decrease (between 3.3 and 4.5 minutes) or stay the same in the westbound direction on SR-91 for the Build Alternative compared to the No Build Alternative. In addition, the travel time on SR-91 between SR-71 southbound to the SR-91 eastbound would also decrease (between 8.2 to 11.2 minutes) in the Build Alternative, due to improvements on the SR-91 westbound (peak direction) that would reduce the queue spillback onto the SR-71 southbound direction that occurs in the No Build Alternative.

Table 3.5.5 Travel Time Comparisons - No Build and Build Alternatives in 2017 Data, AM Peak Period (6:00 AM to 9:00 AM)

#	Origin	Destination	No Build Alternative Travel Time (Minutes)			Build Alternative Travel Time (Minutes)			Change (Minutes)		
			6:00–7:00 AM	7:00–8:00 AM	8:00–9:00 AM	6:00–7:00 AM	7:00–8:00 AM	8:00–9:00 AM	6:00–7:00 AM	7:00–8:00 AM	8:00–9:00 AM
1	SR-91 EB GP Lanes west of Weir Canyon Road	SR-91 EB GP Lanes east of Serfas Club Road	8.6	8.7	8.6	8.7	8.7	8.6	0.1	0.0	0.0
		SR-91 EB Express Lanes east of Serfas Club Road	8.6	8.6	8.6	8.6	8.6	8.6	0.0	0.0	0.0
		SR-241 SB south of SR-91	7.1	7.2	7.2	7.2	7.2	7.2	0.1	0.0	0.0
		SR-71 NB north of SR-91	11.0	11.1	11.0	11.1	11.1	11.0	0.1	0.0	0.0
2	SR-91 EB Express Lanes west of Weir Canyon Road	SR-91 EB GP Lanes east of Serfas Club Road	8.5	8.5	8.5	8.5	8.5	8.5	0.0	0.0	0.0
		SR-91 EB Express Lanes east of Serfas Club Road	8.4	8.4	8.4	8.4	8.4	8.4	0.0	0.0	0.0
		SR-71 NB north of SR-91	10.9	10.9	10.9	10.9	11.0	10.9	0.0	0.1	0.0
3	SR-91 WB GP Lanes east of Serfas Club Road	SR-91 WB GP Lanes west of Weir Canyon Road	23.1	24.8	24.1	18.7	20.4	19.5	-4.4	-4.4	-4.6
		SR-91 WB Express Lanes west of Weir Canyon Road	23.0	24.7	24.0	18.6	20.3	19.5	-4.4	-4.4	-4.5
		SR-241 SB south of SR-91 (via GP Ramp)	25.4	27.1	26.5	21.1	22.8	22.0	-4.3	-4.3	-4.5
		SR-241 SB south of SR-91 (via Express Ramp)	N/A	N/A	N/A	21.0	22.7	21.9	-4.4	-4.4	-4.6
		SR-71 NB north of SR-91	12.4	13.3	12.0	9.0	10.1	7.7	-3.4	-3.2	-4.3
4	SR-91 WB Express Lanes east of Serfas Club Road	SR-91 WB GP Lanes west of Weir Canyon Road	12.0	12.4	12.6	11.1	11.4	11.9	-0.9	-1.0	-0.7
		SR-91 WB Express Lanes west of Weir Canyon Road	8.4	8.4	8.4	8.5	8.5	8.4	0.1	0.1	0.0
		SR-241 SB south of SR-91 (via GP Ramp)	14.4	14.8	15.0	13.6	13.9	14.4	-0.8	-0.9	-0.6
		SR-241 SB south of SR-91 (via Express Ramp)	N/A	N/A	N/A	10.8	10.9	10.8	-3.6	-3.9	-4.2
5	SR-241 NB south of SR-91 (via GP Ramp)	SR-91 WB GP Lanes west of Weir Canyon Road	7.2	7.2	7.2	7.2	7.2	7.2	0.0	0.0	0.0
		SR-91 EB GP Lanes east of Serfas Club Road	11.0	11.0	11.0	11.0	11.0	10.9	0.0	0.0	-0.1
		SR-91 EB Express Lanes east of Serfas Club Road	10.9	10.9	10.9	10.9	10.9	10.9	0.0	0.0	0.0
		SR-71 NB north of SR-91	13.4	13.4	13.4	13.4	13.4	13.3	0.0	0.0	-0.1
6	SR-241 NB South of SR-91 (via Express Ramp)	SR-91 EB GP Lanes east of Serfas Club Road	N/A	N/A	N/A	10.9	10.9	10.9	-0.1	-0.1	-0.1
		SR-91 EB Express Lanes east of Serfas Club Road	N/A	N/A	N/A	10.8	10.8	10.8	-0.1	-0.1	-0.1
		SR-71 NB north of SR-91	N/A	N/A	N/A	13.3	13.4	13.3	-0.1	0.0	0.0
7	SR-71 SB north of SR-91	SR-91 WB GP Lanes west of Weir Canyon Road	43.0	54.1	55.9	32.0	39.5	40.5	-11.0	-14.6	-15.4
		SR-91 WB Express Lanes west of Weir Canyon Road	42.9	54.0	55.8	31.9	39.4	40.5	-11.0	-14.6	-15.3
		SR-91 EB GP Lanes east of Serfas Club Road	28.7	37.2	38.3	20.5	26.7	27.0	-8.2	-10.5	-11.3
		SR-241 SB south of SR-91 (via GP Ramp)	45.3	56.4	58.3	34.4	42.0	43.1	-10.9	-14.4	-15.2
		SR-241 SB south of SR-91 (via Express Ramp)	N/A	N/A	N/A	34.3	41.8	42.9	-11.0	-14.6	-15.4

Source: *Traffic Analysis Report* (July 2015).
EB = eastbound
GP = general purpose
N/A = not applicable
NB = northbound
SB = southbound
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241
WB = westbound

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PM Peak Period

Table 3.5.6 compares travel times between the No Build Alternative and the Build Alternative in 2017 in the PM peak period (3:00 PM to 7:00 PM). In the 2017 PM peak period, the travel time for the SR-91 eastbound general purpose lanes would slightly increase in the Build Alternative (between 1 to 2.5 minutes) compared to the No Build Alternative. The travel time for the SR-241 northbound to the SR-91 eastbound via the general purpose lane ramp would also increase in the Build Alternative by approximately 1.5 minutes; however, the travel time for the SR-241 northbound to the SR-91 eastbound via the new Express Lane ramp would decrease by 2.5 minutes. The increases in travel times for the SR-91 eastbound general purpose lanes in the Build Alternative are considered nominal given the increase in combined throughput that would be experienced in the same area.

2040 Conditions (Design Year)

AM Peak Period

Table 3.5.7 compares travel times between the No Build Alternative and the Build Alternative in 2040 in the AM peak period (6:00 AM to 9:00 AM). In the 2040 AM peak period, travel times for most of the segments in the Study Area would either stay the same or decrease in the westbound direction on SR-91 for the Build Alternative compared to the No Build Alternative due to project improvements. Travel times on eastbound SR-91 are also expected to improve for the Build Alternative compared to the No Build Alternative. This change would result from the shifts in regional travel patterns that cause lower general purpose lane demand on SR-91 eastbound west of the SR-241 interchange in the Build Alternative.

PM Peak Period

Table 3.5.8 compares travel times between the No Build Alternative and the Build Alternative in 2040 in the PM peak period (3:00 PM to 7:00 PM). In the 2040 PM peak period, travel times for most of the segments would either stay the same or decrease for the Build Alternative compared to the No Build Alternative. The decrease in travel time is due to the shift of trips from the SR-241 northbound to the SR-91 eastbound general purpose ramp over to the *91 Express Lanes* ramp, which lowers the general purpose lane demand in the *91 Express Lanes* ingress/egress area.

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Table 3.5.6 Travel Time Comparisons - No Build and Build Alternatives in 2017 Data, PM Peak Period (3:00 PM to 7:00 PM)

#	Origin	Destination	No Build Alternative Travel Time (Minutes)				Build Alternative Travel Time (Minutes)				Change (Minutes)			
			3:00–4:00 PM	4:00–5:00 PM	5:00–6:00 PM	6:00–7:00 PM	3:00–4:00 PM	4:00–5:00 PM	5:00–6:00 PM	6:00–7:00 PM	3:00–4:00 PM	4:00–5:00 PM	5:00–6:00 PM	6:00–7:00 PM
1	SR-91 EB GP Lanes west of Weir Canyon Road	SR-91 EB GP Lanes east of Serfas Club Road	28.3	29.6	29.4	27.6	30.3	31.9	32.0	29.4	2.0	2.3	2.6	1.8
		SR-91 EB Express Lanes east of Serfas Club Road	28.3	29.5	29.4	27.6	30.3	31.9	31.9	29.4	2.0	2.4	2.5	1.8
		SR-241 SB south of SR-91	18.4	19.1	19.0	17.7	19.3	20.8	20.6	18.7	0.9	1.7	1.6	1.0
		SR-71 NB north of SR-91	30.6	31.9	31.8	30.0	32.7	34.3	34.3	31.7	2.1	2.4	2.5	1.7
2	SR-91 EB Express Lanes west of Weir Canyon Road	SR-91 EB GP Lanes east of Serfas Club Road	10.4	10.5	10.5	10.5	11.2	11.3	11.3	11.2	0.8	0.8	0.8	0.7
		SR-91 EB Express Lanes east of Serfas Club Road	8.4	8.4	8.4	8.4	8.5	8.5	8.5	8.4	0.1	0.1	0.1	0.0
		SR-71 NB north of SR-91	12.7	12.8	12.9	12.9	13.6	13.6	13.7	13.5	0.9	0.8	0.8	0.6
3	SR-91 WB GP Lanes east of Serfas Club Road	SR-91 WB GP Lanes west of Weir Canyon Road	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	0.0	0.0	0.0	0.0
		SR-91 WB Express Lanes west of Weir Canyon Road	8.5	8.5	8.5	8.4	8.5	8.5	8.5	8.4	0.0	0.0	0.0	0.0
		SR-241 SB south of SR-91 (via GP Ramp)	10.9	11.0	10.9	10.9	10.9	10.9	10.9	10.9	0.0	-0.1	0.0	0.0
		SR-241 SB south of SR-91 (via Express Ramp)	N/A	N/A	N/A	N/A	10.9	10.8	10.8	10.8	0.0	-0.2	-0.1	-0.1
		SR-71 NB north of SR-91	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	0.0	0.0	0.0	0.0
4	SR-91 WB Express Lanes east of Serfas Club Road	SR-91 WB GP Lanes west of Weir Canyon Road	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.4	0.0	0.0	0.0	-0.1
		SR-91 WB Express Lanes west of Weir Canyon Road	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	0.0	0.0	0.0	0.0
		SR-241 SB south of SR-91 (via GP Ramp)	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	0.0	0.0	0.0	0.0
		SR-241 SB south of SR-91 (via Express Ramp)	N/A	N/A	N/A	N/A	10.8	10.8	10.8	10.7	-0.1	-0.1	-0.1	-0.2
5	SR-241 NB south of SR-91 (via GP Ramp)	SR-91 WB GP Lanes west of Weir Canyon Road	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	0.0	0.0	0.0	0.0
		SR-91 EB GP Lanes east of Serfas Club Road	13.4	13.5	13.6	13.6	15.0	15.2	15.1	14.9	1.6	1.7	1.5	1.3
		SR-91 EB Express Lanes east of Serfas Club Road	13.4	13.4	13.5	13.5	15.0	15.2	15.1	14.8	1.6	1.8	1.6	1.3
		SR-71 NB north of SR-91	15.7	15.8	15.9	15.9	17.3	17.5	17.5	17.2	1.6	1.7	1.6	1.3
6	SR-241 NB South of SR-91 (via Express Ramp)	SR-91 EB GP Lanes east of Serfas Club Road	N/A	N/A	N/A	N/A	13.6	13.7	13.7	13.6	0.2	0.2	0.1	0.0
		SR-91 EB Express Lanes east of Serfas Club Road	N/A	N/A	N/A	N/A	10.8	10.8	10.8	10.8	-2.6	-2.6	-2.7	-2.7
		SR-71 NB north of SR-91	N/A	N/A	N/A	N/A	15.9	16.0	16.0	15.9	0.2	0.2	0.1	0.0
7	SR-71 SB north of SR-91	SR-91 WB GP Lanes west of Weir Canyon Road	10.2	10.2	10.1	9.9	10.2	10.2	10.1	9.9	0.0	0.0	0.0	0.0
		SR-91 WB Express Lanes west of Weir Canyon Road	10.2	10.2	10.0	9.9	10.2	10.2	10.0	9.8	0.0	0.0	0.0	-0.1
		SR-91 EB GP Lanes east of Serfas Club Road	6.4	6.7	6.2	5.8	6.5	6.6	6.2	5.8	0.1	-0.1	0.0	0.0
		SR-241 SB south of SR-91 (via GP Ramp)	12.6	12.7	12.5	12.3	12.7	12.6	12.5	12.3	0.1	-0.1	0.0	0.0
		SR-241 SB south of SR-91 (via Express Ramp)	N/A	N/A	N/A	N/A	12.6	12.6	12.4	12.2	0.0	-0.1	-0.1	-0.1

Source: Traffic Analysis Report (July 2015).
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241
WB = westbound
EB = eastbound
GP = general purpose
N/A = not applicable
NB = northbound
SB = southbound

Table 3.5.7 Travel Time Comparisons - No Build and Build Alternatives in 2040, AM Peak Period (6:00 AM to 9:00 AM)

#	Origin	Destination	No Build Alternative Travel Time (Minutes)			Build Alternative Travel Time (Minutes)			Change Travel Time (Minutes)		
			6:00–7:00 AM	7:00–8:00 AM	8:00–9:00 AM	6:00–7:00 AM	7:00–8:00 AM	8:00–9:00 AM	6:00–7:00 AM	7:00–8:00 AM	8:00–9:00 AM
1	SR-91 EB GP Lanes west of Weir Canyon Road	SR-91 EB GP Lanes east of Serfas Club Road	9.7	12.6	13.7	8.9	9.5	9.4	-0.8	-3.1	-4.3
		SR-91 EB Express Lanes east of Serfas Club Road	9.5	12.4	13.5	8.8	9.4	9.3	-0.7	-3.0	-4.2
		SR-241 SB south of SR-91	7.9	10.7	12.0	7.3	7.7	7.9	-0.6	-3.0	-4.1
		SR-71 NB north of SR-91	11.0	13.9	15.0	10.2	10.8	10.7	-0.8	-3.1	-4.3
2	SR-91 EB Express Lanes west of Weir Canyon Road	SR-91 EB GP Lanes east of Serfas Club Road	8.7	8.7	8.6	8.6	8.6	8.5	-0.1	-0.1	-0.1
		SR-91 EB Express Lanes east of Serfas Club Road	8.3	8.3	8.3	8.4	8.4	8.4	0.1	0.1	0.1
		SR-71 NB north of SR-91	10.0	10.0	9.9	9.9	9.9	9.9	-0.1	-0.1	0.0
3	SR-91 WB GP Lanes east of Serfas Club Road	SR-91 WB GP Lanes west of Weir Canyon Road	22.8	21.2	16.3	18.1	19.4	20.0	-4.7	-1.8	3.7
		SR-91 WB Express Lanes west of Weir Canyon Road	20.8	19.3	15.4	16.4	19.2	19.9	-4.4	-0.1	4.5
		SR-241 SB south of SR-91 (via GP Ramp)	23.2	21.8	17.8	18.9	21.7	22.4	-4.3	-0.1	4.6
		SR-241 SB south of SR-91 (via Express Ramp)	N/A	N/A	N/A	18.8	21.6	22.3	-4.4	-0.2	4.5
		SR-71 NB north of SR-91	8.5	8.0	5.7	6.2	8.2	7.8	-2.3	0.2	2.1
4	SR-91 WB Express Lanes east of Serfas Club Road	SR-91 WB GP Lanes west of Weir Canyon Road	15.0	14.5	13.2	14.1	12.9	13.5	-0.9	-1.6	0.3
		SR-91 WB Express Lanes west of Weir Canyon Road	8.4	8.4	8.4	8.4	8.4	8.4	0.0	0.0	0.0
		SR-241 SB south of SR-91 (via GP Ramp)	15.5	15.0	14.7	14.8	15.2	15.9	-0.7	0.2	1.2
		SR-241 SB south of SR-91 (via Express Ramp)	N/A	N/A	N/A	10.8	10.8	10.8	-4.7	-4.2	-3.9
5	SR-241 NB south of SR-91 (via GP Ramp)	SR-91 WB GP Lanes west of Weir Canyon Road	7.3	7.3	7.3	7.3	7.3	7.2	0.0	0.0	-0.1
		SR-91 EB GP Lanes east of Serfas Club Road	11.1	11.1	11.1	11.0	11.0	11.0	-0.1	-0.1	-0.1
		SR-91 EB Express Lanes east of Serfas Club Road	10.9	10.9	10.9	10.9	10.9	10.9	0.0	0.0	0.0
		SR-71 NB north of SR-91	12.4	12.4	12.4	12.3	12.3	12.3	-0.1	-0.1	-0.1
6	SR-241 NB South of SR-91 (via Express Ramp)	SR-91 EB GP Lanes east of Serfas Club Road	N/A	N/A	N/A	11.0	11.0	11.0	-0.1	-0.1	-0.1
		SR-91 EB Express Lanes east of Serfas Club Road	N/A	N/A	N/A	10.8	10.8	10.8	-0.1	-0.1	-0.1
		SR-71 NB north of SR-91	N/A	N/A	N/A	12.3	12.3	12.3	-0.1	-0.1	-0.1
7	SR-71 SB north of SR-91	SR-91 WB GP Lanes west of Weir Canyon Road	39.6	56.0	59.3	29.5	44.1	54.6	-10.1	-11.9	-4.7
		SR-91 WB Express Lanes west of Weir Canyon Road	37.6	54.2	58.4	27.8	44.0	54.5	-9.8	-10.2	-3.9
		SR-91 EB GP Lanes east of Serfas Club Road	23.5	38.6	44.5	15.2	28.8	35.5	-8.3	-9.8	-9.0
		SR-241 SB south of SR-91 (via GP Ramp)	40.1	56.6	60.9	30.2	46.4	57.0	-9.9	-10.2	-3.9
		SR-241 SB south of SR-91 (via Express Ramp)	N/A	N/A	N/A	30.2	46.3	56.9	-9.9	-10.3	-4.0

Source: Traffic Analysis Report (July 2015).
EB = eastbound
GP = general purpose
N/A = not applicable
NB = northbound
SB = southbound
SR-241 = State Route 241
SR-71 = State Route 71
SR-91 = State Route 91
WB = westbound

Table 3.5.8 Travel Time Comparisons - No Build and Build Alternatives in 2040, PM Peak Period (3:00 PM to 7:00 PM)

#	Origin	Destination	No Build Alternative Travel Time (Minutes)				Build Alternative Travel Time (Minutes)				Change Travel Time (Minutes)			
			3:00–4:00 PM	4:00–5:00 PM	5:00–6:00 PM	6:00–7:00 PM	3:00–4:00 PM	4:00–5:00 PM	5:00–6:00 PM	6:00–7:00 PM	3:00–4:00 PM	4:00–5:00 PM	5:00–6:00 PM	6:00–7:00 PM
1	SR-91 EB GP Lanes west of Weir Canyon Road	SR-91 EB GP Lanes east of Serfas Club Road	19.8	20.3	20.9	20.5	19.6	19.7	19.6	18.7	-0.2	-0.6	-1.3	-1.8
		SR-91 EB Express Lanes east of Serfas Club Road	19.7	20.3	20.8	20.5	19.5	19.7	19.6	18.7	-0.2	-0.6	-1.2	-1.8
		SR-241 SB south of SR-91	14.7	14.7	14.6	14.3	14.5	14.7	14.6	14.0	-0.2	0.0	0.0	-0.3
		SR-71 NB north of SR-91	21.2	21.8	22.3	22.0	21.0	21.2	21.1	20.2	-0.2	-0.6	-1.2	-1.8
2	SR-91 EB Express Lanes west of Weir Canyon Road	SR-91 EB GP Lanes east of Serfas Club Road	8.8	9.2	9.7	9.9	8.7	8.7	8.7	8.6	-0.1	-0.5	-1.0	-1.3
		SR-91 EB Express Lanes east of Serfas Club Road	8.4	8.4	8.4	8.4	8.5	8.5	8.5	8.4	0.1	0.1	0.1	0.0
		SR-71 NB north of SR-91	10.2	10.6	11.2	11.4	10.1	10.2	10.2	10.1	-0.1	-0.4	-1.0	-1.3
3	SR-91 WB GP Lanes east of Serfas Club Road	SR-91 WB GP Lanes west of Weir Canyon Road	8.7	8.7	8.7	8.5	8.5	8.5	8.5	8.5	-0.2	-0.2	-0.2	0.0
		SR-91 WB Express Lanes west of Weir Canyon Road	8.6	8.6	8.6	8.5	8.5	8.5	8.5	8.4	-0.1	-0.1	-0.1	-0.1
		SR-241 SB south of SR-91 (via GP Ramp)	11.0	11.1	11.0	10.9	10.9	11.0	10.9	10.9	-0.1	-0.1	-0.1	0.0
		SR-241 SB south of SR-91 (via Express Ramp)	N/A	N/A	N/A	N/A	10.9	10.9	10.8	10.8	-0.1	-0.2	-0.2	-0.1
		SR-71 NB north of SR-91	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	0.0	0.0	0.0	0.0
4	SR-91 WB Express Lanes east of Serfas Club Road	SR-91 WB GP Lanes west of Weir Canyon Road	8.6	8.7	8.6	8.5	8.5	8.5	8.5	8.5	-0.1	-0.2	-0.1	0.0
		SR-91 WB Express Lanes west of Weir Canyon Road	8.4	8.4	8.4	8.3	8.4	8.4	8.4	8.4	0.0	0.0	0.0	0.1
		SR-241 SB south of SR-91 (via GP Ramp)	11.0	11.0	11.0	10.9	10.9	10.9	10.9	10.9	-0.1	-0.1	-0.1	0.0
		SR-241 SB south of SR-91 (via Express Ramp)	N/A	N/A	N/A	N/A	10.8	10.8	10.7	10.7	-0.2	-0.2	-0.3	-0.2
5	SR-241 NB south of SR-91 (via GP Ramp)	SR-91 WB GP Lanes west of Weir Canyon Road	7.2	7.2	7.5	7.3	7.2	7.2	7.3	7.2	0.0	0.0	-0.2	-0.1
		SR-91 EB GP Lanes east of Serfas Club Road	11.2	11.6	12.7	12.6	11.0	11.1	11.1	11.0	-0.2	-0.5	-1.6	-1.6
		SR-91 EB Express Lanes east of Serfas Club Road	11.2	11.6	12.7	12.5	11.0	11.0	11.0	11.0	-0.2	-0.6	-1.7	-1.5
		SR-71 NB north of SR-91	12.6	13.1	14.2	14.0	12.5	12.5	12.5	12.5	-0.1	-0.6	-1.7	-1.5
6	SR-241 NB South of SR-91 (via Express Ramp)	SR-91 EB GP Lanes east of Serfas Club Road	N/A	N/A	N/A	N/A	11.0	11.0	11.1	11.0	-0.2	-0.6	-1.6	-1.6
		SR-91 EB Express Lanes east of Serfas Club Road	N/A	N/A	N/A	N/A	10.8	10.8	10.8	10.8	-0.4	-0.8	-1.9	-1.7
		SR-71 NB north of SR-91	N/A	N/A	N/A	N/A	12.5	12.5	12.5	12.5	-0.1	-0.6	-1.7	-1.5
7	SR-71 SB north of SR-91	SR-91 WB GP Lanes west of Weir Canyon Road	10.0	10.1	10.0	9.8	9.9	9.9	9.9	9.8	-0.1	-0.2	-0.1	0.0
		SR-91 WB Express Lanes west of Weir Canyon Road	9.9	10.0	9.9	9.8	9.8	9.8	9.8	9.7	-0.1	-0.2	-0.1	-0.1
		SR-91 EB GP Lanes east of Serfas Club Road	5.7	5.7	5.6	5.4	5.8	5.9	5.6	5.4	0.1	0.2	0.0	0.0
		SR-241 SB south of SR-91 (via GP Ramp)	12.4	12.5	12.4	12.2	12.3	12.3	12.3	12.2	-0.1	-0.2	-0.1	0.0
		SR-241 SB south of SR-91 (via Express Ramp)	N/A	N/A	N/A	N/A	12.2	12.2	12.2	12.1	-0.2	-0.3	-0.2	-0.1

Source: *Traffic Analysis Report* (July 2015).
EB = eastbound
GP = general purpose
N/A = not applicable
NB = northbound
SB = southbound
SR-241 = State Route 241
SR-71 = State Route 71
SR-91 = State Route 91
WB = westbound

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Density and LOS

2017 Conditions (Opening Year)

AM Peak Hour

Freeway traffic flow can be defined in terms of level of service (LOS). For freeways, there are six defined levels of service, ranging from LOS A to LOS F. LOS A represents free traffic flow with low traffic volumes and high speeds, and LOS F represents traffic volumes that exceed the facility capacity and result in forced flow operations at low speeds. In the 2017 AM peak hour (7:00 AM to 8:00 AM), the westbound SR-91 general purpose lanes would operate at the same or better LOS for the Build Alternative compared to the No Build Alternative. For the Build Alternative in 2017, a slight decrease in density is expected on the westbound general purpose lanes already operating at LOS F in the No Build Alternative (east of SR-241).

The Build Alternative would slightly improve density/LOS in the 2017 AM peak period on the westbound SR-91 general purpose lanes between the *91 Express Lanes* ingress/egress area and the eastern limits of the Study Area (Serfas Club Drive/Auto Center Drive).

PM Peak Hour

In the 2017 PM peak hour (4:00 PM to 5:00 PM), the eastbound SR-91 general purpose lanes west of the *91 Express Lanes* ingress/egress would operate at the same LOS for the No Build Alternative and the Build Alternative. Compared to the No Build Alternative, the Build Alternative is expected to increase density on the segments of the general purpose lane operating in LOS F (west of the Green River Road interchange) due to an increase in demand in the general purpose lanes downstream of the *91 Express Lanes* ingress/egress area between SR-241 and the Green River Road interchange.

The Build Alternative would slightly worsen density/LOS in the 2017 PM peak period on the SR-91 general purpose lanes in the eastbound direction between the *91 Express Lanes* ingress/egress area and the western limits of the Study Area (Weir Canyon Road). However, the change in density/LOS is considered nominal given the increase in combined throughput (general purpose lane and *91 Express Lanes*) experienced in the same area with the Build Alternative.

2040 Conditions (Design Year)

AM Peak Hour

In the 2040 AM peak period, the westbound SR-91 general purpose lanes would operate at the same LOS for the No Build Alternative and the Build Alternative except in the area between the Green River Road interchange and the SR-241 interchange. The general purpose lane segment between the Green River Road and SR-241 interchanges is expected to operate at LOS D or better for the Build Alternative, compared to LOS F for the No Build Alternative. This improvement in LOS would occur due to the higher demand in the general purpose lanes of this segment of SR-91 for the No Build Alternative compared to the Build Alternative.

The Build Alternative would provide substantial improvements in density/LOS on the westbound SR-91 general purpose lanes in the 2040 AM peak period between the *91 Express Lanes* ingress/egress area and the SR-241 interchange.

PM Peak Hour

For the Build Alternative in 2040, a decrease in density is expected in the SR-91 general purpose lanes in the vicinity of the *91 Express Lanes* ingress/egress area compared to the No Build Alternative. SR-91 between the SR-241 and Green River Road interchanges is expected to operate at LOS E for the No Build Alternative compared to LOS D or better for the Build Alternative. The decrease in density in the SR-91 general purpose lanes would occur due to the slightly lower demand for the Build Alternative caused by the shift of approximately 800 trips from the SR-241 northbound to SR-91 eastbound general purpose ramp over to the Express Lane ramp.

The Build Alternative would slightly worsen the density/LOS in the 2040 PM peak period on the eastbound SR-91 general purpose lanes between the *91 Express Lanes* ingress/egress area and the western limits of the Study Area (Weir Canyon Road). However, the change in density/LOS is considered nominal given the increase in combined throughput (general purpose and *91 Express Lanes*) experienced in the same area with the Build Alternative.

Express Lane Operations

Express lane operations were studied as part of the 2017 and 2040 peak period analyses for the No Build Alternative and the Build Alternative. Operational

conditions such as volume served, speed, queues, and LOS for the No Build and Build Alternative are summarized in Tables 3.5.9 and 3.5.10. In the AM peak period, the westbound *91 Express Lanes* throughout the Study Area are projected to operate the same with and without the Proposed Project in 2017 and 2040. In the PM peak period, the eastbound *91 Express Lanes* throughout the Study Area are also projected to operate the same with and without the Proposed Project in 2017 and 2040. Tables 3.5.9 and 3.5.10 show that there are no appreciable differences in volumes served, speeds, or LOS in the westbound *91 Express Lanes* in the AM peak period and in the eastbound *91 Express Lanes* in the PM peak period between the No Build Alternative and the Build Alternative.

Analysis of Network Performance

2017 Conditions (*Opening Year*)

AM Peak Period

Table 3.5.11 compares the network performance for the No Build Alternative and Build Alternative in the 2017 AM peak period. The following points highlight the comparison of the network performance between the No Build Alternative and the Build Alternative in the 2017 AM peak period:

- The Build Alternative would slightly increase demand in the Study Area compared to the No Build Alternative (by an additional 940 vehicles or less than 1 percent) by attracting vehicles from surrounding roadways to SR-241.
- The Build Alternative would increase vehicle throughput (by 4,500 vehicles or 5 percent) and decrease the percent of unserved traffic compared to the Build Alternative (from 9 percent for the No Build Alternative to 5 percent for the Build Alternative).
- Vehicle miles traveled (VMT) would increase by 6 percent for the Build Alternative compared to the No Build Alternative because vehicle throughput would increase.
- The average speed per vehicle would increase by approximately 6 mph (from 34 to 40 mph) for the Build Alternative compared to the No Build Alternative.
- The average delay per vehicle would decrease by approximately 28 percent (from 6.8 to 4.9 minutes per vehicle) for the Build Alternative compared to the No Build Alternative.

Table 3.5.9 Summary of 2017 Data Express Lane Operations

Operational Metric	Alternative	Between SR-71 and Green River Road	Study Segment between Green River Road and the SR-241 Express Lane Connector	Study Segment between the SR-241 Express Lane Connector and Weir Canyon Road
Westbound AM Peak Period (6:00 AM to 9:00 AM)				
Volume Served (percent of demand served)	No Build	99.5%	99.5%	92.3%
	Build	99.6%	99.6%	94.7%
Speed (miles per hour)	No Build	68	69	69
	Build	68	68	69
Queues in the Express Lanes?	No Build	No	No	No
	Build	No	No	No
Level of Service	No Build	C	B	B
	Build	C	B	B
Eastbound PM Peak Period (3:00 PM to 7:00 PM)				
Volume Served (percent of demand served)	No Build	89.2%	99.3%	99.3%
	Build	88.8%	99.9%	99.9%
Speed (miles per hour)	No Build	68	69	68
	Build	68	69	68
Queues in the Express Lanes?	No Build	No	No	No
	Build	No	No	No
Level of Service	No Build	C	B	C
	Build	C	B	C

Source: Traffic Analysis Report (July 2015).
SR-71 = State Route 71
SR-241 = State Route 241

Table 3.5.10 Summary of 2040 Express Lane Operations

Operational Metric	Alternative	Between SR-71 and Green River Road	Study Segment between Green River Road and the SR-241 Express Lane Connector	Study Segment between the SR-241 Express Lane Connector and Weir Canyon Road
Westbound AM Peak Period (6:00 AM to 9:00 AM)				
Volume Served (percent of demand served)	No Build	99.5%	99.5%	93.5%
	Build	99.5%	99.5%	91.7%
Speed (miles per hour)	No Build	68	69	68
	Build	68	68	69
Queues in the Express Lanes?	No Build	No	No	No
	Build	No	No	No
Level of Service	No Build	C	B	B
	Build	C	B	B
Eastbound PM Peak Period (3:00 PM to 7:00 PM)				
Volume Served (percent of demand served)	No Build	89.3%	99.3%	99.3%
	Build	87.1%	99.7%	99.7%
Speed (miles per hour)	No Build	68	69	68
	Build	68	69	68
Queues in the Express Lanes?	No Build	No	No	No
	Build	No	No	No
Level of Service	No Build	C	B	C
	Build	C	B	C

Source: Traffic Analysis Report (July 2015).
SR-71 = State Route 71
SR-241 = State Route 241

Table 3.5.11 2017 Data Summary of Network Performance for the No Build and Build Alternatives

Performance Measure (all vehicle types)	No Build Alternative	Build Alternative	Net Change With Project
AM Peak Period (6:00 AM to 9:00 AM)			
Total vehicle demand (vehicles)	100,741	101,682	941
Total number of vehicles that did not reach their destination (vehicles)	9,016	5,420	-3,596
Total number of vehicles that have reached their destination (vehicles)	91,725	96,262	4,537
Total vehicle miles traveled	796,551	845,966	49,415
Total vehicle hours traveled	23,068	21,012	-2,056
Average speed (miles per hour)	34.5	40.3	5.8
Average delay time per vehicle (minutes/vehicle)	6.8	4.9	-1.9
PM Peak Period (3:00 PM to 7:00 PM)			
Total vehicle demand (vehicles)	141,937	144,727	2,790
Total number of vehicles that did not reach their destination (vehicles)	20,812	22,405	1,593
Total number of vehicles that have reached their destination (vehicles)	121,125	122,322	1,197
Total vehicle -miles traveled- VMT (miles)	1,014,001	1,036,967	22,966
Total travel time- VHT (hours)	26,278	27,608	1,330
Average speed (miles per hour)	38.6	37.6	-1.0
Average delay time per vehicle (minutes/vehicle)	5.3	5.7	0.4

Source: *Traffic Analysis Report* (July 2015).
VHT = vehicle hours traveled
VMT = vehicle miles traveled

PM Peak Period

Table 3.5.11 compares the network performance for the No Build Alternative and the Build Alternative in the 2017 PM peak period. The following summarizes the comparison of the network performance between the No Build Alternative and the Build Alternative in the 2017 PM peak period shown in Table 3.5.11:

- The Build Alternative would increase demand in the Study Area (by an additional 2,800 vehicles or 2 percent) compared to the No Build Alternative by attracting additional vehicles from surrounding roadways to SR-241.
- The Build Alternative would increase vehicle throughput (by 1,200 vehicles or 1 percent) compared to the No Build Alternative. Although the amount of unserved vehicles would increase for the Build Alternative (by 1,600 vehicles), the percent of unserved vehicles would remain at 15 percent for both the No Build Alternative and the Build Alternative.

- Vehicle miles traveled would increase by 2 percent for the Build Alternative compared to the No Build Alternative because vehicle throughput would increase.
- The average speed per vehicle would decrease by 1 mph (from 39 to 38 mph) for the Build Alternative compared to the No Build Alternative due to the additional demand in the general purpose lanes downstream of the *91 Express Lanes* ingress/egress.
- The average delay per vehicle would increase by approximately 0.4 minute (from 5.3 to 5.7 minutes) for the Build Alternative compared to the No Build Alternative.
- The decrease in speed (-1.0 mph) and increase in travel time (+0.4 minute/ vehicle) for the Build Alternative compared to the No Build Alternative would be considered nominal given the increase in vehicle throughput (+1,200 vehicles or 1 percent).

2040 Conditions (Design Year)

AM Peak Period

Table 3.5.12 compares the network performance for the No Build Alternative and the Build Alternative in the 2040 AM peak period. The following summarizes the comparison of the network performance between the No Build Alternative and the Build Alternative in the 2040 AM peak period:

- The No Build Alternative and the Build Alternative would have generally the same demand.
- The Build Alternative would increase vehicle throughput (by an additional 930 vehicles or 1 percent) and decrease the percent unserved (from 9 percent to 8 percent) compared to the No Build Alternative.
- Vehicle miles traveled would increase by 1 percent for the Build Alternative compared to the No Build Alternative because vehicle throughput would increase.
- The average speed per vehicle would increase by approximately 4 mph (from 34 to 38 mph) for the Build Alternative compared to the No Build Alternative.
- The average delay per vehicle would decrease by approximately 20 percent (from 7.0 to 5.6 minutes per vehicle) for the Build Alternative compared to the No Build Alternative.

Table 3.5.12 2040 Summary of Network Performance for the No Build and Build Alternatives

Performance Measure (all vehicle types)	No Build Alternative	Build Alternative	Net Change With Project
AM Peak Period (6:00 AM to 9:00 AM)			
Total vehicle demand (vehicles)	119,605	120,167	562
Total number of vehicles that did not reach their destination (vehicles)	10,264	9,895	-369
Total number of vehicles that have reached their destination (vehicles)	109,342	110,273	931
Total vehicle miles traveled	939,671	953,732	14,061
Total vehicle hours traveled	27,641	25,219	-2,422
Average speed (miles per hour)	34.0	37.8	3.8
Average delay time per vehicle (minutes/vehicle)	7.0	5.6	-1.4
PM Peak Period (3:00 PM to 7:00 PM)			
Total vehicle demand (vehicles)	168,494	168,944	450
Total number of vehicles that did not reach their destination (vehicles)	26,918	25,914	-1,004
Total number of vehicles that have reached their destination (vehicles)	141,576	143,030	1,454
Total vehicle -miles traveled- VMT (miles)	1,173,727	1,193,635	19,908
Total travel time- VHT (hours)	26,063	25,477	-586
Average speed (miles per hour)	45.1	46.9	1.8
Average delay time per vehicle (minutes/vehicle)	3.4	3.1	-0.3

Source: *Traffic Analysis Report* (July 2015).
VHT = vehicle hours traveled
VMT = vehicle miles traveled

PM Peak Period

Table 3.5.12 compares the network performance for the No Build Alternative and the Build Alternative in the 2040 PM peak period. The following summarizes the comparison of the network performance between the No Build Alternative and the Build Alternative in the 2040 PM peak period:

- The No Build Alternative and the Build Alternative would have generally the same demand.
- The Build Alternative would increase vehicle throughput (by 1,450 vehicles or 1 percent) while decreasing the amount of unserved vehicles (by 1,000 vehicles) compared to the No Build Alternative.
- The percent unserved would decrease from 16 percent for the No Build Alternative to 15 percent for the Build Alternative.
- Vehicle miles traveled would increase by 2 percent for the Build Alternative compared to the No Build Alternative because vehicle throughput would increase.

- The average speed per vehicle would increase by about 2 mph (from 45 to 47 mph) for the Build Alternative compared to the No Build Alternative.
- The average delay per vehicle would slightly decrease by less than half a minute (from 3.4 to 3.1 minutes) for the Build Alternative compared to the No Build Alternative.

Pedestrian and Bicycle Facilities

The Build Alternative does not include any improvements on Santa Ana Canyon Road or Gypsum Canyon Road that would preclude pedestrian or bicyclist use of these roads. No other local roadways lie within the Project Area.

Summary

In summary, the Build Alternative would achieve the following:

- Vehicle throughput in the SR-91 corridor would improve, vehicles miles traveled would increase, and travel time would decrease. More vehicles would use the *91 Express Lanes* (i.e., the Proposed Project would bring more cars into the *91 Express Lanes* and, therefore, the combined general purpose lane and the *91 Express Lane* throughput would increase).
- Traffic would shift from other regional routes (SR-91, SR-55, and surface streets) to SR-241 as a result of the additional capacity of the new connector.
- The length of the northbound SR-241 to the eastbound SR-91 queue on the general purpose ramp would shorten in the PM peak period.
- The length of the queues would shorten at the SR-91 westbound mainline bottleneck between the Green River Road interchange and the *91 Express Lanes* ingress in the AM peak period.
- There would be an increase in friction on eastbound SR-91 as more vehicles would exit the *91 Express Lanes* and enter the general purpose lanes, and fewer cars would be able to leave the general purpose lanes and enter the RCTC SR-91 Express Lanes due to the increase in traffic volumes on the express lanes connector.
- There would be a reduction in friction due to fewer vehicles weaving from the northbound SR-241 to eastbound SR-91 general purpose ramp to the Riverside County Transportation Commission (RCTC) Express Lanes (i.e., most of these vehicles would now use the SR-241 to SR-91 Express Lanes Connector) with the Proposed Project.
- The Build Alternative improves vehicle throughput in the SR-91 corridor by allowing more traffic to travel through the SR-91 Express Lanes at near free-flow

speeds. The SR-91 Express Lanes throughput upstream and downstream of the ingress/egress area (i.e., in the OCTA and RCTC Express Lanes) remains the same with or without the Build Alternative.

No Build Alternative

Volume Served

2017 Conditions (*Opening Year*)

Table 3.5.13 presents the volume throughput and the percent demand unserved for the No Build Alternative in 2017 in the AM and PM peak periods. Throughput volume and percent of demand unserved are both measured by combining the general purpose and express lanes along SR-91 between Weir Canyon Road and Serfas Club/Auto Center Drive in the AM and PM peak periods. As seen in Table 3.5.13, in 2017 for the No Build Alternative, the percent of unserved traffic is projected to increase to as high as 17.4 percent in the westbound direction in the AM peak period and as high as 37.7 percent in the eastbound direction in the PM peak period, depending on the freeway segment.

2040 Conditions (*Design Year*)

Table 3.5.14 presents the volume throughput and percent demand unserved for the No Build Alternative in 2040 in the AM and PM peak periods. As shown in Table 3.5.14, by 2040, the percent of unserved traffic is projected to increase to as high as 16.7 percent in the westbound direction in the AM peak period and as high as 40.1 percent in the eastbound direction in the PM peak period, depending on the freeway segment.

Vehicle Speed and Travel Times

2017 Conditions (Opening Year)

Travel times for the No Build Alternative in 2017 are shown in Table 3.5.15. In 2017, heavy peak hour flows would occur in the westbound direction in the morning and in the eastbound direction in the evening in the traffic Study Area, due to commuters traveling between communities in the counties of Riverside and San Bernardino and work places in the counties of Los Angeles and Orange. In 2017, during the AM peak hours, vehicle speeds on the westbound SR-91 general purpose lanes would range from 10 to 26 mph between Serfas Club Drive/Auto Center Drive to the County Line. During the PM peak hours, eastbound speeds would range from 10 to 23 mph between west of Weir Canyon Road to the SR-241 merge. Therefore, travel times in these areas are almost four times longer than non-peak hours with free-flowing traffic.

Table 3.5.13 Opening Year (2017 data) No Build Alternative Peak Period Vehicle Throughput Comparison

Location	Demand Volume			Throughput Volume			Percent Unserved		
	GP Lanes	Express Lanes	Overall	GP Lanes	Express Lanes	Overall	GP Lanes	Express Lanes	Overall
Westbound AM (6:00 AM to 9:00 AM)									
East of Serfas Club/Auto Center Drive	22367	9185	31552	21575	9143	30718	3.5%	0.5%	2.6%
Between Serfas Club/Auto Center Drive	25820	9185	35005	24038	9143	33180	6.9%	0.5%	5.2%
Between SR-71 and Green River Road	26530	9185	35715	21917	9143	31059	17.4%	0.5%	13.0%
Between Green River Road and SR-241 Ramp (WB to SB)	33680	9185	42865	26256	9143	35398	22.0%	0.5%	17.4%
Between SR-241 GP Ramp (WB to SB) and Gypsum Canyon Road	26790	8040	34830	21368	7421	28789	20.2%	7.7%	17.3%
Between Gypsum Canyon Road and SR-241 Ramp (NB to WB)	25631	8040	33671	20951	7421	28372	18.3%	7.7%	15.7%
Between SR-241 Ramp (NB to WB) and Weir Canyon Road	26493	8040	34533	21738	7421	29159	17.9%	7.7%	15.6%
West of Weir Canyon Road	26041	8040	34081	22091	7421	29512	15.2%	7.7%	13.4%
Eastbound PM (3:00 PM to 7:00 PM)									
West of Weir Canyon Road	44952	12164	57116	23492	12079	35570	47.7%	0.7%	37.7%
Between Weir Canyon Road and SR-241 Ramp (EB to SB)	43963	12164	56127	25622	12079	37701	41.7%	0.7%	32.8%
Between SR-241 Ramp (EB to SB) and Gypsum Canyon Road	42981	12164	55145	25006	12079	37084	41.8%	0.7%	32.8%
Between Gypsum Canyon Road and SR-241 Ramp (NB to EB)	46765	12164	58929	28490	12079	40569	39.1%	0.7%	31.2%
Between SR-241 Ramp (NB to EB) and Green River Road	56264	12160	684424	37201	10845	48046	33.9%	10.8%	29.8%
Between Green River Road and SR-71	47246	12160	59406	33517	10845	44363	29.1%	10.8%	25.3%
Between SR-71 and Serfas Club/Auto Center Drive	46179	12160	58339	35152	10845	45997	23.9%	10.8%	21.2%
East of Serfas Club/Auto Center Drive	41019	12160	53179	32247	10845	43092	21.4%	10.8%	19.0%

Source: *Traffic Analysis Report* (July 2015).
EB = eastbound
GP = general purpose
NB = northbound
SB = southbound
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241
WB = westbound

Table 3.5.14 Design Year (2040) No Build Alternative Peak Period Vehicle Throughput Comparison

Location	Demand Volume			Throughput Volume			Percent Unserved		
	GP Lanes	Express Lanes	Overall	GP Lanes	Express Lanes	Overall	GP Lanes	Express Lanes	Overall
Westbound AM (6:00 AM to 9:00 AM)									
East of Serfas Club/Auto Center Drive	27218	9185	36403	25992	9135	35127	4.5%	0.5%	3.5%
Between Serfas Club/Auto Center Drive	31564	9185	40749	30055	9135	39191	4.8%	0.5%	3.8%
Between SR-71 and Green River Road	32331	9185	41516	28451	9135	37586	12.0%	0.5%	9.5%
Between Green River Road and SR-241 Ramp (WB to SB)	41137	9185	50322	33034	9135	42169	19.7%	0.5%	16.2%
Between SR-241 GP Ramp (WB to SB) and Gypsum Canyon Road	33614	8040	41654	27200	7518	34718	19.1%	6.5%	16.7%
Between Gypsum Canyon Road and SR-241 Ramp (NB to WB)	32124	8040	40164	27028	7518	34546	15.9%	6.5%	14.0%
Between SR-241 Ramp (NB to WB) and Weir Canyon Road	33188	8040	41228	28005	7518	35523	15.6%	6.5%	13.8%
West of Weir Canyon Road	32492	8040	40532	28228	7518	35746	13.1%	6.5%	11.8%
Eastbound PM (3:00 PM to 7:00 PM)									
West of Weir Canyon Road	55164	12164	67328	28247	12079	40326	48.8%	0.7%	40.1%
Between Weir Canyon Road and SR-241 Ramp (EB to SB)	54771	12164	66935	31232	12079	43311	43.0%	0.7%	35.3%
Between SR-241 Ramp (EB to SB) and Gypsum Canyon Road	53563	12164	65727	30457	12079	42536	43.1%	0.7%	35.3%
Between Gypsum Canyon Road and SR-241 Ramp (NB to EB)	58054	12164	70218	34548	12079	46627	40.5%	0.7%	33.6%
Between SR-241 Ramp (NB to EB) and Green River Road	68537	12160	80697	45851	10863	56714	33.1%	10.7%	29.7%
Between Green River Road and SR-71	35516	12160	47676	24751	10863	35614	30.3%	10.7%	25.3%
Between SR-71 and Serfas Club/Auto Center Drive	46089	12160	58249	35080	10863	45943	23.9%	10.7%	21.1%
East of Serfas Club/Auto Center Drive	39790	12160	51950	31361	10863	42224	21.2%	10.7%	18.7%

Source: *Traffic Analysis Report* (July 2015).
EB = eastbound
GP = general purpose
NB = northbound
SB = southbound
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241
WB = westbound

Table 3.5.15 Opening Year (2017 data) No Build Alternative Travel Times

Origin	Destination	AM Peak Period Travel Time (Minutes)			PM Peak Period Travel Time (Minutes)			
		6:00–7:00 AM	7:00–8:00 AM	8:00–9:00 AM	3:00–4:00 PM	4:00–5:00 PM	5:00–6:00 PM	6:00–7:00 PM
SR-91 EB GP Lanes west of Weir Canyon Road	SR-91 EB GP Lanes east of Serfas Club Road	8.6	8.7	8.6	28.3	29.6	29.4	27.6
	SR-91 EB Express Lanes east of Serfas Club Road	8.6	8.6	8.6	28.3	29.5	29.4	27.6
	SR-241 SB south of SR-91	7.1	7.2	7.2	18.4	19.1	19.0	17.7
	SR-71 NB north of SR-91	11.0	11.1	11.0	30.6	31.9	31.8	30.0
SR-91 EB Express Lanes west of Weir Canyon Road	SR-91 EB GP Lanes east of Serfas Club Road	8.5	8.5	8.5	10.4	10.5	10.5	10.5
	SR-91 EB Express Lanes east of Serfas Club Road	8.4	8.4	8.4	8.4	8.4	8.4	8.4
	SR-71 NB north of SR-91	10.9	10.9	10.9	12.7	12.8	12.9	12.9
SR-91 WB GP Lanes east of Serfas Club Road	SR-91 WB GP Lanes west of Weir Canyon Road	23.1	24.8	24.1	8.5	8.5	8.5	8.5
	SR-91 WB Express Lanes west of Weir Canyon Road	23.0	24.7	24.0	8.5	8.5	8.5	8.4
	SR-241 SB south of SR-91 (via GP Ramp)	25.4	27.1	26.5	10.9	11.0	10.9	10.9
	SR-241 SB south of SR-91 (via Express Ramp)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SR-71 NB north of SR-91	12.4	13.3	12.0	5.0	5.0	5.0	5.0
SR-91 WB Express Lanes east of Serfas Club Road	SR-91 WB GP Lanes west of Weir Canyon Road	12.0	12.4	12.6	8.5	8.5	8.5	8.5
	SR-91 WB Express Lanes west of Weir Canyon Road	8.4	8.4	8.4	8.4	8.4	8.4	8.4
	SR-241 SB south of SR-91 (via GP Ramp)	14.4	14.8	15.0	10.9	10.9	10.9	10.9
	SR-241 SB south of SR-91 (via Express Ramp)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SR-241 NB south of SR-91 (via GP Ramp)	SR-91 WB GP Lanes west of Weir Canyon Road	7.2	7.2	7.2	7.2	7.2	7.2	7.2
	SR-91 EB GP Lanes east of Serfas Club Road	11.0	11.0	11.0	13.4	13.5	13.6	13.6
	SR-91 EB Express Lanes east of Serfas Club Road	10.9	10.9	10.9	13.4	13.4	13.5	13.5
	SR-71 NB north of SR-91	13.4	13.4	13.4	15.7	15.8	15.9	15.9
SR-241 NB South of SR-91 (via Express Ramp)	SR-91 EB GP Lanes east of Serfas Club Road	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SR-91 EB Express Lanes east of Serfas Club Road	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SR-71 NB north of SR-91	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SR-71 SB north of SR-91	SR-91 WB GP Lanes west of Weir Canyon Road	43.0	54.1	55.9	10.2	10.2	10.1	9.9
	SR-91 WB Express Lanes west of Weir Canyon Road	42.9	54.0	55.8	10.2	10.2	10.0	9.9
	SR-91 EB GP Lanes east of Serfas Club Road	28.7	37.2	38.3	6.4	6.7	6.2	5.8
	SR-241 SB south of SR-91 (via GP Ramp)	45.3	56.4	58.3	12.6	12.7	12.5	12.3
	SR-241 SB south of SR-91 (via Express Ramp)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Source: *Traffic Analysis Report* (July 2015).

EB = eastbound
GP = general purpose
N/A = not applicable
NB = northbound
SB = southbound
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241
WB = westbound

In 2017, vehicle speeds on the *91 Express Lanes* would range from 65 to 70 mph throughout the Study Area in both the westbound and eastbound directions.

2040 Conditions (*Design Year*)

Travel times for the No Build Alternative in 2040 are shown in Table 3.5.16. In 2040, heavy peak hour flows would continue to occur in the westbound direction in the morning and in the eastbound direction in the evening within the traffic Study Area. In 2040, during the AM peak hours, vehicle speeds on the westbound SR-91 general purpose lanes would range from 15 to 33 mph between Serfas Club Drive/Auto Center Drive to the County Line. During the PM peak hours, eastbound speeds would range from 12 to 60 mph between west of Weir Canyon Road to the SR-241 merge. Between west of Weir Canyon Road to Gypsum Canyon Road, vehicle speeds would range from 12 to 24 mph. The speed increases east of Gypsum Canyon Road due to the additional general purpose lane added by the Ultimate SR-91 CIP.

In 2040, vehicle speeds on the *91 Express Lanes* would range from 65 to 70 mph throughout the Study Area in both the westbound and eastbound directions.

3.5.4 Avoidance, Minimization, and/or Mitigation Measures

The following measures would be implemented with the Build Alternative and would minimize impacts related to traffic and transportation. These include applicable, previously adopted measures from the ETC Final EIR and Final EIS.

Measure TR-1 **Transportation Management Plan.** Ensure that a Transportation Management Plan (TMP) is completed in consultation with the California Department of Transportation (Caltrans) and included in the Plans, Specifications, and Estimates for implementation by the contractor prior to and during construction of any project improvements. The TMP will be consistent with the Caltrans Transportation Management Plan Guidelines (November 2015), which include coordination with affected jurisdictions, transportation agencies, and public outreach. The TMP will be prepared by a qualified traffic engineer and will address traffic impacts from temporary detours and weekend or nighttime closures to reduce traveler delays and enhance traveler safety during project construction. The TMP may include the following elements:

Table 3.5.16 Design Year (2040) No Build Alternative Travel Times

Origin	Destination	AM Peak Period Travel Time (Minutes)			PM Peak Period Travel Time (Minutes)			
		6:00–7:00 AM	7:00–8:00 AM	8:00–9:00 AM	3:00–4:00 PM	4:00–5:00 PM	5:00–6:00 PM	6:00–7:00 PM
SR-91 EB GP Lanes west of Weir Canyon Road	SR-91 EB GP Lanes east of Serfas Club Road	9.7	12.6	13.7	19.8	20.3	20.9	20.5
	SR-91 EB Express Lanes east of Serfas Club Road	9.5	12.4	13.5	19.7	20.3	20.8	20.5
	SR-241 SB south of SR-91	7.9	10.7	12.0	14.7	14.7	14.6	14.3
	SR-71 NB north of SR-91	11.0	13.9	15.0	21.2	21.8	22.3	22.0
SR-91 EB Express Lanes west of Weir Canyon Road	SR-91 EB GP Lanes east of Serfas Club Road	8.7	8.7	8.6	8.8	9.2	9.7	9.9
	SR-91 EB Express Lanes east of Serfas Club Road	8.3	8.3	8.3	8.4	8.4	8.4	8.4
	SR-71 NB north of SR-91	10.0	10.0	9.9	10.2	10.6	11.2	11.4
SR-91 WB GP Lanes east of Serfas Club Road	SR-91 WB GP Lanes west of Weir Canyon Road	22.8	21.2	16.3	8.7	8.7	8.7	8.5
	SR-91 WB Express Lanes west of Weir Canyon Road	20.8	19.3	15.4	8.6	8.6	8.6	8.5
	SR-241 SB south of SR-91 (via GP Ramp)	23.2	21.8	17.8	11.0	11.1	11.0	10.9
	SR-241 SB south of SR-91 (via Express Ramp)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SR-71 NB north of SR-91	8.5	8.0	5.7	5.0	5.0	5.0	5.0
SR-91 WB Express Lanes east of Serfas Club Road	SR-91 WB GP Lanes west of Weir Canyon Road	15.0	14.5	13.2	8.6	8.7	8.6	8.5
	SR-91 WB Express Lanes west of Weir Canyon Road	8.4	8.4	8.4	8.4	8.4	8.4	8.3
	SR-241 SB south of SR-91 (via GP Ramp)	15.5	15.0	14.7	11.0	11.0	11.0	10.9
	SR-241 SB south of SR-91 (via Express Ramp)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SR-241 NB south of SR-91 (via GP Ramp)	SR-91 WB GP Lanes west of Weir Canyon Road	7.3	7.3	7.3	7.2	7.2	7.5	7.3
	SR-91 EB GP Lanes east of Serfas Club Road	11.1	11.1	11.1	11.2	11.6	12.7	12.6
	SR-91 EB Express Lanes east of Serfas Club Road	10.9	10.9	10.9	11.2	11.6	12.7	12.5
	SR-71 NB north of SR-91	12.4	12.4	12.4	12.6	13.1	14.2	14.0
SR-241 NB South of SR-91 (via Express Ramp)	SR-91 EB GP Lanes east of Serfas Club Road	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SR-91 EB Express Lanes east of Serfas Club Road	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SR-71 NB north of SR-91	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SR-71 SB north of SR-91	SR-91 WB GP Lanes west of Weir Canyon Road	39.6	56.0	59.3	10.0	10.1	10.0	9.8
	SR-91 WB Express Lanes west of Weir Canyon Road	37.6	54.2	58.4	9.9	10.0	9.9	9.8
	SR-91 EB GP Lanes east of Serfas Club Road	23.5	38.6	44.5	5.7	5.7	5.6	5.4
	SR-241 SB south of SR-91 (via GP Ramp)	40.1	56.6	60.9	12.4	12.5	12.4	12.2
	SR-241 SB south of SR-91 (via Express Ramp)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Source: *Traffic Analysis Report* (July 2015).

EB = eastbound NB = northbound SR-91 = State Route 91
GP = general purpose SB = southbound SR-241 = State Route 241
N/A = not applicable SR-71 = State Route 71 WB = westbound

- Public awareness campaign
- Highway advisory radio
- Portable changeable message signs
- Temporary loop sensor/signals
- Bus or shuttle service
- Construction Zone Enhanced Enforcement Program
- Incident management
- Staging construction
- Traffic control plan
- Freeway service patrol
- Transportation Management Team (TMT)

3.5.4.1 ETC Final EIR and Final EIS

Measure T-13 *During final design, the TCA shall establish ETC bridge structure clearances to provide an absolute minimum construction false work vertical clearance of 14.0 feet over existing and planned arterial undercrossing identified in the Orange County Master Plan of Arterial Highways.*

Measure C-15 *All traffic control measures shall conform with applicable local and State Regulations.*

3.6 Visual/Aesthetics

3.6.1 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 United States Code [USC] 4331[b][2]). To further emphasize this point, the Federal Highway Administration (FHWA) in its implementation of NEPA (23 USC 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" (CA Public Resources Code [PRC] Section 21001[b]).

3.6.2 Methodology

This section summarizes the methodology and terminology used to assess the visual impacts of the project alternatives. The visual impact analysis generally followed the methodology in the *Visual Impact Assessment for Highway Projects* (FHWA, January 1988). Six principal steps were carried out to assess the potential visual impacts of the Proposed Project and are listed below.

- Define the project location and setting.
- Analyze existing visual resources, changes to those resources, and viewer response.
- Depict or describe the visual appearance of project alternatives.
- Assess the visual impacts of project alternatives.
- Propose measures to offset visual impacts. The purpose of these measures is to avoid, minimize, and/or mitigate adverse visual impacts.

3.6.2.1 Visual Resources and Resource Change

Visual resources are defined and identified by assessing visual character and visual quality in the visual setting. Resource change is assessed by evaluating the visual character and the visual quality of the visual resources that comprise a study area before and after the construction of a project.

Visual Character

Resource change is assessed based on visual character and visual quality. Visual character is descriptive and non-evaluative, which means it is based on defined attributes that are neither good nor bad. A change in visual character cannot be described as having good or bad attributes until it is compared with the viewer response to that change.

Changes in visual character are identified by how visually compatible a proposed project would be with the existing conditions by using visual character attributes as indicators. The attributes considered for assessment of visual character are listed below.

- **Form:** Visual mass or shape
- **Line:** Edges or linear definition
- **Color:** Reflective brightness (light, dark) and hue (red, green)
- **Texture:** Surface coarseness
- **Dominance:** Position, size, or contrast
- **Scale:** Apparent size as it relates to the surroundings
- **Diversity:** A variety of visual patterns
- **Continuity:** Uninterrupted flow of form, line, color, or textural pattern

Visual Quality

Visual quality is evaluated by identifying the vividness, intactness, and unity present in the project corridor. Public attitudes validate the assessed level of quality and predict how changes to a study area can affect these attitudes. This process helps identify specific methods for addressing each visual effect that may occur as a result of the Proposed Project.

The degree of visual quality in a view was evaluated using the FHWA descriptive terms listed below.

- **Vividness:** Vividness is the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns (e.g., Niagara Falls is a highly vivid landscape component).
- **Intactness:** Intactness is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements. This factor can be present in well-kept urban and rural landscapes and natural settings (e.g., a two-lane road that meanders through the countryside).

- **Unity:** Unity is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the landscape (e.g., an English or Japanese garden).

3.6.2.2 Viewer Response

Viewer response is a measure or prediction of the viewer's reaction to changes in the visual environment and has two dimensions: viewer exposure and viewer sensitivity.

Viewer Exposure

Viewer exposure is a measure of the viewer's ability to see a project feature. Viewer exposure has three attributes: location, quantity, and duration. Location relates to the position of the viewer in relationship to a project feature. The closer the viewer is to a project feature, the more exposure. Quantity refers to how many people see a project feature. The more people who can see a project feature or the greater frequency a project feature is seen, the greater the exposure. Duration refers to how long a viewer is able to keep a project feature in view. The longer a project feature can be kept in view, the more the exposure. High viewer exposure helps predict that viewers would have a response to a visual change.

Viewer Sensitivity

Viewer sensitivity is a measure of the viewer's recognition of a project feature and has three attributes: activity, awareness, and local values. Activity relates to viewer preoccupation, i.e., is a viewer thinking of something else, or is the viewer engaged in observing his surroundings. The more a viewer observes his surroundings, the more sensitivity a viewer has to changes to visual resources. Awareness relates to the focus of the view; either the focus is wide and the view is general or the focus is narrow and the view is specific. The more specific the awareness, the more sensitive a viewer is to change. If a viewer value aesthetics, or if a specific visual resource has been protected by local, State, or national designation, it is likely that the viewer would be more sensitive to visible changes. High viewer sensitivity helps predict that a viewer would have a high concern for any visual change.

3.6.2.3 Visual Impact

Visual impacts are determined by assessing changes to the visual resources and predicting viewer response to those changes (Resource Change + Viewer Response = Visual Impact).

The levels of visual impact are:

- **Low:** Minor adverse change to the existing visual resource with low viewer response to a change in the visual environment.
- **Moderate Low:** Moderate adverse change to the existing visual resource with low viewer response to a change in the visual environment.
- **Moderate:** Moderate adverse change to the existing visual resource with moderate viewer response to a change in the visual environment.
- **Moderate High:** Moderate adverse change to the existing visual resource with high viewer response to a change in the visual environment or high adverse visual resource change with moderate viewer response to a change in the visual environment.
- **High:** Excessive adverse visual change to the existing visual resource or a high level of viewer response to a change in the visual environment such that architectural design and landscape treatment cannot mitigate the impacts.

3.6.3 Affected Environment

The information in this section is based on the *Visual Impact Assessment* (VIA; August 2015) and the *Visual Impact Assessment Clarification Memorandum* (June 2016) prepared for the Proposed Project.

3.6.3.1 Visual Setting

The Study Area for visual assessment purposes is the area of physical disturbance associated with the Proposed Project (Project Area) and the surrounding landscape. The existing visual setting includes several types of land uses and visual characteristics, including open space, recreational, residential, commercial, local roads, and freeways (SR-241 and SR-91). The Study Area includes the existing interchanges, overhead structures, retaining walls, embankments, and highway ramps associated with existing SR-241 and SR-91.

The general visual character of the Study Area is defined by the regional landscape, but the specific visual environment on which the visual assessment focused was determined by defining a view corridor within the Study Area. The View Corridor for the Proposed Project is defined as the area of land visible from, adjacent to, and outside the highway right-of-way, and is determined by topography, vegetation, and viewing distance. The View Corridor is characterized by residential uses, open space, hillsides, and the Santa Ana River.

The Study Area is in the Hill and Canyon Area in the east part of the City of Anaheim which is generally bounded by Orangethorpe Avenue/Esperanza Road to the north, Anaheim City limits to the east and south, and State Route 55 (SR-55) to the west. The Hill and Canyon Area consists of vast open space, and is adjacent to Chino Hills State Park, the Cleveland National Forest, and the Santa Ana River. Natural slopes, hillsides, and ridgelines create a scenic viewshed for motorists traveling along local roads, including SR-241 and SR-91, and residents of the Hill and Canyon Area.

Substantial elevation variation exists along SR-241 from the Windy Ridge Wildlife Crossing north to SR-91.

According to the Caltrans Scenic Highway Program, SR-91 is officially designated as a Scenic Highway west of SR-55. SR-91 from west of SR-241 to east of Interstate 15 (I-15) is an eligible State Scenic Highway. South Weir Canyon Road, approximately 0.58-mile (mi) west of the project View Corridor, is designated as a Scenic Expressway in the City of Anaheim General Plan (2004). However, the Project Area is not visible from that Scenic Expressway.

The Hill and Canyon Area in the City of Anaheim is an area of aesthetic value to Anaheim residents. The City of Anaheim General Plan has specific provisions to protect visual resources in general and in this area, including the following Goals and Policies:

Guiding Policies: Circulation

- **Goal 4.1:** Preserve and enhance uniquely scenic or special visual resource areas along highways and designated State scenic routes for enjoyment of all travelers.
  - Policies:
    - Continue to work with Caltrans in its implementation of the State Scenic Highway Program. Ensure the preservation and enhancement of scenic routes through special highway design and building regulation.
    - Consider the unique natural features of the Hill and Canyon Area when arterial streets and highways are improved or constructed.

Guiding Policies: Green Element

- **Goal 2.1:** Preserve views of ridgelines, natural open space, and other scenic vistas wherever possible.

- Policies:
  - Encourage development that preserves natural contours and views of existing backdrop ridgelines or prominent views.

Guiding Policies: Hill and Canyon Area

- **Goal 21.1:** Preserve Hill and Canyon Area's sensitive hillside environment and the community's unique identity.
  - Policies:
    - Work with Caltrans to achieve enhanced landscaping with the Riverside (SR-91) Freeway right-of-way to enhance the image of the area as viewed from the freeway.

Additionally, the City of Yorba Linda General Plan (1993) has the following goals and policies that apply to scenic views, vistas, corridors, and open space that apply to the Proposed Project:

Guiding Policies: Land Use

- **Goal 9:** Preservation and enhancement of the natural setting of the City.
  - **Policy 9.1:** Preserve sensitive open space areas within the City.
  - **Policy 9.2:** Protect the scenic and visual qualities of the hillside areas and ridgelines.
  - **Policy 9.3:** Ensure that land uses within designated and proposed scenic corridors are compatible with scenic enhancement and preservation.

Finally, the City of Corona General Plan (2004) provides guiding goals and policies regarding the conservation of significant hillsides, valley lands, floodplains, and other aesthetic view corridors, or viewsheds, within the City. The City of Corona General Plan acknowledges SR-91, from the I-15 interchange to the SR-55 interchange, as a State-eligible scenic corridor. In addition, the following goals and policies from the City of Corona General Plan apply to the Proposed Project:

Guiding Policies: Environmental Resources-Visual Resources

- Policy 10.22.4: Require that projects be designed and sited to maintain the natural topographic, physiographic, and aesthetic viewshed characteristics of those features, utilizing the following conditions:
  - Minimize the area and height of cuts and fills, to the extent technically achievable, ensuring that slope tops and bottoms are rounded and facilitate a smooth and seamless transition where natural and built slopes intersect.

- Minimize the height of retaining walls and design with smooth flowing forms that follow topography and with material colors and textures that blend in with the surrounding landscape.
- Plant hillside and canyon slopes with drought-tolerant species to soften the visual impact of land grading retaining walls, structures, and roads.
  - Goal 10.23: Maintain, establish, develop, and protection of the City's highways and corridors for scenic purposes.
  - Policy 10.23.2: Regulate new development through provisions that require an analysis of development on the quality of the City's designated highways and corridors.

3.6.3.2 Visual Quality and Character

In the View Corridor, there is consistent form and color patterns and similar views of open space, hills, ridgelines, valleys, canyons, and peaks associated with Chino Hills State Park, the Cleveland National Forest, the Santa Ana Mountains, and the Santa Ana River in the View Corridor. Textural elements in the View Corridor include mature vegetation, rock outcroppings, and open space areas that create a sense of unity for viewers.

3.6.3.3 Viewer Response

The visual experiences of residents in the areas surrounding the project segments of SR-241 and SR-91 with views to SR-241 and SR-91 and motorists along SR-241 and SR-91 with views from those roads could potentially be affected by the Proposed Project. Because the View Corridor includes scenic roads and is in the Hill and Canyon Area in the City of Anaheim, it is considered to be of aesthetic value to residents and motorists in the area.

3.6.3.4 Viewer Sensitivity

The View Corridor is considered to have moderate-high viewer sensitivity based on goals and policies in the City of Anaheim General Plan focusing on protecting the Hill and Canyon Area where the Proposed Project improvements would be located. Additionally, the segment of SR-91 east of the SR-241/SR-91 interchange is an eligible State Scenic Highway under the Caltrans Scenic Highway Program.

Therefore, the View Corridor contains visual resources of aesthetic value with moderate-high viewer sensitivity.

3.6.3.5 Viewer Exposure

Motorists

SR-241 and SR-91 (within the Project Area) are not currently designated State Scenic Highways. SR-91 is eligible to become a designated State Scenic Highway from east of Weir Canyon Road to I-15, based on views of the surrounding unique landscape (i.e., hillsides, ridgelines, valleys, and canyons associated with the Santa Ana Mountains, Chino Hills State Park, the Cleveland National Forest, and the Santa Ana River), lack of visual intrusions to visual resources, strong local support for listing, and appropriate length. The View Corridor has views of scenic resources, including the surrounding hills and ridgelines of the Santa Ana Mountains and Chino Hills State Park, the Santa Ana River, and other open space areas. As such, motorists are anticipated to have a moderate-high viewer sensitivity in the View Corridor.

Motorists in the View Corridor also currently experience views of bridge connector structures, freeway infrastructure, retaining and sound walls, and graded slopes. In addition, traffic congestion during peak hours is substantial. As a result, motorists have a moderate-low visual awareness of the View Corridor.

Community Residents

There are existing residential uses within 0.5 mi of the Project Area. West of the Project Area, residents would not have views of the express lane connectors due to topographical elevations. The bridge structures would not be visible from the Canyon RV Park due to obstruction of views from that area by existing vegetation. Residents of Yorba Linda north of the project site experience long-duration views, and therefore, have high viewer awareness of the Proposed Project features.

3.6.4 Environmental Consequences

3.6.4.1 Temporary Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Short-term visual impacts would occur during construction of the Build Alternative. Construction of the Build Alternative would expose sensitive viewers including motorists and residents to views of cleared vegetation, graded slopes, construction vehicles, equipment, and other materials. Construction activities would be temporary, and the visual impacts related to views of the construction activities would cease after completion of construction; therefore, no substantial impacts would occur.

During periodic nighttime construction, safety/security lighting would be used in accordance with California Division of Occupational Safety and Health (Cal/OSHA) standards. Nighttime construction is estimated to periodically occur during some stages of the approximately 18-month construction period; this would be a temporary condition, and would cease when construction is completed.

No Build Alternative

The No Build Alternative would maintain the existing configuration of the SR-241/ SR-91 interchange, and an express lanes connector would not be constructed. No other roadway improvements are planned on SR-241 and SR-91 and in the project View Corridor. Therefore, there would be no construction-related visual impacts under the No Build Alternative because no roadway improvements would be made.

3.6.4.2 Permanent Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

The Build Alternative would result in long-term visual impacts as a result of permanent alteration of the existing visual environment at the SR-241/SR-91 interchange. Alterations to existing roads (widening of SR-241/SR-91 and existing roadway undercrossing), grading, and the implementation of four new retaining walls, piers/supports, and buffers would also occur. Two large bridges for the connector would be added within the existing SR-241/SR-91 interchange, standing approximately 60 feet high, consistent with the existing general purpose lane bridges that connect the two freeways. New light standards would be included on the bridges, adding to night-sky impacts. Numerous signage additions would add to visual clutter along the two freeways. The added impervious area (concrete/asphalt) would be approximately 20 acres, and the disturbed soil area would be approximately 44 acres. Visual character would become more urbanized within a freeway landscape that is surrounded by parkland, wildlife preserves, residences, and the Santa Ana River.

Resource Change

The new bridge connectors would be constructed of similar massing profile and architectural treatments as the existing SR-241/SR-91 connectors and three of the four retaining walls would be constructed in the median. One retaining wall would be constructed adjacent to eastbound SR-91, approximately 3,000 ft west of the Coal Canyon Undercrossing and would be approximately 1,350 ft long and up to 28 ft high. Only the top 3 ft of the retaining wall cap would be visible from SR-91 due to the grade difference. Two walls would be constructed in the median of SR-91 to

support the connector as it transitions to an elevated structure. These walls would be approximately 1,350 ft long and up to 15 ft high, but views of those walls would be blocked by the existing structures associated with the SR-241/SR-91 interchange. The last wall would be constructed in the median of SR-241 to support the road widening and would not be visible from the road. This wall would be approximately 2,250 ft long and up to 15 ft high. The features of the Build Alternative would result in similar encroaching features in the View Corridor as the existing freeways and their associated structures. The proposed bridge connector would be constructed of similar mass, profile, paving, and other construction materials to the existing general purpose lane connectors in the Project Area. Further, the proposed wall features would be similar to those currently experienced on the site and in the Project Area.

Native vegetation and trees are visual resources and will be removed or disturbed by grading, including coastal sage scrub (approximately 45 acres, of which approximately 14 acres would be permanently converted to roadway features). As discussed in Section 3.15, up to eight coast live oak trees, 15 sycamore trees, and three California Black Walnut trees would be temporarily impacted by trimming and dust, which would not affect their long-term viability. Six oak trees would be permanently impacted. Disturbed vegetation would be revegetated with native species, and trees would be replaced at a minimum 2:1 ratio. All of the impacted trees are in the median of the SR-241/SR-91 interchange. Views of the existing trees and coastal sage scrub in the median of the SR-241/SR-91 interchange are somewhat obscured by the existing structures and support pilings.

The views of surrounding areas including the Cleveland National Forest, Chino Hills State Park, the Santa Ana Mountains, and the Santa Ana River would be similar to existing conditions, and would not be obstructed by the Build Alternative.

Figure 3.6.1 shows the location of the proposed express lanes connector within the existing SR-241/SR-91 interchange. The proposed median-to-median connector would appear similar to the existing general purpose lanes connectors at the SR-241/ SR-91 interchange. The new bridge structure would be of similar profile as the existing structures and would be positioned within Caltrans right-of-way between the existing SR-241/SR-91 northbound-to-southbound connectors.



LEGEND

- New Structure

FIGURE 3.6.1

N

SOURCE: Michael Baker International (June 2015)

SR-241/SR-91 Express Lane Connector

Aerial View of Proposed Express Lanes Connector Structure

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Figure 3.6.2 shows a view of the existing interchange and segments of SR-241 and SR-91, as well as the location of the proposed express lanes connector from a viewpoint north of the interchange. As shown, the express lane connector would be visible from that viewpoint.

The limited existing lighting in the Project Area includes signalized intersections, street lighting, pedestrian lighting, and vehicle headlights. The Build Alternative would include permanent safety and security lighting fixtures that would be hooded where feasible, and the lighting would be directed on site to minimize potential intrusion of light and glare onto nearby land uses. The lighting would be designed consistent with the existing lighting along SR-241 and SR-91.

The visual impacts associated with the Proposed Project would be consistent with the goals and policies identified in the City of Anaheim General Plan, the City of Corona General Plan, and the City of Yorba Linda General Plan related to scenic viewsheds, and views of hillsides, open space, and ridgelines, and areas along designated and eligible State Scenic Highways. In summary, the visual character/quality of the views experienced within the View Corridor would not be substantially reduced as a result of the Build Alternative. Visual character would be moderate-low, and visual quality would be moderate-low. As such, visual resource impacts would be moderate-low.

Viewer Response

Motorists traveling on SR-91 would experience views of the express lane bridge connectors and retaining walls, but views of open space and other visual resources in the vicinity of the SR-241/SR-91 interchange would not be obstructed. Therefore, motorists in the View Corridor are anticipated to have a moderate-low visual response to the Build Alternative.

Residents with views of the Project Area would experience permanent views of the proposed express lanes connector. However, the existing views of hillsides, ridgelines, and open space for residential viewers would not be obstructed as a result of the Build Alternative. Therefore, the anticipated community resident viewer response for the Proposed Project is moderate-low.

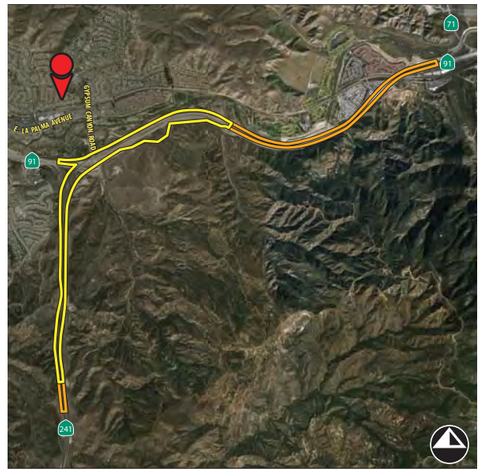
Visual Impact

Visual impacts of a project alternative are based on the combination of the resource change and viewer response. Based on the discussion above, the visual impacts as a result of the Build Alternative would be moderate-low and, therefore, no substantial impacts would occur.

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Index Map

Project Boundary
New Advanced Signage Areas
Direction of Photo, Photo Location

For comparative purposes, site photographs are utilized to demonstrate the general character at different points of the project area. This simulation is subject to change and is intended to provide the reader with information on the form, size, and scale of the proposed improvements in the project area.

FIGURE 3.6.2

SR-241/SR-91 Express Lanes Connector

Long-Duration View of Proposed Express Lanes Connector Structure

SOURCE: Michael Baker International (June 2015)

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No Build Alternative

The No Build Alternative would maintain the current configuration of SR-241, SR-91, and the SR-241/SR-91 interchange. Under the No Build Alternative, there would be no construction-related visual impacts because no roadway improvements would be implemented, and there would be no change to the existing freeway facilities. Therefore, there would be no permanent visual impacts in the vicinity of the SR-241/SR-91 interchange under the No Build Alternative.

3.6.5 Avoidance, Minimization, and/or Mitigation Measures

The measures below will be implemented to avoid and minimize permanent impacts to visual resources. These include applicable, previously adopted measures from the ETC Final EIR and Final EIS.

Measure V-1 **Lighting Fixtures.** In conjunction with final design, proposed lighting fixtures shall be hooded where feasible and lighting shall be directed on the site to minimize potential intrusion of light and glare onto nearby land uses. Lighting shall be designed consistent with the existing lighting along the State Route 241 corridor.

Measure V-2 **Hillsides.** To avoid visual impacts resulting from cut hillsides and filled topography, hills should be preserved where possible. All disturbed areas associated with cut-and-fill activities should appear similar in color to existing topography. Manufactured fill slopes should not exceed a four-to-one ratio. Manufactured cut slopes should not exceed a two-to-one ratio. Rounding of manufactured slopes should be applied.

Measure V-3 **Architectural Treatments.** To maintain consistency with the existing infrastructure (i.e., bridges and walls, etc.) in the Project Area, landscape and/or architectural treatments (i.e., color, texture, etc.) for the structure elements of the Proposed Project shall be determined in consultation with the District Landscape Architect during the Final Design process.

Measure V-4 **Landscaping.** To maintain the context of the Project Area (color, form, and texture) the Proposed Project shall install landscaping that is compatible with the existing landscape along the freeway. The landscape concept and plant palette

shall be determined in consultation with the District Landscape Architect during the Final Design process. Erosion control plant species utilized shall be determined by the District Landscape Architect to ensure that the mix and application strategy is appropriate for the specific soil composition of the area. Drought-tolerant native species shall be used adjacent to areas of native habitat. Enhanced plantings shall occur adjacent to wildlife crossings.

Measure V-5 **Construction Lighting.** For all nighttime construction activities, necessary lighting for safety and construction purposes shall be contained and directed toward the specific area of construction.

Measure V-6 **Context-sensitive Solutions.** Context-sensitive solutions will be used. Slopes graded for the Build Alternative will be contoured consistent with the existing topography, and all disturbed soil areas will be seeded with drought-tolerant native plant species consistent with existing vegetation.

Measure V-7 **Tree Planting.** Permanently impacted Coast live oak, California walnut, and sycamore trees will be replaced at a minimum 2:1 ratio. Heritage oaks (oaks greater than 36 inches in diameter at breast height) will be replaced at a minimum 3:1 ratio.

3.6.5.1 ETC Final EIR and Final EIS

Measure C-19 *Where appropriate and feasible, construction staging areas shall be located inconspicuously to minimize adverse visual effects on residential and recreation areas. They shall be located to avoid any additional impacts on biological, historical or cultural resources. (Construction Staging, North and East Legs)*

3.7 Cultural Resources

3.7.1 Regulatory Setting

The term "cultural resources" as used in this document, refers to the "built environment" (e.g., structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological resources, or sites (both prehistoric and historic), regardless of significance. Under federal and state laws, cultural resources that meet certain criteria of significance are referred to by various terms including "historic properties," "historic sites," "historical resources," and "tribal cultural resources." Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act (NHPA) of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects, included in or eligible for listing in the National Register of Historic Places (NRHP). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation (ACHP) the opportunity to comment on those undertakings, following regulations issued by the ACHP (36 Code of Federal Regulations [CFR] 800). On January 1, 2014, the First Amended Section 106 Programmatic Agreement (PA) among the Federal Highway Administration (FHWA), the ACHP, the California State Historic Preservation Officer (SHPO), and the California Department of Transportation (Caltrans) went into effect for Caltrans projects, both state and local, with FHWA involvement. The PA implements the ACHP's regulations, 36 CFR 800, streamlining the Section 106 process and delegates certain responsibilities to Caltrans. The FHWA's responsibilities under the PA have been assigned to Caltrans as part of the Surface Transportation Project Delivery Program (23 United States Code [USC] 327).

Historic properties may also be covered under Section 4(f) of the U.S. Department of Transportation Act, which regulates the "use" of land on which historic properties exist (in Section 4(f) terminology—significant historic sites). See Appendix B, the Section 4(f) Evaluation, for specific information about Section 4(f).

The California Environmental Quality Act (CEQA) requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as "unique" archaeological resources. California Public Resources Code (PRC) Section 5024.1 established the California Register of Historical Resources (CRHR) and

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

PRC Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the NRHP listing criteria. It further requires Caltrans to inventory state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the NRHP or are registered or eligible for registration as California Historical Landmarks. Procedures for compliance with PRC Section 5024 are outlined in a Memorandum of Understanding (MOU) between Caltrans and SHPO, effective January 1, 2015. For most Federal-aid projects on the State Highway System, compliance with the Section 106 PA will satisfy the requirements of PRC Section 5024.

3.7.2 Affected Environment

This section is based on the *Supplemental Historic Property Survey Report* (September 2015) prepared for the Proposed Project which includes the *First Supplemental Archaeological Survey Report* (September 2015).

The Area of Potential Effects (APE) for the Proposed Project was established as being the maximum area of disturbance and is mostly within existing Caltrans right-of-way, with the exception of a 5-acre (ac) area south of SR-91 in the Irvine Ranch National Natural Landmark (NNL). The APE includes construction staging and access areas, retaining wall locations, drainage and bridge structures, and advance signage areas. The vertical APE is expected to extend to 70 feet (ft) below grade for bridge piles and 30 ft below grade around the bridge piles. The majority of the APE has previously been disturbed by construction of SR-241 and SR-91, and ongoing

maintenance of those roads. Areas in the NNL have been previously disturbed by ranching activities. However, the depth of the proposed excavations will exceed the depth of the current disturbance in some areas.

The APE for the ETC Final EIR and Final EIS overlaps much of the APE for the Proposed Project. However, the end point of the ETC APE was not clearly identified. At approximately 3,600 ft west of Coal Canyon, the ETC APE map states that its APE continues along SR-91 within Caltrans right-of-way.

3.7.2.1 Records Search

On May 5, 2011, a records search was conducted at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System (CHRIS) at California State University, Fullerton. The records search included review of all recorded historic and prehistoric archaeological sites for the part of the APE in the County of Orange and an area extending 0.25 mile (mi) from the boundary of the APE. It also included review of known cultural resource survey and excavation reports for the same area. A records search was conducted for the part of the APE in the County of Riverside at the Eastern Information Center (EIC), at the University of California, Riverside, on February 21 and 22, 2008. In addition, the following inventories were examined:

- National Register of Historic Places (National Register)
- California Register of Historical Resources (California Register)
- California Inventory of Historic Resources
- California Historical Landmarks
- California Points of Historical Interest
- Caltrans Historic Highway Bridge Inventory

3.7.2.2 Field Survey

On May 17, 2011, a windshield and pedestrian survey of the APE (which at that time did not include the approximately 5 ac area in the NNL) was conducted. That survey only included areas not previously surveyed in June 2008 for the *91 Express Lanes Extension and State Route 241 Connector Feasibility Study*. That APE was completely within Caltrans right of way. The area in the APE was previously disturbed by the construction of the SR-241 and SR-91, and ongoing maintenance of those roads. No cultural resources were identified during the windshield and pedestrian survey of that APE.

A second survey was conducted on March 17, 2015. That survey was a pedestrian survey of the approximately 5 ac area in the NNL, which was not surveyed during the May 17, 2011, survey. That survey area included the drainage and ridge terrace within the northernmost part of the NNL. That 5 ac area was added to the Project Disturbance Limits to accommodate an access road. The survey was conducted using transects spaced 7–10 meters apart. No cultural resources were observed in that part of the APE in the 2015 pedestrian survey.

3.7.2.3 Native American Consultation

On April 6, 2011, a letter was sent to the Native American Heritage Commission (NAHC) requesting a search of the Sacred Lands File (SLF) in order to identify areas of religious or cultural significance to Native Americans in or near the APE. The NAHC responded on April 12, 2011, to say that the SLF search did not identify any Native American cultural resources within a 0.5 mi radius of the APE; however, cultural resources were recorded in proximity to the APE. The NAHC recommended contacting 11 Native American tribes/groups/individuals that may have additional information. A letter dated May 10, 2011, discussing the Proposed Project and requesting information on Native American heritage resources in the area that may be significant to their communities was sent via certified mail to the following:

- Ti'At Society/Inter-Tribal Council of Pimu: Cindi Alvitre, Chairwoman-Manisar
- Gabrielino Tongva Nation: Sam Dunlap, Chairperson
- Juaneño Band of Mission Indians Acjachemen Nation: David Belardes, Chairperson
- Juaneño Band of Mission Indians Acjachemen Nation: Anthony Rivera, Chairman
- Tongva Ancestral Territorial Tribal Nation: John Tommy Rosas, Tribal Administrator
- Gabrielino Tongva Indians of California Tribal Council: Robert Dorame, Tribal Chair/Cultural Resources
- Gabrieleno/Tongva San Gabriel Band of Mission Indians: Anthony Morales, Chairperson
- Juaneño Band of Mission Indians: Alfred Cruz, Cultural Resources Coordinator
- Gabrielino-Tongva Tribe: Bernie Acuna, Tribal Chairman
- Juaneño Band of Mission Indians Acjachemen Nation: Joyce Perry, Representing Tribal Chairperson
- Gabrielino-Tongva Tribe, Linda Candelaria, Chairwoman

The responses to the May 10, 2011, letter from, and consultation with, the Native American representatives are discussed in more detail in Chapter 5.0, Comments and Coordination, in this Supplemental EIR/EIS.

Anthony Morales, Gabrielino/Tongva San Gabriel Band of Mission Indians, stated that he knows there are cultural resources around the base of the foothills, and hopes the Proposed Project proponents will be vigilant. Mr. Morales also stated he is aware that the Project Area is disturbed by previous freeway construction; however, he recommends monitoring by an archaeologist and a Native American when construction activities associated with the Proposed Project are in deeply buried intact native soil (i.e., when digging for the support structures) because there is the potential to encounter buried cultural resources. No initial responses were received from the other 10 parties contacted.

Two rounds of follow-up communications were attempted by email and/or telephone between May 31 and June 7, 2011. As a result of the follow-up communications, Robert Dorame, Gabrielino Tongva Indians of California Tribal Council, stated that he would like to be notified of any cultural resources discoveries. Alfred Cruz, Juaneño Band of Mission Indians, stated that he believes the Project Area to be sensitive for cultural resources given its proximity to the Santa Ana River. Mr. Cruz also stated that his people inhabited the area for over 9,000 years and SR-91 runs along what were once ancient travel and trading routes, and that there is no way to know the extent of what is located there. Mr. Cruz recommended monitoring by a Native American and an archaeologist when construction activities associated with the Proposed Project are in undisturbed native soil. Sam Dunlap, Gabrielino Tongva Nation, stated that if there is no potential for cultural resources to be impacted because construction will occur in previously disturbed soil, then he has no concerns. In February 2015, Mr. Dunlap was sent an email clarifying that the proposed depth of excavation may exceed current disturbance limits in some areas, and asking whether he would like to comment further. No further responses were received from any of the other Native Americans contacted.

There are no tribal cultural resources in the APE. Therefore, the Proposed Project would not result in impacts to this type of resource. AB 52 (Chapter 532, Statues of 2014) established a formal consultation process for California tribes as part of the CEQA process. However, Section 11(c) states, “This act shall apply only to a project that has a notice of preparation or a notice of negative declaration or mitigated negative declaration filed on or after July 1, 2015.” The Notice of Preparation for the

Proposed Project was filed on March 13, 2015; therefore, AB 52 does not apply to the Proposed Project.

3.7.2.4 Cultural Resources within the Area of Potential Effects

The records search at the SCCIC showed that no historic resources are recorded in the APE or within 0.25 mi of the APE. The records search revealed that a total of 24 previous studies have been conducted within 0.25 mi of the APE. Thirteen previously conducted studies were within the APE. Four other studies were in areas on the *Black Star Canyon, California,* and the *Prado Dam, California*, 7.5-minute United States Geological Survey (USGS) quadrangle maps that could potentially be within 0.25 mi of the APE. However, those previous reports were not mapped due to insufficient data.

The records search at the EIC indicated that one historic archaeological resource, 33-10819/CA-RIV-6532H (the Green River Camp/Alta Vista site), extends into the APE. That site was determined not eligible for listing in the National Register and on March 8, 2001, the SHPO concurred with that finding. The part of that site recorded within the APE was completely destroyed by construction of SR-91.

The records search at the SCCIC indicated that one archaeological site (CA-ORA-303/30-000303) was previously recorded in the APE. However, the 2008 archaeological field survey for the *91 Express Lanes Extension and State Route 241 Connector Feasibility Study* revealed that this site was destroyed by construction of SR-241.

The APE within existing Caltrans right-of-way is completely disturbed to depth by the construction and maintenance of SR-241 and SR-91. The part of the APE that is on the NNL property has been disturbed by ranching and grazing activities, and the survey in this area was negative. Therefore, the likelihood of encountering intact buried archaeological resources is low, and the APE does not appear sensitive for cultural resources.

There are five State agency bridges in the APE: 55 0790G (N241/W91 Connector OC), 55 0791G (N241/E91 Connector OC), 55 0793G (E91-S241 Connector), 55 0794F (W91-S241/91 Connector Separation), and 55 0941F (W91-S241/N241-W91 Separation). All of these bridges were constructed in 1998 as part of the construction of SR-241. These bridges are listed on the Caltrans Historic Highway Bridge Inventory (June 2011) as Category 5 Bridges and are not eligible for the National Register.

3.7.2.5 Previously Unrecorded Cultural Materials and Human Remains

If previously unrecorded or buried cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find. This requirement is provided in Section 3.7.4

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to California PRC Section 5097.98, if the remains are thought to be Native American, the Coroner will notify the NAHC, which will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact the Caltrans District 12 Environmental Branch Chief so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable. This requirement is provided in Section 3.7.4.

3.7.3 Environmental Consequences

3.7.3.1 Temporary Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Any impacts to buried cultural resources as a result of the Build Alternative would be considered permanent; therefore, an analysis of temporary impacts is not applicable.

No Build Alternative

Impacts to buried cultural resources are considered permanent impacts; furthermore, the No Build Alternative does not propose any construction or other disturbance in the Project Area. No temporary impacts would occur.

3.7.3.2 Permanent Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Based on the findings reported in the *Supplemental Historic Property Survey Report*, there are no Section 106 Historic Properties or CEQA Historical Resources within the APE for the Proposed Project.

As described earlier, the records search at the SCCIC showed there was one previously recorded site (CA-ORA-303/30-000303) in the APE. However, the 2008 archaeological field survey for the *91 Express Lanes Extension and State Route 241 Connector Feasibility Study* revealed that this site was destroyed during construction

of SR-241. As a result, the Proposed Project will not result in impacts related to this site.

The 2008 records search at the EIC indicated that one historic archaeological resource, 33-10819/CA-RIV-6532H (the Green River Camp/Alta Vista site), previously extended into the APE. The part of the site recorded in the APE was destroyed during construction of SR-91. The site was determined not eligible for listing in the National Register and on March 8, 2001, SHPO concurred with that finding. This part of the APE for the Proposed Project consists of an advance signage area, and there will be no ground disturbance in that area as part of the Proposed Project. As a result, the Proposed Project will not result in impacts on this site.

There are no properties requiring evaluation in the APE. Therefore, Caltrans determined that, pursuant to Stipulation IX.A of the Section 106 PA, a finding of No Historic Properties Affected is appropriate for this undertaking. Caltrans also determined that a Finding of No Impact is appropriate pursuant to CEQA Guidelines Section 15064.5(b)(3) because there are no historical resources within the Project Area.

There are no National Register listed or eligible cultural properties in the APE that would trigger the requirements for protection under Section 4(f).

Although considered unlikely, there is the potential to encounter unknown buried cultural materials or human remains during construction of the Proposed Project. In the event that previously unknown buried cultural materials or human remains are encountered during construction, those materials and remains would be handled as described earlier in Section 3.7.2.5, Previously Unrecorded Cultural Materials and Human Remains, which would avoid and/or minimize potential impacts to previously unknown cultural resources or human remains.

No Build Alternative

The No Build Alternative does not include any improvements to SR-241 or SR-91 in the Project Area. The No Build Alternative would not result in ground disturbance or excavation. Therefore, the No Build Alternative would not impact any cultural resources.

3.7.4 Avoidance, Minimization, and/or Mitigation Measures

The measures listed below are required and will be incorporated during construction of the Build Alternative to avoid and/or minimize permanent impacts to cultural resources.

Measure CR-1 **Cultural Materials.** If cultural materials are discovered during construction, all earthmoving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find. At that time, the Caltrans District 12 Environmental Branch Chief will be contacted to ensure that Section 106 compliance is maintained. Section 106 compliance could include: excavation in accordance with a data recovery plan and standard archaeological field methods and procedures; laboratory and technical analyses; report of findings; curation at an appropriate facility for future research and/or display; an interpretive display at a local school, museum, or library; and public lectures at local schools and/or historical societies on the findings and significance of the site and recovered archaeological materials.

Measure CR-2 **Human Remains.** If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities will cease in any area or nearby area suspected to overlie remains, and the County Coroner will be contacted. Pursuant to Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the Coroner will notify the Native American Heritage Commission (NAHC), who will designate the Most Likely Descendant (MLD). At this time, the Caltrans District 12 Environmental Branch Chief will be contacted so that they may work with the MLD on the respectful treatment and disposition of the remains. The MLD recommendations may include scientific removal and nondestructive analysis, preservation in place, relinquishment to the descendants for treatment, or any other culturally appropriate treatment. Further provisions of PRC 5097.98 will be followed as applicable.

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PHYSICAL ENVIRONMENT

3.8 Water Quality and Storm Water Runoff

3.8.1 Regulatory Setting

3.8.1.1 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 unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections:

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCB) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

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

The USACE issues two types of 404 permits: General and Standard permits. There are two types of General permits: Regional permits and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature

and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the USACE's Standard permits. There are two types of Standard permits: Individual permits and Letters of Permission. For Standard permits, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency's (U.S. EPA) Section 404 (b)(1) Guidelines (U.S. EPA Code of Federal Regulations [CFR] 40 Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE 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 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 USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in the Wetlands and Other Waters section.

3.8.1.2 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 CWA and regulates discharges to waters of the state. Waters of the state include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined, and this definition is broader than the CWA 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 CWA.

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA 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 RWQCB Basin Plan. In California, Regional Boards designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect these uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with CWA 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 (NPDES permits or WDRs), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

3.8.1.3 State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWCQBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

- National Pollution Discharge Elimination System (NPDES) Program

Municipal Separate Storm Sewer Systems (MS4)

Section 402(p) of the CWA requires the issuance of NPDES 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 SWRCB has identified the Department as an owner/operator of an MS4 under federal regulations. The Department's MS4 permit covers all Department rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for

five years, and permit requirements remain active until a new permit has been adopted.

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

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

Construction General Permit

Construction General Permit (Order No. 2009-0009-DWQ), adopted on September 2, 2009, became effective on July 1, 2010. The permit regulates storm water discharges from construction sites that result in a Disturbed Soil Area (DSA) 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 RWQCB. Operators of regulated construction sites are required to develop storm water pollution prevention plans; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

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

Section 401 Permitting

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the U.S. must obtain a 401 Certification, which certifies that the project will be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are CWA Section 404 permits issued by the USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before the USACE issues a 404 permit.

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

3.8.1.4 Regional and Local Requirements

General Waste Discharge Requirements for De Minimus Discharges

On June 19, 2015, the Santa Ana RWQCB adopted the General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (De Minimus) Threat to Water Quality (Order No. R8-2015–0004, NPDES No. CAG998001). This permit covers discharge of groundwater and non-storm water construction dewatering waste in the Santa Ana Region. Under this permit, discharges must comply with discharge specifications, receiving water limitations, and monitoring and reporting requirements detailed in the permit.

3.8.2 Affected Environment

This section is based on the *Water Quality Assessment Report* (WQAR) (August 2015) prepared for the Proposed Project.

The Project Area lies within the northeastern portion of the City of Anaheim and the southeastern portion of the City of Yorba Linda in the County of Orange, within the Santa Ana River Watershed. The Project Area is depicted on Figure 2.1 in Chapter 2, Project Alternatives.

3.8.2.1 Regional Hydrology

The Project Area is in the Santa Ana Region, which covers approximately 2,800 square miles in southern California. The Santa Ana River Basin makes up most of the Santa Ana Region. The Santa Ana Region is too large and complex to be managed as a single watershed. Therefore, for the purpose of watershed planning, the Santa Ana Region has been divided into 10 Watershed Management Areas (WMA). The Project Area is in the Lower Santa Ana River WMA, which extends from the Prado Dam to the Pacific Coast but excludes the Newport Bay Watershed and the Anaheim Bay, Huntington Harbor, and Bolsa Chica WMAs. The cities in the Lower Santa Ana River WMA include all or portions of Yorba Linda and Anaheim Hills, Orange, Villa Park, Anaheim, Garden Grove, Santa Ana, Fountain Valley, Huntington Beach, and Costa Mesa. The Santa Ana River is in the Santa Ana Region and is a major drainage route for southern California; the river originates in the San Bernardino Mountains and extends southwest into the Pacific Ocean in the vicinity of Newport Beach.

For regulatory purposes, the Santa Ana RWQCB designates watershed areas in Hydrologic Units (HU), which are further divided into Hydrological Areas (HAs) and Hydrologic Subareas (HSAs). As designated by the Santa Ana RWQCB, the Project

Area is in the Santa Ana River HU, the Lower Santa Ana River HA, the Santa Ana Narrows HSA, and the Santiago HSA.

3.8.2.2 Local Hydrology

Storm water runoff from the Project Area is discharged directly into the Santa Ana River, Reach 2, and, ultimately, the Pacific Ocean.

Using the Orange County Master Plan of Arterial Highways (OC MPAH), Orange County Public Works applies the Commercial Development Land Use for all areas shown to be within State right-of-way when calculating the existing and planned runoff rates for Regional Flood Control Facilities. Orange County Public Works *Orange County Hydrology Manual* (1986) recommends a value of 90 percent impervious for the entire area within the State right-of-way. Because the Proposed Project is a component of the OC MPAH, the changes to the regional hydrology as a result of the proposed improvements are already tabled for the Santa Ana River.

3.8.2.3 Surface Waters

SR-91 is parallel to the Santa Ana River. Drainage from the Project Area flows to the Santa Ana River, Reach 2, and the Pacific Ocean. In addition, Coal Creek and Gypsum Creek are located east of the Project Area, originating in the Santa Ana Mountains. Coal Creek is northeast of Gypsum Creek and flows towards the north end of the Project Area, near SR-91. Gypsum Creek is southwest of Coal Creek and flows parallel to SR-241, toward the junction of SR-241 and SR-91.

Beneficial Uses of Surface Waters

Beneficial uses of water are defined in the Santa Ana RWQCB Basin Plan as those necessary for the survival or well-being of humans, plants, and wildlife. Examples of beneficial uses include drinking water supplies, swimming, industrial and agricultural water supply, and the support of freshwater and marine habitats and their organisms.

Beneficial uses are identified in the Basin Plan for the Santa Ana River, Reach 2, from Prado Dam to 17th Street in Santa Ana. The present or potential beneficial uses are:

- **AGR**: Agricultural Water Supply
- **GWR**: Groundwater Recharge
- **REC-1**: Contact Water Recreation (swimming/wading)
- **REC-2**: Noncontact Water Recreation (boating/fishing)

- **WARM**: Warm Freshwater Habitat (for fish amenable to reproduction in warm water)
- **WILD**: Wildlife Habitat (for wild plants and animals)
- **RARE**: Rare, Threatened, or Endangered Species (habitat for plants and animals)

Surface Water Quality Objectives

Surface water quality objectives for all inland waters in the Santa Ana Region as documented in the Basin Plan are listed in Table 3.8.1. In addition, the Santa Ana River, Reach 2, has the following site-specific numeric water quality objectives:

- **Total Dissolved Solids (TDS)**: 650 milligrams per liter (mg/L)

3.8.2.4 Groundwater

Part of the Project Area is in the Coastal Plain of the Orange County Groundwater Basin (Orange County Basin). The rest of the Project Area is in an undefined area. The Orange County Basin underlies a coastal alluvial plain in the northwestern portion of Orange County. The basin is bounded by consolidated rocks exposed on the north in the Puente and Chino Hills, on the east in the Santa Ana Mountains, and on the south in the San Joaquin Hills. The basin is bounded by the Pacific Ocean on the southwest and by a low topographic divide at approximately the Orange/Los Angeles County Line on the northwest. The basin underlies the lower Santa Ana River watershed.

Between the SR-241/SR-91 interchange and the Orange/Riverside County Lines, the reported groundwater elevations range from approximately 359 to 411 feet (ft). Between the Orange/Riverside County Line and Green River Road, the reported groundwater elevations range from 347 ft to approximately 399 ft. Groundwater elevations rise toward the SR-91/SR-71 separation to a high elevation of 445 ft. Historical groundwater levels were recorded by the California Department of Water Resources (DWR) in its monitoring wells in the vicinity of this segment of SR-91. Historic high-groundwater levels in the vicinity of the junction of SR-241 and SR-91 and in Santa Ana Canyon along SR-91 have been mapped at 10 to 40 ft below ground surface (bgs).

The Project Area is located in a “high risk” area, defined as a location where spills from State-owned rights-of-way, activities, or facilities can discharge directly to municipal or domestic water supply reservoirs or groundwater percolation facilities.

Table 3.8.1 Surface Water Quality Objectives for Inland Surface Waters

Constituent	Concentration	Receiving Waters
Algae	Waste discharges shall not contribute to excessive algal growth in inland surface receiving waters.	All inland surface waters
Ammonia	Varies based on pH and temperature. Ranges from 0.004 to 0.0224 mg/L unionized ammonia and 0.05 to 1.49 mg/L total ammonia.	COLD beneficial use designation
	Varies based on pH and temperature. Ranges from 0.0006 to 0.0530 mg/L unionized ammonia and 0.119 to 2.27 mg/L total ammonia.	WARM beneficial use designation
Boron	Shall not exceed 0.75 mg/L as a result of controllable water quality factors.	All inland surface waters
Chlorine (residual)	Chlorine residual in wastewater discharged to inland surface waters shall not exceed 0.1 mg/L.	All inland surface waters
Coliform (fecal)	Logarithm means less than 200 organisms per 100 mL based on five or more samples per 30-day period and not more than 10% of the samples exceed 400 organisms per 100 mL for any 30-day period.	REC-1 beneficial use designation
	Logarithm means less than 2,000 organisms per 100 mL based on five or more samples per 30-day period and not more than 10% of the samples exceed 4,000 organisms per 100 mL for any 30-day period.	REC-2 beneficial use designation
Coliform (total)	Not to exceed 100 organisms per 100 mL.	MUN beneficial use designation
Color	Waste discharges shall not result in coloration of the receiving waters that causes a nuisance or adversely affects beneficial uses. The natural color of fish, shellfish, or other inland surface water resources used for human consumption shall not be impaired.	All inland surface waters
Floatables	Waste discharges shall not contain floating materials, including solids, liquids, foam, or scum, that cause a nuisance or adversely affect beneficial uses.	All inland surface waters
Fluoride	Shall not exceed 0.7 to 1.2 mg/L as a result of controllable water quality factors depending on air temperature (refer to Basin Plan).	MUN beneficial use designation
Metals	Varies based on hardness.	All inland surface waters
Methylene blue-activated substances	Shall not exceed 0.05 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Nitrate	Shall not exceed 45 mg/L as NO_3 or 10 mg/L as N.	MUN beneficial use designation
Oil and grease	Waste discharges shall not result in deposition of oil, grease, wax, or other materials in concentrations that result in a visible film or in coating objects in the water or that cause a nuisance or adversely affect beneficial uses.	All inland surface waters
Oxygen (dissolved)	Shall not be depressed below 5 mg/L a result of controllable water quality factors.	WARM beneficial use designation
	Shall not be depressed below 6 mg/L a result of controllable water quality factors.	COLD beneficial use designation

Table 3.8.1 Surface Water Quality Objectives for Inland Surface Waters

Constituent	Concentration	Receiving Waters
	Waste discharges shall not cause the median dissolved oxygen concentration to fall below 85% of saturation or the 95th percentile concentration, or fall below 75% of saturation within a 30-day period.	All inland surface waters
pH	Shall not be raised above 8.5 or depressed below 6.5 as a result of controllable water quality factors.	All inland surface waters
Radioactivity	Shall not exceed the California Code of Regulations, Title 22, standards of 5 pCi/L for combined radium-226 and radium-228, 15 pCi/L for gross alpha, 20,000 pCi/L for tritium, 8 pCi/L for strontium-90, 50 pCi/L for gross beta, and 20 pCi/L for uranium.	MUN beneficial use designation
Solids (suspended and settleable)	Shall not cause nuisance or adversely affect beneficial uses.	All inland surface waters
Sulfides	Shall not be increased as a result of controllable water quality factors.	All inland surface waters
Surfactants	Waste discharges shall not contain concentrations of surfactants that result in foam in the course of flow or use of the receiving water or that adversely affect aquatic life.	All inland surface waters
Taste and odor	Shall not contain taste- or odor-producing substances at concentrations that cause a nuisance or adversely affect beneficial uses.	All inland surface waters
Temperature	Shall not be raised above 90°F from June through October or above 78°F during the rest of the year as a result of controllable water quality factors.	WARM beneficial use designation
	Shall not be increased by more than 5°F as a result of controllable water quality factors.	COLD beneficial use designation
Toxic substances	Shall not be discharged at levels that will bioaccumulate in aquatic resources to levels that are harmful to human health. Concentrations of toxic pollutants in the water column, sediments, or biota shall not adversely affect beneficial uses.	All inland surface waters
Turbidity	Where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20 percent. Where natural turbidity is between 50 and 100 JTU, increases shall not exceed 10 NTU. Where natural turbidity is greater than 100 NTU, increases shall not exceed 10 percent.	All inland surface waters

Source: *Water Quality Assessment Report* (August 2015).

°F = degrees Fahrenheit
Basin Plan = Water Quality Control Plan – Santa Ana River Basin
COLD = Cold Freshwater Habitat
JTU = Jackson turbidity units
mg/L = milligrams per liter
mL = milliliters
MUN = Municipal and Domestic Water Supply
N = nitrogen
NO_3 = nitrate
NTU = nephelometric turbidity units
pCi/L = picocuries per liter
pH = percentage of hydrogen
REC-1 = Contact Water Recreation
REC-2 = Noncontact Water Recreation
WARM = Warm Freshwater Habitat

The Orange County Water District (OCWD) maintains a system of diversion structures and recharge basins along a 6-mile (mi) section of the Santa Ana River that captures most of the water that would otherwise flow into the Pacific Ocean. Runoff from SR-91 discharges directly into the Santa Ana River and is, therefore, considered a "high risk" area.

Beneficial Uses for Groundwater

The present or potential beneficial uses identified in the Basin Plan for the Orange County Groundwater Management Zone are:

- **MUN**: Municipal and Domestic Supply
- **AGR**: Agricultural Supply
- **IND**: Industrial Supply
- **PROC**: Process Water Supply

Groundwater Quality Objectives

The groundwater quality objectives for the Santa Ana Region as designated in the Basin Plan are provided in Table 3.8.2. The site-specific groundwater quality objectives for the Orange County Groundwater Basin are:

- **Total Dissolved Solids (TDS)**: 580 mg/L
- **Nitrate as Nitrogen**: 3.4 mg/L

3.8.2.5 Regional Water Quality

Surface Water Quality

The surface waters are in the Lower Santa Ana River WMA. Water quality issues in the Santa Ana River Watershed include nitrogen/TDS management in the Santa Ana River and water quality problems associated with dairies and coastal beaches. Water quality degradation due to high concentrations of nitrogen and TDS is among the most significant regional water quality problems in the Santa Ana River Watershed.

Groundwater Quality

Water in the Orange County Groundwater Management Zone is primarily sodium-calcium bicarbonate. TDS range from 232 to 661 mg/L and average 475 mg/L. Groundwater is impaired by salinity, nitrate, and methyl tertbutyl ether (MTBE).

Table 3.8.2 Groundwater Quality Objectives for Groundwater Basins in the Santa Ana Region

Constituent	Concentration	Area
Arsenic	Shall not exceed 0.05 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Boron	Shall not exceed 0.75 mg/L as a result of controllable water quality factors.	Santa Ana Region
Chloride	Shall not exceed 500 mg/L as a result of controllable factors.	MUN beneficial use designation
Coliform (total)	Shall not exceed 2.2 organisms/100 mL median over any 7-day period as a result of controllable water quality factors.	MUN beneficial use designation
Color	Waste discharges shall not result in coloration of the receiving waters that causes a nuisance or adversely affects beneficial uses.	Santa Ana Region
Cyanide	Shall not exceed 0.2 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Fluoride	Shall not exceed 1.0 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Hardness	Shall not be increased as a result of waste discharges to levels that adversely affect beneficial uses.	MUN beneficial use designation
Oil and grease	Waste discharges shall not result in deposition of oil, grease, wax, or other materials in concentrations that cause a nuisance or adversely affect beneficial uses.	Santa Ana Region
Barium	Shall not exceed 1.0 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Cadmium	Shall not exceed 0.01 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Chromium	Shall not exceed 0.05 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Cobalt	Shall not exceed 0.2 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Copper	Shall not exceed 1.0 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Iron	Shall not exceed 0.3 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Lead	Shall not exceed 0.05 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Manganese	Shall not exceed 0.05 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Mercury	Shall not exceed 0.002 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Selenium	Shall not exceed 0.01 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Silver	Shall not exceed 0.05 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Methylene blue-activated substances	Shall not exceed 0.05 mg/L as a result of controllable water quality factors.	MUN beneficial use designation

Table 3.8.2 Groundwater Quality Objectives for Groundwater Basins in the Santa Ana Region

Constituent	Concentration	Area
pH	The pH of groundwater shall not be raised above 9 or depressed below 6 as a result of controllable water quality factors.	Santa Ana Region
Radioactivity	Shall not exceed the California Code of Regulations, Title 22, standards of 5 pCi/L for combined radium-226 and radium-228, 15 pCi/L for gross alpha, 20,000 pCi/L for tritium, 8 pCi/L for strontium-90, 50 pCi/L for gross beta, and 20 pCi/L for uranium.	MUN beneficial use designation
Sodium	Shall not exceed a sodium absorption rate of 9.	AGR beneficial use designation
Sulfate	Shall not exceed 500 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Taste and odor	Groundwater shall not contain taste- or odor-producing substances in concentrations that adversely affect beneficial uses.	Santa Ana Region
Toxic substances	All waters shall be maintained free of substances in concentrations that are toxic or that produce detrimental physiological responses in human, plant, animal, or aquatic life.	Santa Ana Region

Source: *Water Quality Assessment Report* (August 2015).
AGR = Agricultural Water Supply
mg/L = milligrams per liter
mL = milliliters
MUN = Municipal Water Supply
pCi/L = picocuries per liter
pH = percentage of hydrogen

3.8.2.6 List of Impaired Waters

The SWRCB approved the 2012 Integrated Report (CWA Section 303(d) List) on April 8, 2015. On July 30, 2015, the EPA approved the 2012 California 303(d) List of Water Quality Limited Segments. The Santa Ana River, Reach 2, is listed on the 2012 California 303(d) List as impaired for indicator bacteria. There are no approved TMDLs for Reach 2 of the Santa Ana River. The expected completion date for the indicator bacteria TMDL is 2021.

3.8.3 Environmental Consequences

3.8.3.1 Temporary Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion compared to existing conditions. Additionally, during a storm event, soil erosion could occur at an accelerated rate. Furthermore,

chemicals, liquid products, and petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked during construction and thereby have the potential to be transported via storm runoff into receiving waters.

Construction activities associated with the Build Alternative include grading, excavation, construction of retaining walls and bridge structures, reconstruction of the ramps and connectors, and overall road widening. Construction of the Build Alternative would disturb a total of approximately 43.9 acres (ac), exposing soil and increasing the potential for soil erosion, which could be a source of downstream sediment. When sediment enters a receiving water body, it can increase turbidity, smother bottom-dwelling organisms, and suppress aquatic vegetation growth. When new structures are installed or modified (e.g., retaining walls and road widening), concrete and/or asphalt applications could be a source of fine sediment, metals, and chemicals that could change the pH levels in downstream water bodies. Grading and other earthmoving activities during construction could be a source of petroleum products and heavy metals if the equipment engines leak. Furthermore, temporary or portable sanitary facilities provided for construction workers could be a source of sanitary waste. With the implementation of Measure WQ-1, provided later in this section, the Build Alternative would comply with the requirements of the Construction General Permit. Under the Construction General Permit, the Build Alternative would be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) and implement Construction BMPs detailed in the SWPPP aimed at reducing pollutants of concern in the storm water runoff by minimizing erosion and preventing spills, leaks, and discharges into receiving waters. Therefore, with the implementation of Measure WQ-1, the potential for short-term water quality impacts associated with construction of the Build Alternative to adversely affect the physical/chemical characteristics of the on-site or downstream aquatic environment during construction would be reduced.

Runoff from the Build Alternative would drain directly in the Santa Ana River, Reach 2. Drainages in the Project Area are characterized as highly altered or wholly human-made and result in limited biological resources that would be able to support a healthy and functioning on-site aquatic environment. However, runoff from the Build Alternative would drain into receiving waters such as the Pacific Ocean, which depends on the biological characteristics of the aquatic environment to sustain a functioning aquatic ecosystem, an ecosystem that supports the biological (e.g., fish) and human environment (e.g., recreation). As stated previously, the implementation of Measure WQ-1 would require the Build Alternative to prepare a SWPPP and

implement Construction BMPs aimed at reducing pollutants of concern in storm water runoff. Therefore, with the implementation of Measure WQ-1, the potential for short-term water quality impacts during construction of the Build Alternative to adversely affect the biological characteristics of the on-site or downstream aquatic environment during construction would be reduced.

Furthermore, the highly altered or wholly human-made nature of the drainages within the Project Area preclude the beneficial uses associated with human activities, such as contact and noncontact recreation. The Basin Plan identifies both body and non-body contact recreation as intermittent uses for the Santa Ana River, Reach 2. However, the Basin Plan states that recreational uses should not be construed as encouraging recreational activities. Furthermore, in certain reaches of the Santa Ana River, access to the water bodies is prohibited because of potentially hazardous conditions and/or because of the need to protect other uses. However, runoff from the Build Alternative would drain into receiving waters such as the Pacific Ocean, which has beneficial uses associated with human activities that include contact and noncontact recreation. As stated previously, the implementation of Measure WQ-1 would require the Build Alternative to prepare a SWPPP and implement Construction BMPs aimed at reducing pollutants of concern in storm water runoff. Consequently, the Build Alternative would result in negligible changes in the quality of runoff reaching downstream receiving waters during construction. Therefore, with the implementation of Measure WQ-1, the potential for short-term water quality impacts during construction of the Build Alternative to adversely affect the human use characteristics of the on-site or downstream aquatic environment during construction would be reduced.

In addition, groundwater dewatering may be necessary during construction of the footings for the proposed bridge at the junction of SR-241 and SR-91. If groundwater dewatering becomes necessary during construction, Measure WQ-5, provided later in this section, would require the Build Alternative to comply with the provisions of the General Groundwater Permit. The General Groundwater Permit would require the Build Alternative to comply with general waste discharge requirements for discharges to surface waters that pose an insignificant (de minimus) threat to water quality. Therefore, Measure WQ-5 would reduce potential temporary impacts associated with groundwater dewatering during construction.

No Build Alternative

The No Build Alternative does not include any improvements to SR-241 or SR-91 in the Project Area. Therefore, no temporary impacts to water quality or storm water runoff would occur as a result of the No Build Alternative.

3.8.3.2 Permanent Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Primary pollutants of concern are pollutants that are expected to be or have the potential to be in project runoff based on proposed land uses, and which also have been identified as causing impairments to receiving waters on the most recent 303(d) list or have an established TMDL. Other pollutants of concern are those that are expected to be or have the potential to be in project runoff but do not have an established TMDL for receiving waters and have not been identified as causing impairments to receiving waters. Pollutants of concern during operation of the Build Alternative include suspended solids/sediments, nutrients, pesticides, heavy metals, oil and grease, and trash and debris.

These pollutants of concern are typically generated during the operation of a transportation facility. The Build Alternative would increase impervious area by approximately 20.5 ac. An increase in impervious surface area would increase the volume of runoff during a storm, thereby more effectively transporting pollutants to receiving waters, which in turn causes turbidity and downstream erosion or accretion over existing conditions. Increases in chemical pollutants and changes in temperature and pH may lead to detrimental effects to downstream receiving waters.

As required by Measure WQ-2, provided later in this section, during operation the Build Alternative would comply with the Caltrans NPDES Permit. In addition, as required by Measures WQ-3 and WQ-4, provided later in this section, the Build Alternative would implement Caltrans-approved Design Pollution Prevention and Treatment BMPs to reduce the discharge of pollutants of concern to the maximum extent practicable (MEP), respectively. Design Pollution Prevention BMPs would include slope/surface protection systems, concentrated flow conveyance systems, and vegetation preservation techniques. Treatment BMPs would include biofiltration swales and strips and media filters to target and process pollutants of concern from the operation of transportation facilities, including nutrients, sediments, oil and grease, and trash and debris. The proposed BMPs would treat approximately 135 percent of the net new impervious surface area. With the implementation of

Measures WQ-2 through WQ-4, the Build Alternative would not result in an adverse effect on the physical/chemical characteristics of the on-site or downstream aquatic environments.

As discussed above under Section 3.8.3.1, Temporary Impacts, for the Build Alternative, there are no biological resources present in the Project Area that are dependent on aquatic resources. As noted above, the Build Alternative would increase the amount of impervious surface area, resulting in an increase in the volume of runoff, thereby increasing the energy of the flows and increasing the downstream transport of pollutants to downstream receiving waters. However, with the implementation of Measures WQ-2 through WQ-4, the Build Alternative would comply with the Caltrans NPDES permit and implement Caltrans-approved Treatment BMPs such as biofiltration swales and strips and media filters to treat runoff from the Project Area and reduce pollutants of concern. The Project Area consists of existing freeway and adjacent land. There are no identified biological resources in the Project Area that depend on aquatic resources. Santa Ana sucker designated critical habitat is located in the Santa Ana River, which would receive discharge from the Project Area, although the species is not known from this segment of the river (refer to Section 3.19 for a more detailed discussion). There are additional biological resources within the Santa Ana River. With the implementation and proper oversight of Measures WQ-2 through WQ-4, the Build Alternative would not result in adverse direct or indirect effects on the biological characteristics of on-site or downstream aquatic environments.

As discussed above under Section 3.8.3.1, Temporary Impacts, for the Build Alternative, the drainages in the Project Area preclude beneficial uses associated with human activities (e.g., contact and noncontact recreation). However, runoff from the Build Alternative would drain into receiving waters such as the Pacific Ocean that have beneficial uses associated with human activities, including contact and noncontact recreation. With the implementation of Measures WQ-2 through WQ-4, the Build Alternative would comply with the Caltrans NPDES permit and implement Caltrans- approved Treatment BMPs such as biofiltration swales and strips and media filters to treat runoff from the project site and reduce pollutants of concern. Therefore, with the implementation of Measures WQ-2 through WQ-4, the Build Alternative would result in negligible changes in the quality of runoff that reaches downstream receiving waters, and the Build Alternative would not have an adverse effect on human use characteristics of the Project Area or downstream aquatic environments.

No Build Alternative

The No Build Alternative does not include any improvements to SR-241 or SR-91 in the Project Area. Therefore, no permanent impacts to water quality or storm water runoff would occur as a result of the No Build Alternative.

3.8.4 Avoidance, Minimization, and/or Mitigation Measures

The following regulatory requirements would be implemented with the Build Alternative and would reduce or avoid impacts related to water quality and storm water runoff. These include applicable, previously adopted measures from the ETC Final EIR and Final EIS.

Measure WQ-1 **Construction General Permit.** The Proposed Project will comply with the requirements prescribed in the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) Order No. 2009-009-DWQ, as amended, or any future replacement permit. The Proposed Project shall comply with the Construction General Permit by preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP) to address all construction-related activities, equipment, and materials that have the potential to impact water quality for the appropriate Risk Level. The SWPPP will identify the sources of pollutants that may affect the quality of storm water and include Best Management Practices (BMPs) to control the pollutants, such as Sediment Control, Catch Basin Inlet Protection, Construction Materials Management and Nonstorm Water BMPs. All work shall conform to the Construction Site BMP requirements specified in the latest edition of the Caltrans *Storm Water Quality Handbooks: Construction Site Best Management Practices Manual* to control and minimize the impacts of construction and construction-related activities, materials, and pollutants on the watershed. These include, but are not limited to, temporary sediment control, temporary soil stabilization, waste management and materials pollution control, wind erosion control, and other nonstorm water BMPs.

Measure WQ-2 **Caltrans Permit.** The Proposed Project will comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit, *Waste Discharge Requirements (WDRs) for the State of California, Department of Transportation*, Order No. 2012-0011-DWQ, NPDES No. CAS000003 (Caltrans Permit), as amended, or any future replacement permit.

Measure WQ-3 **Design Pollution Prevention Best Management Practices.** Caltrans-approved Design Pollution Prevention BMPs will be implemented to the maximum extent practicable (MEP) consistent with the requirements of the *Waste Discharge Requirements (WDRs) for the State of California, Department of Transportation,* Order No. 2012-0011-DWQ, NPDES No. CAS000003 (Caltrans Permit) and the Caltrans Project Planning and Design Guide. Design Pollution Prevention BMPs include preservation of existing vegetation, slope/ surface protection systems (erosion control/reseeding and replanting of vegetation) dikes, overside drains, and concentrated flow conveyance systems such as ditches, berms, and biofiltration swales and strips.

Measure WQ-4 **Treatment Best Management Practices.** Caltrans-approved Treatment BMPs will be implemented to the MEP consistent with the requirements of the Caltrans Permit, which is described in Measure WQ-2 and the Project Planning and Design Guide. Treatment BMPs may include biofiltration swales, biofiltration strips, and media filters.

Measure WQ-5 **Groundwater Dewatering.** If groundwater dewatering is required, the Proposed Project will comply with the provisions of General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (De Minimis) Threat to Water Quality, Order No. R8-2015-0004, NPDES No. CAG998001, as they relate to discharge of non-storm water dewatering wastes for the Proposed Project.

3.8.4.1 ETC Final EIR and Final EIS

Measure W-12 *In conjunction with final design, entry into drainages shall be avoided during site preparation, grading and construction, except where required for construction. Activity in drainages shall be limited to crossings rather than using the lengths of drainage courses for access or for parking automobiles, trucks, and construction equipment. In addition, these areas will be marked for "limited access" on construction plans.*

Measure W-14 *During site preparation, grading, and construction, vehicles and equipment shall not be parked in washes or other drainages.*

Measure W-15 *During site preparation, grading and construction, overwatering shall be avoided in washes and other drainages.*

Measure WQ-2 *The TCA will ensure that all herbicides used in landscaping and weed control are handled, stored, applied, and disposed of consistent with all applicable federal, state, and local regulations.*

Measure WQ-3 *Whenever feasible, construction vehicles will be rinsed before leaving the construction area to remove mud and other materials before the vehicles leave the site.*

Measure E-1 *In conjunction with final design, the TCA shall map native vegetation outside the right-of-way on grading and construction plans to indicate vegetation to protect from use as vehicle travel or parking areas, storage of equipment and storage of debris or building materials.*

Measure E-3 *During final design, the TCA shall ensure that all proposed grading shall conform to the Caltrans Highway Design Manual and the TCA Project Manual Guidelines. All applicable policies and guidelines shall be listed in the grading plans.*

Measure E-6 *In conjunction with final design, the TCA shall ensure that cut and fill slopes shall not be steeper than 2:1. Where steeper slopes are indicated, TCA shall, in conjunction with final*

design, prepare geologic and engineering analyses. These analyses shall determine the safety of those slopes and proposed erosion control measures consistent with Caltrans design standards.

Measure E-9 *As part of final design, TCA shall ensure that all slopes shall conform to slope criteria developed by TCA and Caltrans. All slope criteria shall be noted on final plans.*

Measure E-10 *Fills shall not encroach on natural watercourses or improved channels except as shown on the approved project plans.*

Measure E-11 *Fills placed against watercourses shall have suitable protection against erosion during storm flows, such as riprap, protective walls, and culverts.*

Measure E-12 *During site preparation, grading, and construction, the TCA shall ensure that excavated materials shall not be deposited or stored in or alongside watercourses where the materials can be washed away by high water or storm runoff.*

Measure E-13 *During site preparation and grading, the TCA shall ensure that all land shall be graded to drain and dispose of surface water without ponding, except where approved by Caltrans or the affected responsible public agency.*

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3.9 Geology/Soils/Seismic/Topography

3.9.1 Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects "outstanding examples of major geological features." Topographic and geologic features are also protected under the California Environmental Quality Act (CEQA).

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. The Department's Office of Earthquake Engineering is responsible for assessing the seismic hazard for Department projects. Structures are designed using the Department's Seismic Design Criteria (SDC). The SDC provides the minimum seismic requirements for highway bridges designed in California. A bridge's category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. For more information, please see the Department's Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.

3.9.2 Affected Environment

This section describes the geologic setting, topography, surface and groundwater, rock/soils, and geologic hazards including seismic hazards (strong ground shaking, liquefaction, fault-induced ground rupture, tsunami, seiche, seismically induced landslides and rock falls, and settlement), non-seismically induced earth movement, and economic resources/mineral hazards, as applicable. Information in this section is based on the reports listed below prepared for the SR-241/SR-91 Express Lanes Connector project.

- *District Preliminary Geotechnical Report* (February 2016)
- *Phase I Initial Site Assessment SR-241/91 Express Lanes Connector Project* (October 2015)

There are 11 geomorphic provinces in California, as defined by the California Geological Survey. Geomorphic provinces are geologic regions with distinct landforms and geology. The Project Area is within the Peninsular Ranges Geomorphic Province. The total width of the province is approximately 225 miles (mi), with a maximum land bound width of 65 mi. The province region is

characterized by a series of northwest trending mountain ranges, valleys, and faults, such as the Whittier-Elsinore and the San Andreas Faults.

3.9.2.1 Topography

The Project Area exhibits highly variable topography, ranging from flat areas along the freeway mainlines and in Santa Ana Canyon to steep natural slopes within the Santa Ana Mountains. The Project Area extends from the northwestern foothills along the Santa Ana Mountains into Santa Ana Canyon.

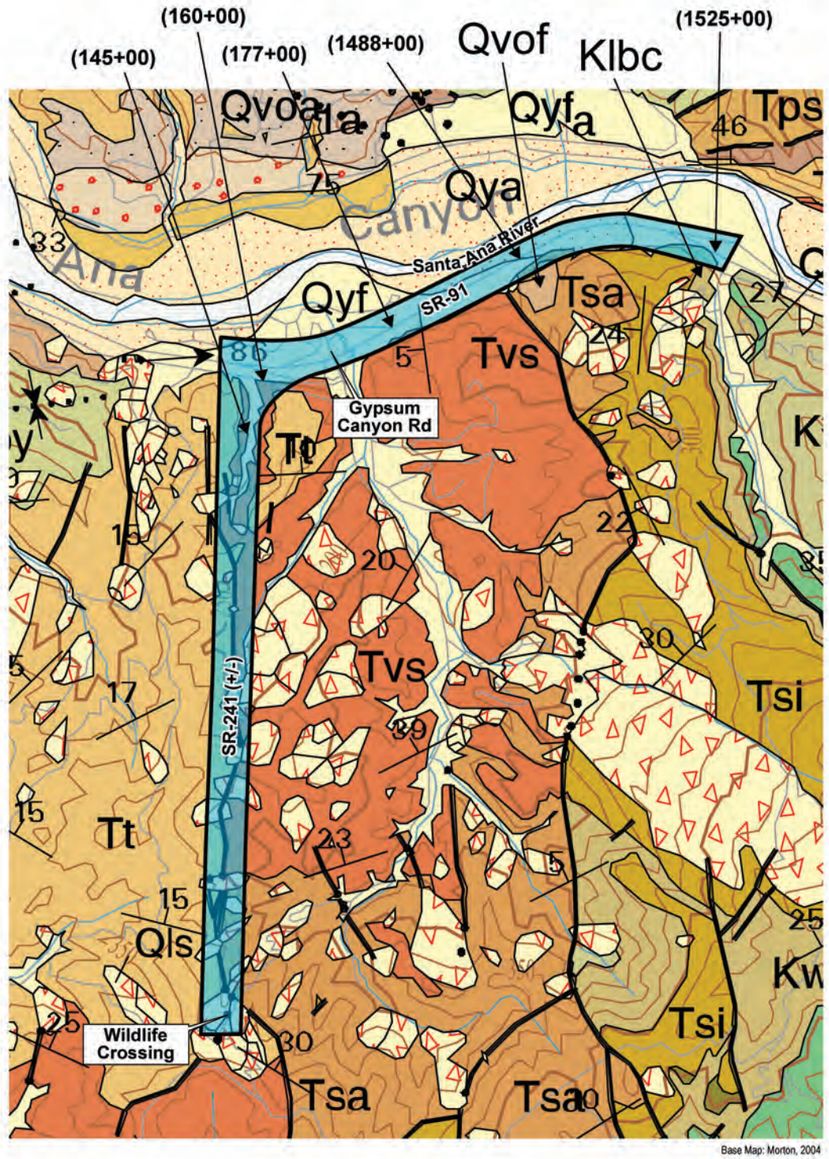
3.9.2.2 Stratigraphy/Soils/Geologic Landforms

Within the alignment of SR-241 and SR-91, the subsurface has been highly modified through cuts and fills to accommodate the freeways, and there are no unique surficial geologic landforms in the Project Area. In this area, there are several subsurface geologic formations, or units. These formations and units include artificial fill, young alluvial deposits, terrace deposits, sedimentary bedrock units that include the Topanga Formation, undifferentiated, the Vaqueros-Sespe Formation, and the Santiago Formation. The existing cut slope on the south side of SR-91 is underlain by terrace deposits and bedrock of the Santiago Formation. Regional geology is shown in Figure 3.9.1.

Please refer to Section 3.10, Paleontology, Table 3.10.1, Geologic Time Periods and Geologic Units in the Area of Project Disturbance, for a description of the geologic units within the Project Area.

3.9.2.3 Surface Water

The major drainage within the Project Area is the Santa Ana River that originates in the San Bernardino Mountains, and drains to the Pacific Ocean near Newport Beach, and which is adjacent to SR-91 in the Project Area. Runoff from the Project Area drains to the Santa Ana River. Nine surface drainage features were identified in the Project Area, including Gypsum Canyon Creek. Five of these drainages are concrete-, riprap-, or asphalt-lined and are designed to convey runoff from SR-241 or SR-91. Numerous subdrains have been constructed below the existing SR-241/SR-91 Mainline and Connectors.



EXPLANATION

Contact—Accuracy of location ranges from well-located to approximately located

Fault—Solid where accurately located; dashed where approximately located or inferred; dotted where concealed; queried where location or existence uncertain. Includes strike-slip, normal and reverse dip-slip, oblique-slip, and thrust faults. Arrow and number indicate measured dip of fault plane

Fault scarp—Solid where accurately located; dashed where approximately located. Hachures on upthrown block

Landslide scarp—Solid where accurately located. Hachures on upper part of headscarp

Subsidence scarp—Solid where accurately located. Hachures on upper surface

Anticline—Solid where accurately located; dotted where concealed. Arrowhead on axis shows direction of plunge

Syncline—Solid where accurately located; dotted where concealed. Arrowhead on axis shows direction of plunge

Overturned anticline—Solid where accurately located. Arrowhead on axis shows direction of plunge

Overturned syncline—Solid where accurately located. Arrowhead on axis shows direction of plunge

Suture—Location approximate

Ground fissures—San Jacinto Valley area

Strike and dip of beds

- **Inclined**
- **Vertical**
- **Overturned**
- **Horizontal**

Strike and dip of metamorphic foliation

- **Inclined**
- **Vertical**

Strike and dip of primary igneous foliation

- **Inclined**
- **Vertical**

Bearing and plunge of linear features

- **Inclined**

UNITS

Qyf — **Young alluvial fan deposits (Holocene and late Pleistocene)**—Gravel, sand, and silt, mixtures, some contain boulders; unconsolidated.

Qya — **Young axial channel deposits (Holocene and late Pleistocene)**—Gravel, sand, and silty alluvium; gray, unconsolidated.

Qvof — **Very old alluvial fan deposits (middle to early Pleistocene)**—Sandy alluvium; reddish-brown, well-indurated, fan surfaces well-dissected. (Terrace Deposits)

Qls — **Landslide deposits (late Holocene)**—Active or recently active landslides; unconsolidated to consolidated. Includes many early Holocene landslides that in part have been reactivated during late Holocene

Tt — **Topanga Formation (middle Miocene)**—Marine sandstone, siltstone, and locally conglomerate. Includes:

Tvs — **Vaqueros and Sespe Formations, undifferentiated (early Miocene, Oligocene, and late Eocene)**—Interbedded sandstone and conglomerate; marine and nonmarine

Tsa — **Santiago Formation (middle Eocene)**—Sandstone and conglomerate, marine and nonmarine

Tsis / Tsi / Tsicg — **Silverado Formation (Paleocene)**—Sandstone, siltstone, and conglomerate; nonmarine and marine. Much of unit is thoroughly weathered. Basal conglomerate (Tsicg) and Serrano clay (Tsis) are subdivided locally

Ladd Formation (Late Cretaceous)

Klbc — **Baker Canyon Conglomerate Member**—Conglomerate, conglomeratic sandstone and pebble conglomerate; marine and locally nonmarine(?)

FIGURE 3.9-1

N

0 0.25 0.5
MILES (APPROXIMATE)

SOURCE: CH2MHILL

I:\RBF1101\G\Geologic Map.cdr (1/29/15)

SR-241/SR-91 Express Lanes Connector

Geologic Map

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3.9.2.4 Groundwater

In the Project Area, groundwater levels in Santa Ana Canyon generally correspond to the elevation of the Santa Ana River bed (approximate elevation 384 feet [ft], across from the SR-91 Station 1480+00). Groundwater levels could fluctuate due to a number of factors, including seasonal variation, irrigation, and construction. The bedrock units present above Santa Ana Canyon along the alignment are generally considered non-water bearing. However, local seepages do exist within the formation along fracture/fault zones, and local perched water bodies may be present where there are permeability contrasts within the unit.

3.9.2.5 Naturally Occurring Oil and Gas

Based on information from a search of the California Department of Oil, Gas, and Geothermal Resources Wildcat Maps, oil and gas wells have historically been located within the immediate vicinity of the Project Area. However, no existing or previous oil or gas wells are known to be located within the Project Area. Idle or plugged oil/gas wells are located more than 0.6 mi from the Project Area.

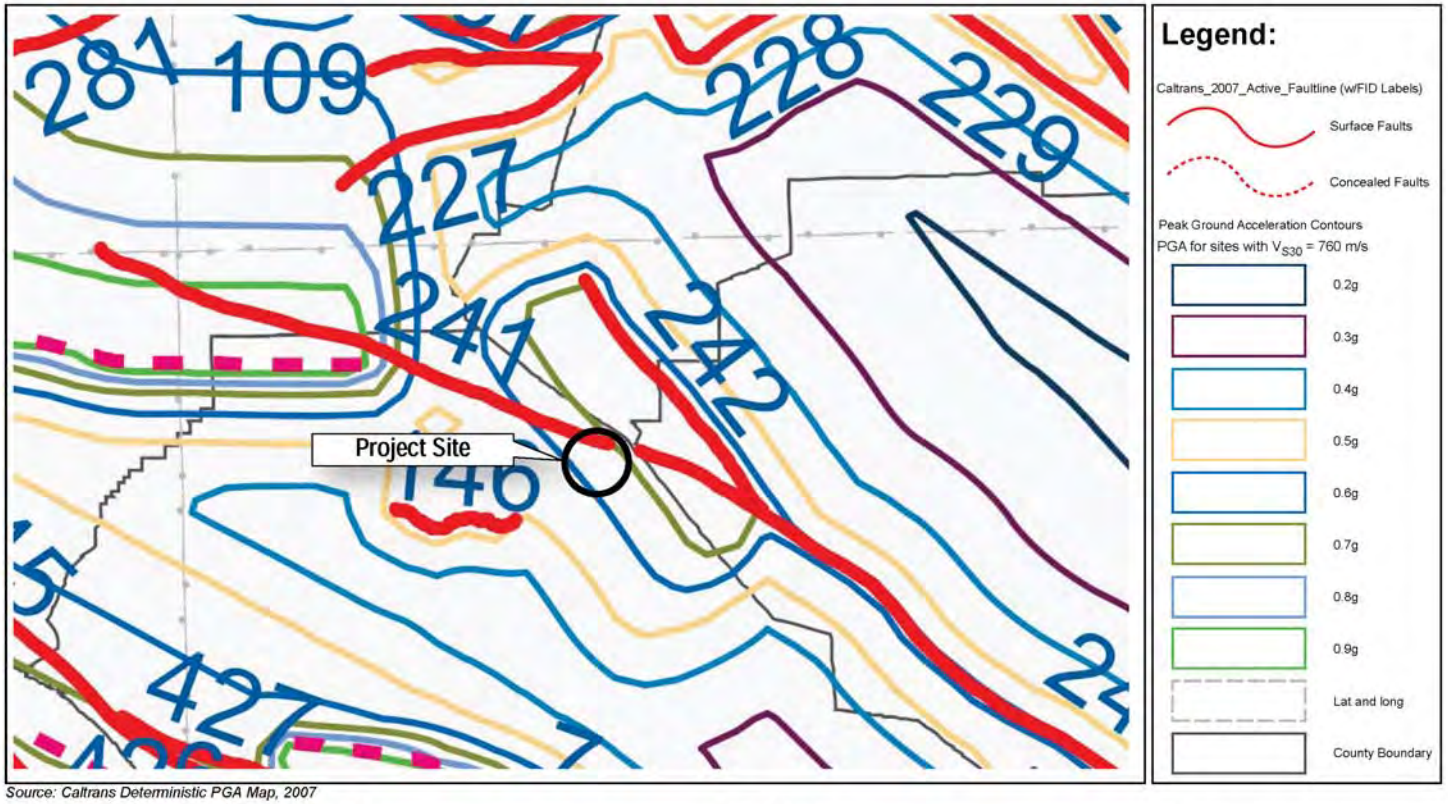
3.9.2.6 Faulting

The Southern California region is seismically active due to the influence of several earthquake fault systems resulting from interaction between the Pacific and North American crustal plates. An active fault is defined by the State of California as a sufficiently active and well-defined fault that has exhibited surface displacement within the last 11,000 years. A potentially active fault is defined by the State as a fault with a history of movement between 11,000 and 1.6 million years ago. There are two primary hazards associated with active faults: fault-induced ground rupture and ground shaking. The Project Area is not located within an Earthquake Fault Zone according to the Alquist-Priolo Earthquake Fault Zoning Act of 1972. However, a number of inactive faults are within the Project Area according to regional studies as shown on Figure 3.9.1 and Figure 3.9.2. No active faults transverse the Project Area.

3.9.2.7 Geologic Hazards

An earthquake along the Whittier-Elsinore Fault Zone and other regionally active faults could result in ground shaking within the Project Area. In addition, although the Peralta Hills Fault (located approximately 2.5 mi west-southwest of the proposed SR-241 Wildlife Undercrossing) is not considered active, it is thought to have experienced movement in the Late Quaternary period. Therefore, Caltrans includes this fault in its seismic design criteria. During an earthquake, seismic waves are produced that extend in all directions from the fault rupture.

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Source: Caltrans Deterministic PGA Map, 2007

Fault ID	Fault Name	Mmax
242	Elsinore fault zone (Chino section)	7.6
241	Elsinore fault zone (Whittier section)	7.6
109	Indian Hill fault	6.4
145	Newport Inglewood-Rose Canyon fault zone (S. Los Angeles Basin section-northern)	7.5
427	Newport Inglewood-Rose Canyon fault zone (S. Los Angeles Basin section-southern)	7.5
146	Peralta Hills fault	6.2
240	Puente Hills Blind Thrust	7.3
281	Raymond fault	6.6
228	Red Hill-Etiwanda Avenue fault	6.4
229	San Jacinto fault zone (San Bernardino section)	7.5
227	San Jose fault (Southern California)	6.4
239	Upper Elysian Park Blind Thrust	6.4

FIGURE 3.9-2

N

0 5 10

MILES

SOURCE: CH2M Hill (Caltrans Deterministic PGA Map, 2007)

SR 241/SR 91 Express Lanes Connector

Seismic Hazards Map

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Seismic waves can produce strong ground shaking that is typically strongest near the fault and attenuates as waves move away from the source. The severity of ground shaking is a function of the magnitude of the fault rupture; the distance from the fault to the affected area; and the type, thickness, and condition of the underlying geologic materials in an area.

Areas underlain by unconsolidated recent alluvium or fill may amplify the strength and duration of strong ground motion. The geologic hazards associated with seismic ground shaking are discussed in the following sections. There are several other types of non-seismic geologic hazards that could occur in the Project Area that are also described in the following sections.

Liquefaction

Soil liquefaction occurs when saturated, loose soils lose their strength due to excess pore water pressure caused by earthquake ground shaking. The space between the soil particles is completely filled with water, which exerts pressure on the soil particles, thereby influencing how tightly the soil particles are pressed together. The shaking caused by an earthquake can increase the pore water pressure to a point in which the soil loses strength and ground deformation can occur. The primary factors impacting the possibility of liquefaction in a soil deposit are the intensity and duration of the earthquake shaking, the soil type, the relative density of that soil, the pressures of material above that soil, and the depth to groundwater. The types of soils most susceptible to liquefaction are clean, loose, uniformly graded, fine-grained sands; non-plastic silts that are saturated; and silty sands. When liquefaction occurs, the strength of the soil decreases and the ability of the soil to support structures is reduced. The potential impacts of liquefaction may include settlement of the ground surface, additional forces pushing down on foundation piles as a result of soil settlement above the liquefied layers, and reduction of the shear strength of the liquefied soil, resulting in reduced load-carrying capacity. Areas in the vicinity of the SR-241/SR-91 interchange and Santa Ana Canyon along SR-91 have been mapped as a liquefaction *Zone of Required Investigation* by the California Division of Mines and Geology (CDMG; 2001). Based on soils investigations conducted previously for the original construction of SR-241 and SR-91, local, potentially liquefiable layers are present within Santa Ana Canyon. Therefore, the liquefaction potential in the Project Area is considered low to medium.

Seismically Induced Landslides and Slope Stability

Seismically induced landslides are rock, earth, or debris flows on slopes that can occur as a result of seismic shaking. Landslides constitute a major geologic hazard because they can be widespread and can cause substantial damage to life and property. Although landslides commonly occur in connection with other major natural disasters (e.g., earthquakes, volcanoes, wildfires, and floods), they can occur on any terrain given the right conditions of rock or soil, moisture content, and angle or slope. Steep bare slopes, bedded (layered) rock, deposits/erosion of stream or river sediment, and heavy rains can also contribute to landslides. Steep slopes in the vicinity of the Project Area as well as slopes located along the south side of the SR-91 mainline have been mapped as an earthquake-induced landslide *Zone of Required Investigation* by CDMG (2001). One cut slope on the south side of SR-91 would be modified by the Proposed Project improvements. The slope appears to be stable and does not exhibit signs of weakness; however, the slope continues to experience considerable erosion. Therefore, there is a low-to medium-potential for landslides along the hillside areas of the alignment.

Seismic Settlement

Seismic settlement is a phenomenon in which loose, unsaturated sands tend to settle or become denser during strong seismic shaking. Sediments that are sufficiently loose can experience seismic settlement, which can cause ground settlement and damage to structures. Hazards associated with seismically induced settlement in the Project Area are considered low.

Lateral Spreading

Lateral spreading occurs due to pore water pressure or liquefaction in shallow deposits during an earthquake, resulting in lateral displacement of gently sloping ground. Similar to the potential for liquefaction, within the Project Area, the potential for hazards associated with lateral spreading is considered low to medium.

Seismically Induced Inundation

Seismically induced inundation occurs when an earthquake causes catastrophic failure of a water-retaining structure, such as a reservoir, dam, or levee, and subsequent flooding occurs due to the release of water from the structure. The portion of SR-91 within the Project Area is in a potential dam inundation area for Prado Dam.

Tsunami and Seiche

The Project Area is above elevations that could experience flooding associated with tsunamis. As a result, a tsunami is not considered a potential geologic hazard for the Proposed Project, and therefore, is not discussed further in this analysis. Surface water could overtop Prado Dam as result of strong seismic shaking, presenting a seiche hazard.

Compressible Soils and Expansive Soils and Bedrock

Near the surface, ground settlement can occur when new loads are added to soil, or when a change in water levels results in a decrease in pore water pressures within compressible soils. Collapsible soils consist predominantly of sand-and-silt-size particles arranged in a loose "honeycomb" structure. This loose structure is held together by small amounts of water-softening cementing agents, such as clay or calcium carbonate. When the soil becomes wet, these cementing agents soften and the honeycomb structure collapses and generates ground settlement. Expansive soils are characterized by their ability to undergo significant volume changes (shrink or swell) as a result of variations in moisture content even without an increase in external loads. Changes in soil moisture content can result from precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors and may result in unacceptable settlement or heave of structures or concrete slabs supported on grade. Similar to soils, bedrock units can also shrink and swell due to variations in moisture content. The soils within the Project Area can be somewhat expansive and compressible; and bedrock within the Project Area can also exhibit expansive properties. Hazards associated with compressible soils are considered low. Hazards associated with expansive soils and bedrock are considered moderate to high.

Erosion

Erosion occurs when rock and/or soil surfaces are exposed to weathering caused by wind and/or water. The United States Geological Survey has delineated Soil Erodibility Factors (K Factors) that indicate how susceptible surface soils are to erosion. Soils within the Project Area have been mapped with a K Factor ranging from 0.05 to 0.37; therefore, the Project Area is considered to have a moderate erosion potential.

Subsidence

Regional subsidence results from the withdrawal of groundwater and/or hydrocarbons from subsurface areas. As groundwater or hydrocarbons are pumped out of the ground, the resultant voids or pores are compressed under the pressures of the

materials above. Accumulation of the compression results in subsidence of the ground surface. The Project Area is not located in an area of significant groundwater or hydrocarbon withdrawal; therefore, the potential for subsidence is low.

3.9.2.8 National Natural Landmarks

Nearly 40,000 acres of open space on the Irvine Ranch have been designated a National Natural Landmark (NNL) by both the State of California and the United States Department of the Interior.[1] A small part of the NNL abuts SR-91 east of the SR-241/SR-91 interchange and is within the Project Area.

In the portion of the Project Area that is within the NNL there are four geologic units: the Santiago Formation, Very Old Alluvial Fan Deposits, Young Alluvial Fan Deposits, and Landslide Deposits. None of these geologic units are unique unto themselves at the location within the NNL, as these same units are present in other areas of the NNL. In addition, there are no unique geologic features at this location such as caves, steep and rugged cliff faces, or unusual mineral deposits.

3.9.3 Environmental Consequences

3.9.3.1 Temporary Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Strong ground shaking could occur during construction of Build Alternative improvements due to regional faults and active faults in the vicinity of the Project Area. As a result, construction activities associated with the Build Alternative could be impacted by ground motion from seismic activities, liquefaction, and landslides if an earthquake were to occur during construction.

The structures proposed as part of the Build Alternative are within an area with slopes mapped as a *Zone of Required Investigation* for stability. The majority of slopes in this area would not be affected by proposed improvements as part of the Build Alternative. However, the existing 1.5:1 (horizontal to vertical (h:v)) cut slope on the south side of SR-91 would be modified to a 2:1 (h:v) slope with benches and drains. In the existing condition, this slope appears to be performing well from a global stability standpoint. No clay seams or significant planes of weakness were mapped on the slope when initially cut as part of the ETC. The proposed 2:1 (h:v) slope with benches is planned for the same height as the existing 1.5:1 (h:v) cut slope and is

[1] Irvine Ranch Conservancy. Website: http://letsgooutside.org/; Orange County Parks. Website: http://ocparks.com/parks/irvineranch/ (accessed March 31, 2015).

expected to be stable. However, further evaluation would be required during final design to identify potential hillside remediation required to stabilize the slope and minimize direct impacts or indirect slope stability impacts over time. There is also a potential for unmapped landslides to occur along or adjacent to the Build Alternative. A Final Geotechnical Report specified in Measure GEO-1 will be prepared during final design that will identify any special hillside remediation that needs to be done prior to construction of the Proposed Project. Any hillside areas to be modified will be geologically mapped during construction to verify the findings evaluated during the final design and revised remediation will be implemented, if warranted.

During construction of the Build Alternative, excavated soil would be exposed, and there would be an increased potential for soil erosion compared to existing conditions. In addition, during a storm event, soil erosion could occur at an accelerated rate. The Proposed Project would be required to adhere to the requirements of the General Construction Permit and implement erosion and sediment control best management practices (BMPs) specifically identified in a project Storm Water Pollution Prevention Plan to keep sediment from moving off site into receiving waters. Refer to Section 3.8, Water Quality and Storm Water Runoff, for additional information regarding construction-related water quality issues.

No Build Alternative

The No Build Alternative does not include the construction of any of the improvements for the SR-241/SR-91 Express Lanes Connector project. As a result, the No Build Alternative would not result in any temporary adverse effects related to geology and seismicity within the Project Area.

3.9.3.2 Permanent Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Build Alternative improvements would occur mostly within existing pavement or disturbed areas, with the exception of the slope south of SR-91. Retaining walls would be constructed in this area in order to control slope stability. In addition, in this area, the Proposed Project would encroach approximately 100 to 300 ft into the NNL parcel. However, due to the limited encroachment, the project would not impact any designated unique geologic feature.

Moderate to severe seismic shaking is likely to occur in the Project Area during the life of the improvements under the Build Alternative; however, this does not

represent a substantially greater hazard than any other area because Southern California is a seismically active region, and the SR-241/SR-91 Express Lanes Connector project is not located within an active fault zone. In general, the project improvements can be designed to accommodate the expected ground accelerations through compliance with applicable building and seismic codes. As a result, the potential for structural damage can be substantially reduced or avoided through seismic engineering design.

Liquefaction is a potential geologic hazard for the Build Alternative. Like other secondary seismic hazards, this condition will be investigated as part of the Final Geotechnical Report (Measure GEO-1). Expansive soils and bedrock are another potential geologic hazard to the Build Alternative that will be investigated as part of Measure GEO-1. The liquefaction and expansive soil and bedrock hazards would be minimized through implementation of appropriate design measures.

There are no landslides mapped along or adjacent to the Build Alternative; however, there is a potential for unmapped landslides to occur along or adjacent to the Build Alternative. A Final Geotechnical Report specified in Measure GEO-1 will be prepared during final design that will identify any special soil remediation that needs to be done prior to construction of the Proposed Project.

Impacts related to erosion occurring after the completion of construction that may affect the traveling public or the project facilities can be substantially reduced through design and grading techniques. The Build Alternative would result in potential for erosion and a need for sensitive design and grading techniques to reduce erosion. Refer to Section 3.8, Water Quality and Storm Water Runoff, for additional discussion regarding construction-related water quality issues and mitigation, including BMPs.

Although portions of SR-91 within the Project Area could be subject to dam inundation and seiche, this risk is the same with the No Build condition.

No Build Alternative

Under the No Build Alternative, existing earthquake, seismic, and landslide issues would continue to potentially affect the existing facilities along the project segments of SR-241 and SR-91. However, the grading and use of cut-and-fill slopes required for the SR-241/SR-91 Express Lanes Connector project would not occur under the No Build Alternative.

3.9.4 Avoidance, Minimization, and/or Mitigation Measures

The measures listed below are required, and will be incorporated during construction of the Build Alternative to avoid and minimize permanent impacts to geology and soils.

All improvements under the Build Alternative would be designed, constructed, and operated in accordance with all applicable standards, including the following design and safety standards:

- Caltrans design standards (for highway and roadway improvements on Caltrans facilities) in the Highway Design Manual (2012 or more current);
- California Occupational Safety and Health Administration (Cal/OSHA) related to worker safety during construction and operation in Title 8 Chapter 3.2, California Safety and Health Regulations, California Code of Regulations; and
- National Fire Protection Association (NFPA) Safety Codes and Standards.

Compliance with the applicable agency/jurisdiction seismic design standards would reduce the risk associated with geologic hazards related to seismicity, soil erosion, and slope instability during construction and operation of the SR-241/SR-91 Express Lanes Connector to acceptable levels. Measures GEO-1 and GEO-2 documented below would further reduce potential impacts related to liquefaction, seismic shaking, fault-induced ground rupture, slope instability, and erosion.

Measure GEO-1 **Final Geotechnical Report.** During Final Design, a qualified geotechnical engineer will conduct a comprehensive geologic and geotechnical investigation and prepare a design-level geotechnical report. This report will document geology-related constraints and hazards such as fault-induced ground rupture, slope instability, settlement, liquefaction, or related secondary seismic impacts that may be present along the alignment of the Build Alternative. The performance standard for this report will be the California Department of Transportation's (Caltrans) Geotechnical Manual (2012 or most recent version) standards as they apply to the project features and structures. The measures recommended in the design-level geotechnical report will be incorporated into the Final Design and project specifications. The construction contractor will implement the

measures recommended in the design-level geotechnical reports as included in the project design and specifications.

Measure GEO-2 **Quality Assurance/Quality Control Plan.** During Final Design, a quality assurance/quality control (QA/QC) plan will be prepared and implemented during construction. The QA/QC plan will include observing, monitoring, and testing by the Project Geotechnical Engineer and/or the Project Geologist prior to and during construction to confirm that the geotechnical/geologic recommendations from the design-level geotechnical report and standard design and construction practices are fulfilled by the contractor, or if different site conditions are encountered, appropriate changes are made to accommodate such issues. Weekly reports will be prepared during all project-related grading, excavation, and construction activities.

3.10 Paleontology

3.10.1 Regulatory Setting

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils.

A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized projects.

16 United States Code (USC) 461-467 (the National Registry of Natural Landmarks) establishes the National Natural Landmarks (NNL) program. Under this program property owners agree to protect biological and geological resources such as paleontological features. Federal agencies and their agents must consider the existence and location of designated NNLs, and of areas found to meet the criteria for national significance, in assessing the effects of their activities on the environment under NEPA.

23 United States Code (USC) 1.9(a) requires that the use of federal-aid funds must be in conformity with federal and state law.

23 United States Code (USC) 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 USC 431-433 above and state law.

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

3.10.2 Affected Environment

This section is based on the following reports for the Proposed Project:

- *Paleontological Resources Evaluation Report* (PER) (January 2014)
- *Supplemental Paleontological Resources Identification and Evaluation Report* (Supplemental PIR/PER) (August 2015)

The Supplemental PIR/PER was prepared to address project modifications that incorporated areas that were not evaluated in the original PER.

The area studied for this Project is the Area of Project Disturbance (APD) for all areas of the SR-241/SR-91 Express Lanes Connector Project where excavation is proposed. The locality search extended over 1 mile (mi) from the boundary of the

APD to assist with determining the paleontological sensitivities of geologic formations in the area. The APD is based on the horizontal and vertical extent of anticipated project-related ground-disturbing activities. A "Research Area" boundary of up to 1 mi on either side of the APD was used as a study area.

The APD is at the northern end of the Peninsular Ranges Geomorphic Province (province) of southern California. This province is characterized by a series of mountain ranges separated by northwest-trending valleys subparallel to faults branching from the San Andreas Fault. The trend of topography is similar to that of the Coast Ranges Geomorphic Province to the north, but the geology is more like that of the Sierra Nevada, with granitic rock intruding on older metamorphic rocks. The geology of the APD contains extensive pre-Cretaceous (more than 145 million years ago) igneous and metamorphic rocks covered by limited exposures of post-Cretaceous (less than 66 million years ago) sedimentary deposits.

An approximately 5-acre acquisition area on the south side of SR-91, roughly between Coal Canyon and Gypsum Canyon lies with the Irvine Ranch NNL. Irvine Ranch NNL is an area of national significance because it is an outstanding example of major biological and geological features. Fossils of hadrosaurian (duckbilled) dinosaurs have been discovered within the Irvine Ranch NNL, although not within the formations exposed in the 5-acre acquisition area.[1,2,3,4]

3.10.2.1 Locality Search

A locality search, including the APD and 1 mi from the boundary of the APD was conducted through local museums, and included a literature review and a records search. The purpose of the locality search was to determine which geologic sediments within and adjacent to the APD would likely be exposed during ground-disturbing activities associated with proposed improvements and to establish the status and

1 Irvine Ranch Conservancy. Website: http://letsgooutside.org/about/as-rare-as-a-rainforest/ (accessed May 11, 2016).

2 Morton, Douglas M. 2004. Preliminary Digital Geologic Map of the Santa Ana 30' x 60' Quadrangle, Southern California. Version 2.0. Digital preparation by Rachel M. Alvarez and Kelly R. Bovard. United States Geological Survey Open-File Report 99-0172. Map Scale 1:100,000.

3 Hilton, Richard P. 2003. *Dinosaurs and Other Mesozoic Reptiles of California*. University of California Press. 318 pp.

4 Morris, William J. 1973. *A Review of Pacific Coast Hadrosaurs.* Journal of Vertebrate Paleontology 47(3):551-561.

extent of previously recorded paleontological resources within and adjacent to the APD.

Literature Review

The literature review included a review of area geology, any fossil resources recovered within sediments similar to those that have the potential to be encountered during excavation associated with the Proposed Project, and the paleontological sensitivity of the sediments exposed in the APD based on fossil finds from similar sediments in southern California. The results of the literature review indicated that where excavation may occur within the APD, there are nine geologic units exposed on the surface, and therefore have the potential to be encountered during construction of the proposed improvements. Two geologic units exposed on the surface within the APD, Artificial Fill and Holocene Landslide Deposits, do not have the potential to contain paleontological resources. Holocene Landslide Deposits do not have the potential to contain paleontological resources because of their young age (less than 11,700 years). Artificial Fill does not have the potential to contain scientifically valuable paleontological resources because it has been disturbed. Any fossil remains encountered in Artificial Fill would lack their original geologic context. Both of these geologic units may be on top of units that do have the potential to contain paleontological resources. Two other geologic units exposed on the surface within the APD, Holocene and late Pleistocene Young Alluvial Fan Deposits and Young Axial Channel Deposits, have a low paleontological sensitivity and do not have the potential to contain paleontological resources at depths shallower than approximately 10 feet (ft) below the surface. However, at depths greater than 10 ft, the sediments within these geologic units likely date to the late Pleistocene and are old enough to have the potential to contain paleontological resources. Therefore, sediments below a depth of 10 ft within these geologic units have a high paleontological sensitivity.

Five geologic units exposed on the surface within the APD, the Schulz Ranch Member of the Williams Formations, the Santiago Formation, the Undifferentiated Sespe/Vaqueros Formation, the Topanga Formation, and the Very Old Alluvial Fan Deposits, have a high paleontological sensitivity and potentially contain paleontological remains. The Silverado Formation and the Baker Canyon Member of the Ladd Formation also occur within the APD and have a high paleontological sensitivity; however, excavation into these two formations is not expected. Within the approximately 5-acre parcel in the NNL where ground disturbance will occur, four geologic units are present: the Santiago Formation, Very Old Alluvial Fan Deposits, Young Alluvial Fan Deposits, and Holocene Landslide Deposits. Each of these units

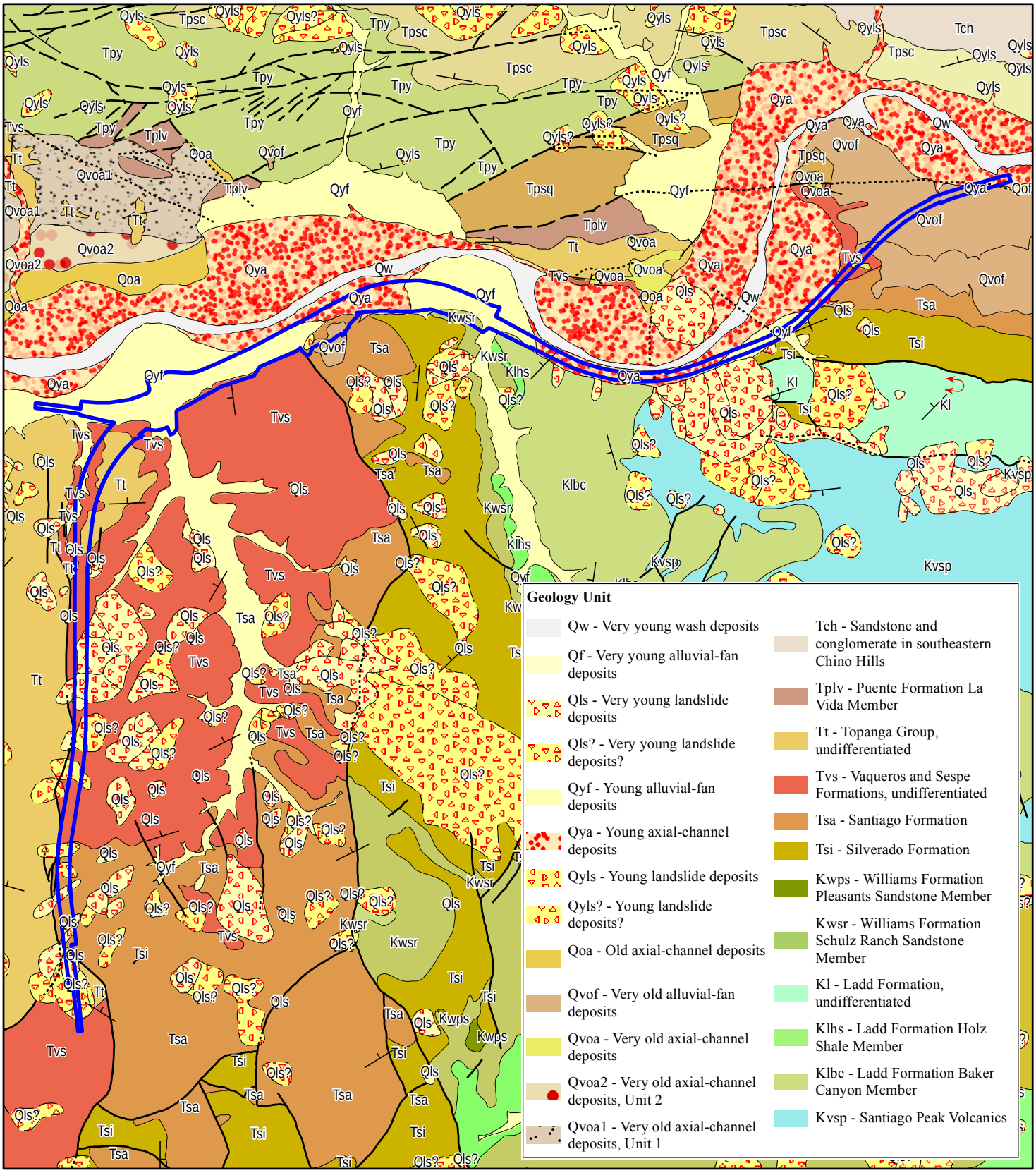
and the locations where they will be encountered are depicted on Figure 3.10.1, summarized in Table 3.10.1, and briefly described below. Each of the underlying geologic units within the APD and the associated paleontological sensitivities of those geologic units are presented as sensitivity polygons on Figure 3.10.2. Figure 3.10.3 shows the geologic units that occur within the NNL in the APD.

Table 3.10.1 Geologic Time Periods and Geologic Units in the Area of Project Disturbance

Epoch	Age (years ago)	Geologic Formation/Unit	Map Symbol
Quaternary Period			
Holocene	Less than 100	Artificial Fill (not mapped, but known to be present)	Af
Holocene	Less than 5,000	Landslide Deposits	Qls
Late Pleistocene to Holocene	126,000 to recent	Young Axial Channel Deposits	Qyf
Late Pleistocene to Holocene	126,000 to recent	Young Alluvial Fan Deposits	Qya
Early to middle Pleistocene	2.54 Ma to 300,000	Very Old Alluvial Fan Deposits	Qvof
Tertiary Period			
Middle Miocene	18–12 Ma	Topanga Formation	Tt
Early Miocene to Late Eocene	40–22 Ma	Undifferentiated Sespe Vaqueros Formation	Tvs
Middle Eocene	50–42 Ma	Santiago Formation	Tsa
Paleocene	56.0-66.0 Ma	Silverado Formation	Tsi
Mesozoic Era			
Late Cretaceous	83–77 Ma	Williams Formation – Schulz Ranch Member	Kwsr
Late Cretaceous	83-77 Ma	Ladd Formation – Baker Canyon Member	Klbc

Source*: Paleontological Resources Evaluation Repor*t (January 2014);
Supplemental Paleontological Resources Identification and Evaluation Report (August 2015).
Note: Refer to Figure 3.10.1 for the locations of these geologic formations and units in the APD.
APD = Area of Project Disturbance
Ma = Million years

The specific sensitivities for the underlying geologic units within the APD, according to the Paleontological Potential Sensitivity Scale used by Caltrans, are listed in Table 3.10.2.



LEGEND

Area of Potential Disturbance

Fault (dashed where approximate and dotted where buried)

Contact

Strike and Dip

N

0 1500 3000

FEET

SOURCE:Morton (2004)

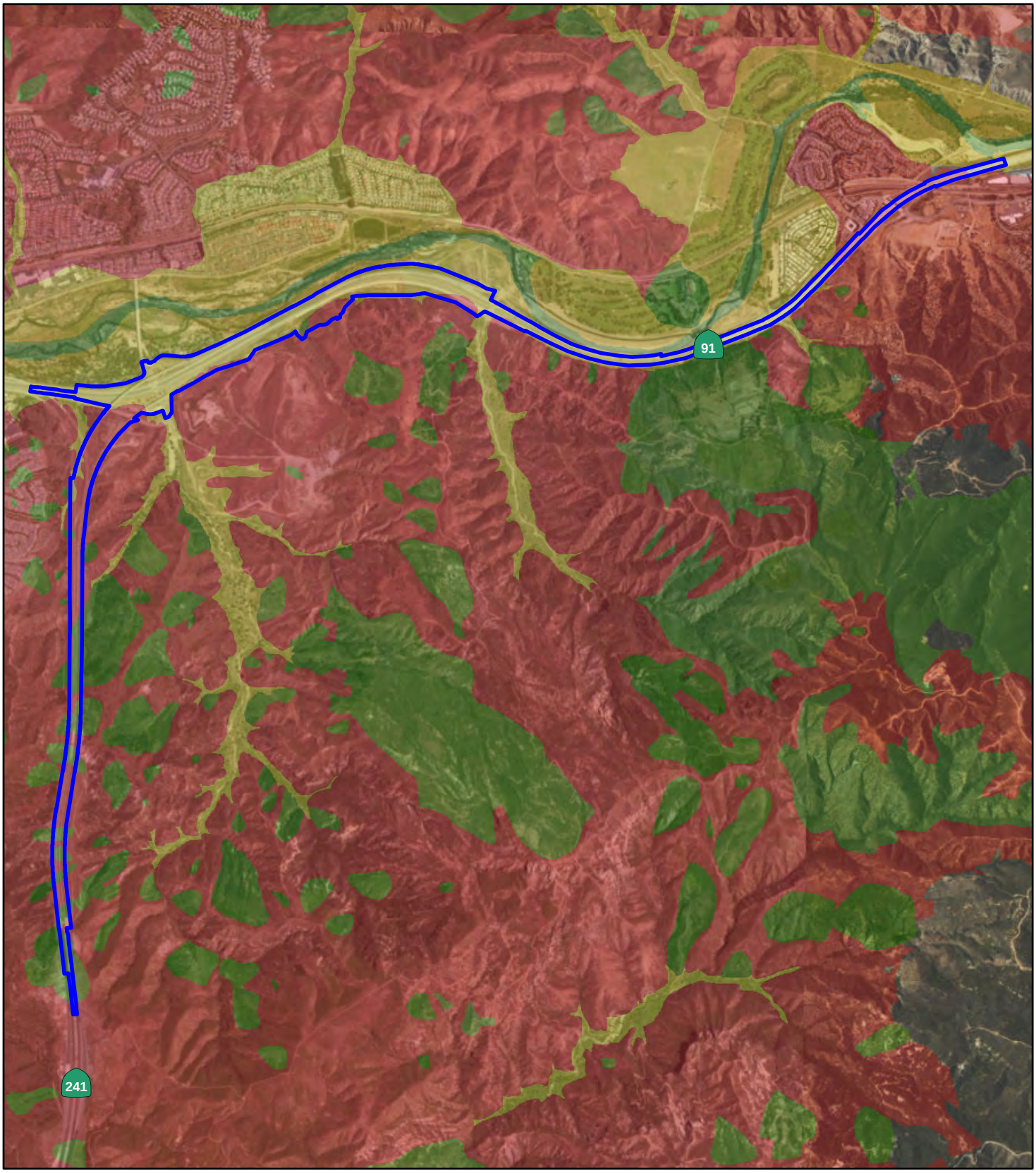
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FIGURE 3.10.1

SR-241/SR-91 Express Lanes Connector

Geologic Map of the Project Area and Vicinity

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LEGEND

Area of Potential Disturbance

Paleontological Resources Sensitivity

Low

Low 0-10', High below 10'

High

N

0 1500 3000

FEET

SOURCE: Bing Maps (2014); Morton (2004)

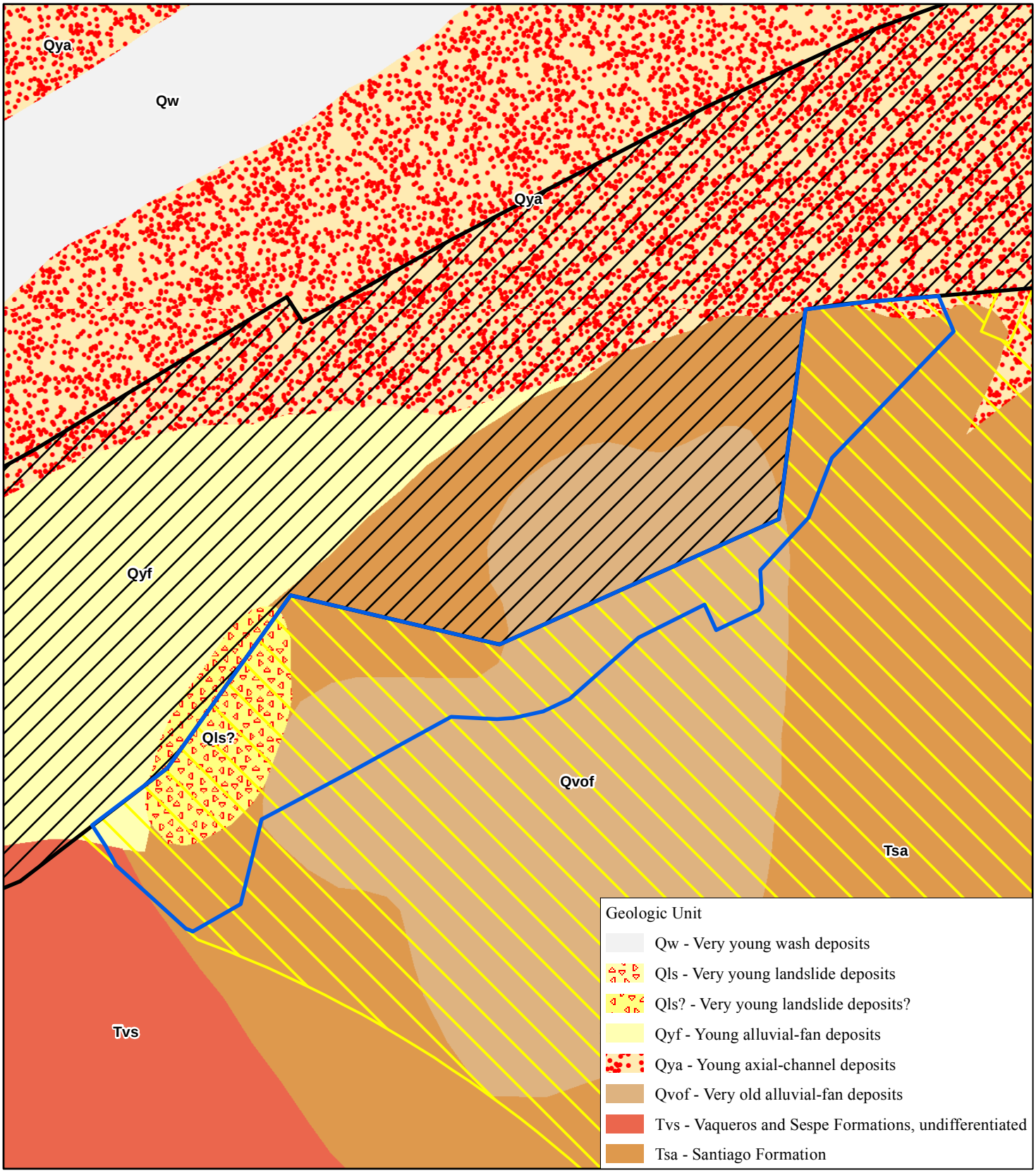
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FIGURE 3.10.2

SR-241/SR-91 Express Lanes Connector

Paleontological Resources Sensitivity Map

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LEGEND

Project Location Studied in 2014 PIR/PER

New Project Area Studied in Current (2015) Supplemental PIR/PER

Irvine Ranch National Natural Landmark (NNL)

FIGURE 3.10.3

N

0 100 200

FEET

SOURCE: USGS 7.5' Quad - Black Star Canyon (1988), CA

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SR-241/SR-91 Express Lanes Connector

Geology Map

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Table 3.10.2 Geologic Units and Paleontological Sensitivity[1] in the Area of Project Disturbance

Geologic Unit	Paleontological Sensitivity[2]
Artificial Fill	No
Holocene Landslide Deposits	Low
Young Axial Channel Deposits	Low 0 to 10 feet High below 10 feet
Young Alluvial Fan Deposits	Low 0 to 10 feet High below 10 feet
Very Old Alluvial Fan Deposits	High
Topanga Formation	High
Undifferentiated Sespe/Vaqueros Formation	High
Santiago Formation	High
Silverado Formation	High
Williams Formation – Schulz Ranch Member	High
Ladd Formation – Baker Canyon Member	High

Source: *Paleontological Resources Identification and Evaluation Report* (January 2014); *Supplemental Paleontological Resources Identification and Evaluation Report* (August 2015).
Note: Refer to Figure 3.10.2 for the locations of these geologic units and the sensitivity of those units in the Area of Project Disturbance.
1 Also known as Paleontological Potential.
2 Based on the Caltrans Paleontological Potential Sensitivity Scale.

Locality and Literature Search

A locality and literature search was completed through the Natural History Museum of Los Angeles County (LACM), the San Bernardino County Museum (SBCM), and consultant-maintained records of paleontological resources found within and adjacent to the APD in February 2007, during the Project Scoping process. The locality and literature search included the current APD along SR-241, as well as areas along the *91 Express Lanes* between SR-241 and State Route 71 (SR-71).

Natural History Museum of Los Angeles County

The results of the locality and literature search through the LACM indicated one vertebrate paleontological find within the APD and indicated other finds have been recovered nearby from geologic units that outcrop within the APD. The LACM concluded that all geologic units that the APD crosses, except the younger Quaternary Alluvium (i.e., Artificial Fill, Holocene Landslide Deposits, and the sediments within the Young Alluvial Fan Deposits and Young Axial Channel Deposits that are shallower than 10 ft), have the potential to contain significant paleontological remains.

San Bernardino County Museum

The results of the locality and literature search through the SBCM did not indicate any recorded localities within the APD. However, the SBCM has records of several localities, some within 0.5 mi of the APD, from geologic units mapped within the APD and that could potentially be encountered during project-related ground-disturbing activities. These include a locality in the Santiago Formation that contained gastropods and several localities from within Pleistocene alluvium in the nearby Chino Hills that contained Pleistocene vertebrates. The SBCM concluded that the following formations have a high paleontological sensitivity and may be encountered during project-related ground-disturbing activities: Ladd Formation, Silverado Formation, Santiago Formation, Sespe and Vaqueros Formations, Topanga Formation, Puente Formation, and the older alluvium of Pleistocene age (i.e., sediments within the Young Alluvial Fan Deposits and Young Axial Channel Deposits below a depth of 10 ft and the Very Old Alluvial Fan Deposits). Further study and refinement of the APD indicated that the Puente Formation is not likely to be encountered so it is not addressed further.

3.10.2.2 Field Survey

A field survey was not conducted within or adjacent to the majority of the APD because much of the APD is along existing freeways, with little to no access to exposed sediment. However, two paleontological field surveys/studies have been previously completed in the vicinity of the APD, and a survey was completed for the approximately 5-acre area within the Irvine Ranch portion of the APD. During grading for the SR-241, Paleo Environmental Associates, Inc. provided paleontological mitigation monitoring and collected numerous fossils, including some located within the current APD. During preparation of the initial paleontological assessment of the *SR-91 Eastbound Lane Addition Project* (between SR-241 and SR-71), a field survey of a majority of the APD was completed. That field survey included walking and examining the exposed sediments in the areas of proposed earthwork. The purpose of this initial field survey was to confirm the geology as it was mapped, identify where potential cuts would occur, and determine whether any fossils were exposed on the surface in those areas. During this initial survey, no fossils were observed within any of the geologic units that outcrop along SR-91, and most of the mapped geology was confirmed where it was exposed.

During the preparation of the Supplemental PIR/PER, a pedestrian survey of the approximately 5-acre area that is within the NNL was conducted on March 17, 2015. That area had not been previously surveyed during prior studies. The survey was

completed by walking parallel transects spaced by approximately 10 meters in the flatter areas, as well as by examining outcrops from a distance where the terrain was too steep. The purpose of this survey was to confirm the geology as it is mapped and determine whether any fossils were exposed on the surface. During the survey, the geology was essentially confirmed to be as mapped. Because of a thick growth of weeds and brush, ground visibility was around 30 percent or less. The presence of the Santiago Formation, the Very Old Alluvial Fan Deposits, and the Young Alluvial Fan Deposits could be confirmed as being present; however, due to poor visibility, the Holocene Landslide Deposits could not definitively be verified. No paleontological resources were observed during this survey.

3.10.2.3 Irvine Ranch National Natural Landmark

No special paleontological situation would be anticipated in the APD within the Irvine Ranch NNL. The Irvine Ranch NNL encompasses nearly 40,000 acres, and the geologic units that will be encountered in the portion of the NNL in the APD are all present in other portions of the NNL, as well as other parts of Southern California. There are no known unique paleontological resources from the geologic units in the portion of the NNL in the APD that helped to contribute to the NNL listing.

3.10.3 Environmental Consequences

3.10.3.1 Temporary Impacts

No Build Alternative and Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Any impacts to paleontological resources would be considered permanent; therefore, an analysis of temporary impacts to paleontological resources is not applicable to either alternative.

3.10.3.2 Permanent Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

The Proposed Project is anticipated to disturb geologic units in the APD which have high potential to contain significant, nonrenewable paleontological resources. The literature review indicated known fossil localities in geologic units similar to those within the APD, and some fossil localities in proximity to the APD. Research also documented that parts of the APD are in areas identified as having high paleontological sensitivity at the surface and at depth. The locality and literature search indicated that one LACM fossil locality is known to be within the APD and one SBCM locality is known to be within 0.5 mi of the APD. In addition, both the

LACM and the SBCM indicated localities in other areas with the same geologic units that are present within the APD.

As discussed earlier, no special paleontological situation would be anticipated in the portion of the Irvine Ranch NNL that is within the APD. The geologic units that will be encountered in the portion of the NNL within the APD are all present in other portions of the NNL, as well as other parts of Southern California. There are no known unique paleontological resources specific to the geologic units exposed or in the subsurface in the portion of the NNL within the APD that helped to contribute to the NNL listing.

Due to the areas of high paleontological sensitivity in the APD, preparation of a Caltrans Paleontological Mitigation Plan (PMP), as specified below in Measure PAL-1, is required prior to completion of final design.

No Build Alternative

The No Build Alternative does not include any improvements to SR-241 or SR-91 in the APD, and would not result in ground disturbance or excavation. Therefore, no impacts to paleontological resources would occur as a result of the No Build Alternative.

3.10.4 Avoidance, Minimization, and/or Mitigation Measures

The measure listed below is required and will be incorporated during design and construction of the Build Alternative to mitigate permanent impacts to paleontological resources.

Measure PAL-1 **Paleontological Mitigation Plan.** During Final Design a Paleontological Mitigation Plan (PMP) will be prepared and adhered to during construction. The PMP will follow the guidelines of the Society of Vertebrate Paleontologists (SVP) and Caltrans. The PMP requires inclusion of, but is not limited to, the following items a through h:

a. Attendance at the pregrade meeting by a qualified paleontologist or representative;

b. Preconstruction field survey by the paleontological mitigation team;

c. Monitoring during construction excavation by the paleontological mitigation team;

d. Collection of representative samples from geologic formations;

e. Sieving of bulk samples for microfossil recovery;

f. Preparation of specimens to the point of identification and permanent preservation;

g. Curation of fossils into a repository with permanent retrievable storage that meets Caltrans' requirements; and

h. Preparation of a Paleontological Mitigation Report documenting the implementation of the Paleontological Mitigation Plan.

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3.11 Hazardous Waste/Materials

3.11.1 Regulatory Setting

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

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Resource Conservation and Recovery Act of 1976 (RCRA). The purpose of 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 RCRA provides for "cradle to grave" regulation of hazardous waste generated by operating entities. Other federal laws include:

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

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

California regulates hazardous materials, waste, and substances under the authority of the CA Health and Safety Code and is also authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires clean up of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and clean up 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 is vital if it is found, disturbed, or generated during project construction.

3.11.2 Affected Environment

This section is based on the *Phase I Initial Site Assessment* (ISA) (October 2015) prepared for the Proposed Project. The Study Area included the Project Footprint and adjacent areas that have the potential to impact the Project Area. The Phase I ISA was not intended to provide specific qualitative or quantitative information as to the actual presence of hazardous materials at the site, but merely to identify the potential presence based on available information. In order to discover and evaluate potential Recognized Environmental Conditions (RECs), the Phase I ISA included the following components:

- A site visit was performed on October 22, 2013, consisting of a visual examination of the Project Area for visual evidence of potential environmental concerns including existing or potential soil and groundwater contamination, as evidenced by soil or pavement staining or discoloration, stressed vegetation, indications of waste dumping, or burial, pit, ponds, or lagoons; containers of hazardous substances or petroleum products; electrical and hydraulic equipment that may contain polychlorinated biphenyls, such as electrical transformers and hydraulic hoists; and underground and aboveground storage tanks. The site visit did not include any subsurface investigation, including, but not limited to, sampling and/or laboratory analysis.
- An investigation of historical use of the Project Area by examining locally available aerial photographs (one source) and other readily available historical information for evidence of potential environmental concerns associated with prior land uses.
- A review of information available on general geology and topography of the subject property and local groundwater conditions.
- A review of environmental records available from the property owner or site contact including regulatory agency reports, permits, registrations, and consultants' reports for evidence of potential environmental concerns.

- A site property line visual assessment of adjacent properties for evidence of potential off-site environmental concerns that may affect the subject property.
- A review of a commercial database summary (September 27, 2013) of federal, State, tribal, and local regulatory agency records pertinent to the subject property and off-site facilities located within American Society for Testing and Materials-specified search distances for the subject property. For those listed properties that present a concern and are further discussed, a description of each these databases is provided in Table 3.11.1.
- Interviews with key site personnel, as available, regarding current and previous uses of the Project Area, particularly activities involving hazardous substances and petroleum products.

Hazardous materials present in the Project Area or in the Project Vicinity based on the database search, historical records review, and an interview are listed in Table 3.11.2 and shown in Figure 3.11.1.

3.11.3 Environmental Consequences

3.11.3.1 Temporary Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Typical hazardous materials used during construction (e.g., solvents, paints, and fuels) would be handled in accordance with standard procedures. There are standard regulations and the Caltrans policies (avoidance and minimization measures) that must be followed with respect to the use, storage, handling, disposal, and transport of potentially hazardous materials during construction of the Proposed Project to protect human health and the environment.

There is the potential to encounter the following hazardous materials/wastes that are typical of a transportation facility: aerially deposited lead (ADL) (unpaved areas adjacent to SR-91), asbestos-containing materials (ACM) (Gypsum Canyon bridge structure 55-0506), chemically treated wood waste (guardrails, and landscape timber, etc.), and lead-based paint (LBP) in traffic striping (SR-241 and SR-91). Additionally, the generally unknown location of the on-site petroleum pipeline could lead to a rupture during construction activities. Although this pipeline is reported to be empty, there could be some residual material that would need disposal.

Due to historical uses in the area, there is a potential to encounter unrecorded hazardous waste during construction.

Table 3.11.1 Database Summaries

Database	Description
CA FID UST	The California Facility Inventory Database Underground Storage Tank database maintains information on properties where an underground storage tank is located.
Cortese	The Cortese database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic materials identified through the abandoned site assessment program, sites with USTs having a reportable release and all solid waste disposal facilities from where there is known migration.
EMI	The Emissions Inventory Data database includes toxics and criteria pollutant emissions data that are collected by the Air Resources Board and local air pollution agencies.
ENVIROSTOR	The Department of Toxic Substances Control's (DTSC) Site Mitigation and Brownfields Reuse Program's EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List [NPL]); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to that which was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.
FINDS	The Facility Index System/Facility Registry System database contains both facility information and 'pointers' to other sources that contain additional detail. Environmental Data Resources, Inc. includes the following FINDS databases in their report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket, used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System, used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (polychlorinated biphenyl Activity Data System).
HAZNET	The Hazardous Waste Information System database extracts data from copies of hazardous waste manifests received each year by the DTSC.
HIST CORTESE	The historic "Cortese" Hazardous Waste and Substances Sites List is a list of sites that are designated by the State Water Resources Control Board (SWRCB), the Integrated Waste Board, and the Department of Toxic Substances Control.
HIST UST	The Historic Underground Storage Tank database contains information on sites in which historic underground storage tanks are located.
LUST	The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data comes from the SWRCB Leaking Underground Storage Tank Information System.
NPDES	National Pollutant Discharge Elimination System (NPDES) Permits Listing is a listing of NPDES permits, including stormwater.
Orange County Industrial Site	Orange County Industrial Site List of industrial site clean ups maintained by the Orange County Health Care Agency (HCA), including petroleum and non-petroleum spills.

Table 3.11.1 Database Summaries

Database	Description
RCRA-SQG	The Resource Conservation and Recovery Act (RCRA) – Small Quantity Generator (SQG) database contains selective information on sites which generate, transport, store, treat, and/or dispose of hazardous waste as defined by RCRA. Small quantity generators generate less than 1,000 kilograms (kg) of hazardous waste, or over less than 1 kg of acutely hazardous waste per month. SQGs generate between 100 kg and 1,000 kg of hazardous waste per month.
SWEEPS UST	The Statewide Environmental Evaluation and Planning System Underground Storage Tank database maintains information on properties where an underground storage tank is located; however, this database is no longer updated.
UST	The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the RCRA. The data comes from the SWRCB's Hazardous Substance Storage Container Database.
VCP	The Voluntary Cleanup Program database contains low-threat-level properties with either confirmed or unconfirmed releases and in which the project proponents have requested that DTSC oversee investigation and/or clean up activities and have agreed to provide coverage for DTSC costs.
WDS	The Waste Discharge System database is a listing of sites that have been issued waste discharge requirements.
GeoTracker	This database website is maintained by the SWRCB.

Table 3.11.2 Hazardous Materials in the Project Area and Project Vicinity

Figure 3.11.1 ID.	Issue/ Regulatory Property Location	Facility Name	Database Listing/Source	Status/Finding	Concern for the Project?
N/A	On-Site Bridge Structures (Asbestos-Containing Materials)	Gypsum Canyon Road Undercrossing	N/A	Asbestos is a strong, incombustible, and corrosion-resistant material, which was used in many commercial products prior to the 1940s and up until the early 1970s. If inhaled, asbestos fibers can result in serious health problems. Asbestos-containing materials (ACMs) are building materials containing more than one percent (1%) asbestos (some state and regional regulators impose a one-tenth of one percent (0.1%) threshold). Due to the age of the on-site bridge structure 55-0724L (constructed in 1998), the potential for ACMs to be found on the site is considered to be unlikely. However, the Gypsum Canyon Road Undercrossing was constructed in 1971 and could contain ACMs. The on-site bridge structure appeared to be in fair condition, and no visible evidence to suggest the release of ACMs into the environment was observed. Although it was determined that the on-site bridge structure has not resulted in a Recognized Environmental Conditions (REC) on the Project Area as a result of ACMs, special handling may be required, as the project may involve disturbance of these materials. Although typically performed during the Project Approved/Environmental Document phase, confirmation of the presence or absence of asbestos in the Gypsum Canyon Road Undercrossing should be confirmed during Final Design (as nominal amounts of ACMs are anticipated to be disturbed at this bridge structure, if any) by a certified specialist. If asbestos is present, the certified asbestos abatement specialist should monitor the disposal of the ACMs as they are uncovered. The contractor would be required to comply with Caltrans Standard Specifications Section 14-9.02 pertaining to air pollution control compliance with rules, regulations, ordinances, and statues during renovation and demolition activities.	Yes

Table 3.11.2 Hazardous Materials in the Project Area and Project Vicinity

Figure 3.11.1 ID.	Issue/ Regulatory Property Location	Facility Name	Database Listing/Source	Status/Finding	Concern for the Project?
N/A	On-Site Bridge Structures (Lead-Based Paints)	Gypsum Canyon Road Undercrossing	N/A	Until 1978, when the U.S Consumer Product Safety Commission (CPSC) phased out the sale and distribution of residential paint containing lead, many homes were treated with paint containing some amount of lead. It is estimated that over 80 percent of all housing built prior to 1978 contains some lead-based paint (LBP). The mere presence of lead in paint may not constitute a material to be considered hazardous. In fact, if in good condition (no flaking or pealing), most intact LBP is not considered to be a hazardous material. In poor condition, LBPs can create a potential health hazard for building occupants, especially children. The on-site bridge structures do not appear to include features that have been painted; thus, LBPs in association with the on-site bridge structure itself are considered unlikely. Therefore, it was determined that the on-site bridge structures have not resulted in an REC on the Project Area as a result of LBPs, and no further recommendation is necessary at this time.	No
N/A	Treated Wood Waste	N/A	N/A	Treated wood waste comes from old wood that has been treated with chemical preservatives. These chemicals help protect the wood from insect attack and fungal decay while it is being used. Fence posts, sill plates, landscape timbers, pilings, guardrails, and decking, to name a few, are all examples of chemically treated wood. Treated wood waste contains hazardous chemicals that pose a risk to human health and the environment. Arsenic, chromium, copper, creosote, and pentachlorophenol are among the chemicals used to preserve wood and are known to be toxic or carcinogenic. Harmful exposure to these chemicals may result from touching, inhaling, or ingesting treated wood waste particulate (e.g., sawdust and smoke). No visible evidence to suggest the release of treated wood waste was noted during the course of the Phase I Initial Site Assessment (ISA). No REC has resulted on the site in this regard. However, this issue is of environmental concern, as the project would require the removal/disposal of treated wood associated with on-site guardrails. The removal or disposal of treated wood waste would be required to comply with Caltrans Standard Specifications Section 14-10 pertaining to the disposal of treated wood waste during construction.	Yes

Table 3.11.2 Hazardous Materials in the Project Area and Project Vicinity

Figure 3.11.1 ID.	Issue/ Regulatory Property Location	Facility Name	Database Listing/Source	Status/Finding	Concern for the Project?
N/A	Traffic Striping	SR-91 and SR-241	N/A	LBPs were commonly used in traffic striping materials before the discontinued use of lead chromate pigment in traffic striping/marking materials and hot-melt thermoplastic stripe materials (discontinued in 1996 and 2004, respectively). Traffic striping was present along SR-241 and SR-91 within the boundaries of the Project Area during the October 22, 2013, site visit. Thus, the potential for LBPs to be present on the site as a result of traffic striping is likely. No visible evidence to suggest the release of LBPs into the environment was observed; therefore, the likely presence of LBPs in traffic striping materials was not an REC. Although it has been determined that the on-site freeways (SR-241 and SR-91) containing traffic striping have not resulted in an REC at the subject site as a result of LBPs, this issue is of environmental concern, as the project would involve the disturbance of these materials. The contractor will be required to comply with Caltrans Standard Specifications Section 14-11 pertaining to the testing, removal, and disposal of any traffic striping and pavement-marking materials during construction.	Yes
N/A	Aerially Deposited Lead	SR-91 and SR-241	N/A	Until the mid-1980s, gasoline and other fuels contained lead, a toxic metal. As each car or truck traveled highways and roads, tiny particles of lead were released in the exhaust and settled on the soils next to the road. Most of the time, lead tends not to move very far or fast in the environment. Caltrans has sampled sediment adjacent to traffic lanes in major metropolitan areas and determined that lead from leaded gasoline emissions is present. Elevated lead levels have been found to be highest at the surface (0 to 6 inches) and decrease with depth. Levels are highest immediately adjacent to the traveled way and decrease with distance from the road. Total lead levels on average are not greater than the Total Threshold Limit Concentration (TTLC) but will often exceed the Soluble Threshold Limit Concentration (STLC) found in Title 22, California Code of Regulations (CCR). The construction process of excavation, stockpiling, transporting, and disposing of material (i.e., soils), which exceeds the STLC for lead, makes the material a hazardous waste. If the material exceeds the Threshold Concentration Leaching Potential (TCLP) test limits	Yes

Table 3.11.2 Hazardous Materials in the Project Area and Project Vicinity

Figure 3.11.1 ID.	Issue/ Regulatory Property Location	Facility Name	Database Listing/Source	Status/Finding	Concern for the Project?
				for lead, it is considered a federal hazardous waste. However, tests conducted by Caltrans have concluded that materials excavated adjacent to freeways rarely exceed the TCLP threshold. SR-241 was constructed on the site in the 1990s. Thus, aerially deposited lead (ADL) in association with SR-241 is unlikely. However, SR-91 has been associated with a high number of vehicles since 1935. According to the *Final Aerially Deposited Lead Survey Report* and the *Final Aerially Deposited Lead Survey Report Addendum* (prepared as part of the SR-91 Corridor Improvement Project (CIP) EIR/EIS), test results indicated that soluble lead was detected in 94 out of 148 samples analyzed. Concentrations of soluble lead in soils ranged from 0.1 milligrams per liter (mg/L) to 2.1 mg/L. The criteria against which the lead analytical results for the *Final Aerially Deposited Lead Survey Report* were evaluated are as follows: If the 95 percent upper confidence limit (UCL) mean for soluble lead is less than 0.5 mg/L, the soil is considered non-hazardous for reuse on site. Although the maximum soluble lead concentration of 21 mg/L was detected in soils, a statistical analysis of soluble lead indicated that the 95 percent UCL for soluble lead analysis is less than 0.5 mg/L. Therefore, according to Department of Toxic Substances Control (DTSC) Variance No. V09HQSCD006 (effective June 30, 2015, and extended through October 31, 2015), soils located within the project limits to a depth of 3 feet (ft) below ground surface (bgs) between Gypsum Canyon Road and Magnolia Avenue and 5 ft bgs along eastbound SR-91, starting east of the Weir Canyon Road Undercrossing and extending east of the Gypsum Canyon Road Undercrossing, may be released to the contractor as nonhazardous soils and reused on site without restrictions under the DTSC Variance No. V09HQSCD006 for ADL impacted soil. Refer to Section 3.11.4, Avoidance, Minimization, and/or Mitigation Measures, for anticipated requirements that may be imposed on the Proposed Project prior to site-disturbance activities. Implementation of the Proposed Project would not require soil export from the Project Area to another area. Therefore, no further recommendation is necessary in this regard. It is determined that the presence of ADL within the boundaries of the Project Area does not present an REC. However, the presence of ADL within exposed soils along SR-91 presents an environmental concern if	

Table 3.11.2 Hazardous Materials in the Project Area and Project Vicinity

Figure 3.11.1 ID.	Issue/ Regulatory Property Location	Facility Name	Database Listing/Source	Status/Finding	Concern for the Project?
				these materials are transported off the site. The Project Engineer is required to ensure that a qualified consultant conduct a new soil ADL evaluation and/or investigation for this project at the Design Phase. The previous ADL test results may be used if applicable along with any new ADL test results. The new soil ADL evaluation and/or investigation is required to be consistent with the new DTSC Lead Agreement contaminant concentration limits. In addition, new DTSC Lead Agreement soil reuse requirements and restrictions will also apply.[1]	
N/A	On-Site Regulatory Properties	N/A	N/A	Available public records were reviewed. The lists that were reviewed did not report any regulatory properties within the boundaries of the Project Area. Therefore, no known corrective action, restoration, or remediation has been planned, is currently taking place, or has been completed on the Project Area. The Project Area has not been under investigation for violation on any environmental laws, regulations, or standards, as identified in the databases. As no contamination or associated clean-up activities associated with a release of hazardous materials on the site have been reported, no REC is present as a result of on-site regulatory properties, and no further recommendation is necessary at this time.	No
1	Off-Site Regulatory Property 24001 E. Santa Ana Canyon	Featherly Park	CA FID UST HIST UST SWEEPS UST	This site has reported the presence of one former and one active underground storage tank (UST). No contamination has been reported.	No
2, 3, 4, 5	Off-Site Regulatory Property 9010 E. Santa Ana Canyon	Former Gypsum Canyon Quarry Operations	EMI Envirostar HAZNET LUST NPDES SWEEPS UST WDS GeoTracker	The former Gypsum Canyon Quarry property adjoins the northern portion of the Project Area to the south-southeast (cross-gradient) of the Project Area. Property owners/operations associated with this quarry include, but are not limited to, Industrial Asphalt, R.F. White, Owl Rock Products Company, The Irvine Company, Robertson's Ready Mix, Asphalt Ready Mix, and Southern California Edison. In September 2004, a comprehensive environmental site assessment/investigation was performed on the Quarry with plans for future residential site development. The Orange County Health Care Agency (OCHCA) oversaw clean up of the Gypsum Canyon Quarry area related to environmental concerns found in surface soils. Clean-up activities in 2005 included	No

Table 3.11.2 Hazardous Materials in the Project Area and Project Vicinity

Figure 3.11.1 ID.	Issue/ Regulatory Property Location	Facility Name	Database Listing/Source	Status/Finding	Concern for the Project?
				excavation and off-site treatment and recycling of 84 tons of hydrocarbon-affected soil associated with a former UST. Contamination was reported to be associated with soils at this off-site property. Based on this reviewed documentation as well as case-closure status obtained for this property by the State Water Resources Control Board (SWRCB), the DTSC, and the City of Anaheim Public Utilities Department, this off-site property has not resulted in an REC in the Project Area at the time, and no further recommendation is necessary at this time.	
N/A	Unmapped Properties	N/A	N/A	An REC on the Project Area caused by one or more of the reported Unmapped Properties located within the vicinity of the Project Area is considered to be low due to the distance from the Project Area and/or the status of the identified sites. Thus, it was determined that reported Unmapped Properties have not resulted in an REC at the Project Area, and no further recommendation is necessary at this time.	No
N/A	Historical Recognized Environmental Condition(s)	N/A	N/A	No Historical RECs (HRECs) have been noted within the boundaries of the Project Area.	No
N/A	Historical Uses	N/A	*Detailed Site Investigation Report* was prepared by SCS Engineers (December 2011)	Based upon evaluation of the documented land use as demonstrated in the review of historical aerial photographs and maps, as well as the site visit, the Project Area appears to have been historically utilized as vacant land, and agricultural and transportation uses (SR-241 and SR-91). The eastern portion of the Project Area appears to have consisted of agricultural uses from the early 1940s until SR-91 was widened in the early 1970s. Therefore, a combination of several commonly used pesticides (i.e., dichlorodiphenyldichloroethane [DDD], dichlorodiphenyltrichloroethane [DDT], and dichlorodiphenyldichloroethylene [DDE]), which are now banned, may have been used throughout the Project Area. The historical use of agricultural pesticides may have resulted in pesticide residues of certain persistence in soil at concentrations that are considered to be hazardous based on established federal regulatory levels. The primary concern with historical pesticide residues is human health risk from inadvertent ingestion of contaminated soil, particularly by children. The presence of moderately elevated	No

Table 3.11.2 Hazardous Materials in the Project Area and Project Vicinity

Figure 3.11.1 ID.	Issue/ Regulatory Property Location	Facility Name	Database Listing/Source	Status/Finding	Concern for the Project?
				pesticide residuals in soil presents potential health and marketplace concerns. Based on the SR-91 CIP Final EIR/EIS, a *Detailed Site Investigation Report* was prepared by SCS Engineers in December 2011, which included further testing to confirm whether or not the presence of moderately elevated pesticide residuals in the soil has occurred. Based on the results, low concentrations of DDT, DDE, DDD, chlordanes, and dieldrin were identified in near-surface soils in these portions of the Project Area. However, the detected concentrations were all below the current California Human Health Screening Levels (CHHSLs) for both residential and commercial/industrial land uses. Thus, based on this information, the historical on-site agricultural activities conducted at the north-eastern portion of the Project Area have not resulted in an REC, and no further recommendation is necessary at this time. Surrounding uses appear to have consisted of vacant land, infrastructure, industrial, recreational, agricultural, and residential land uses. Adjoining historical uses included a gravel pit, reservoir, rocket fuel test site, and associated water tanks noted to the east of the Project Area, as well as minor areas of agricultural land uses north of the eastern portion of the Project Area. Based on the sources reviewed, as well as the site visit and location of off-site historical uses, no historical use information pertaining to off-site uses (which would point to the potential for presence of an REC) has been noted within the boundaries of the Project Area, and no further recommendation is necessary at this time.	
N/A	Acquisition Summary	N/A	N/A	Permanent Right-of-Way (ROW) acquisition would be required for approximately 5 acres (ac) of land owned and operated by the County of Orange (Assessor's Parcel Number [APN] 085-071-56) located south of eastbound SR-91 (approximately 3,600 ft west of Coal Canyon Undercrossing). This property is currently comprised of vacant land, with varying topography associated with the Santa Ana Mountains. No known hazardous materials are associated with this property, currently or historically. Therefore, it is determined that the permanent ROW acquisition of this area is not an REC, and no further recommendation is necessary at this time.	No

Table 3.11.2 Hazardous Materials in the Project Area and Project Vicinity

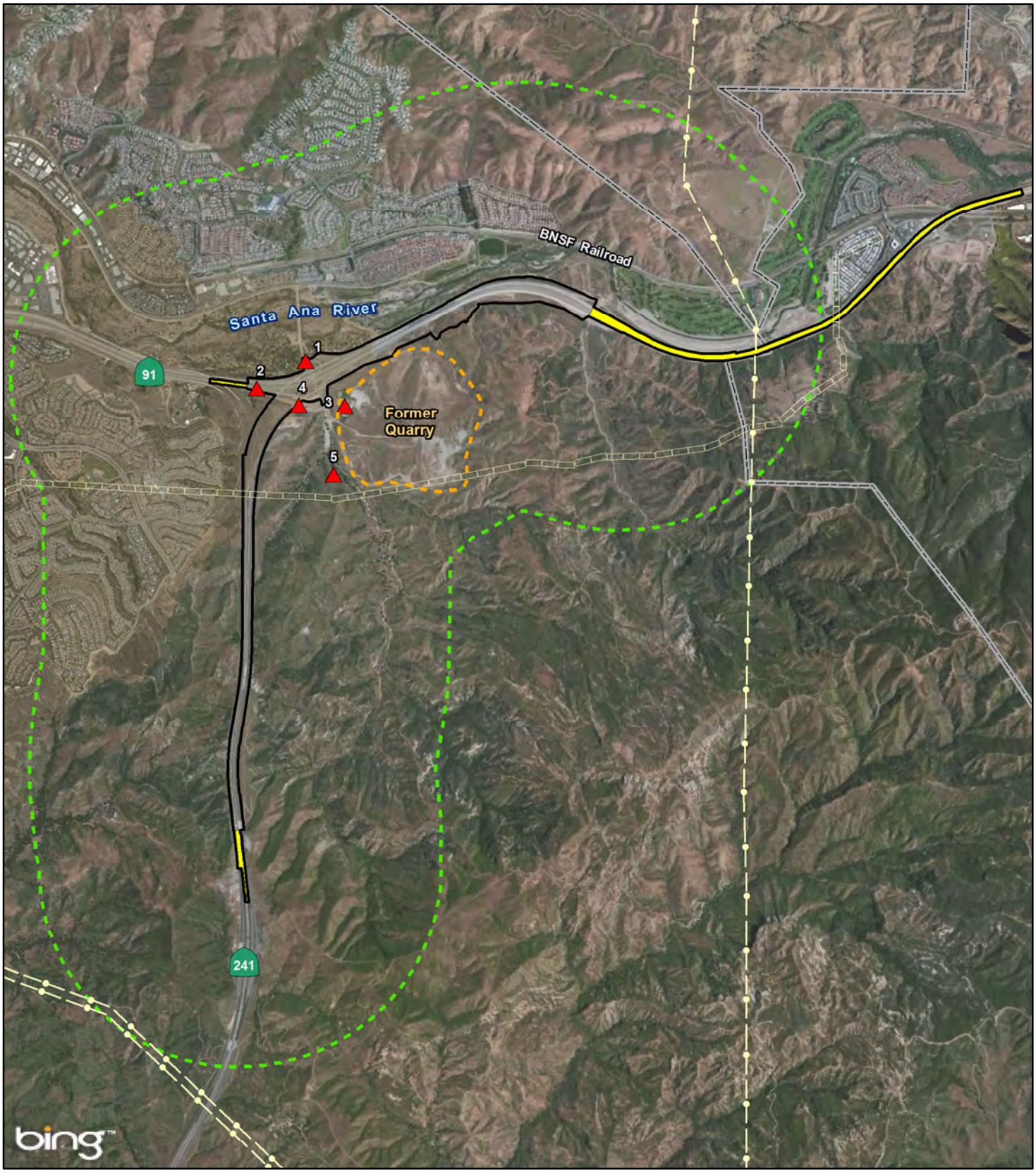
Figure 3.11.1 ID.	Issue/ Regulatory Property Location	Facility Name	Database Listing/Source	Status/Finding	Concern for the Project?
	Other Potential Sources of Hazardous Materials (Petroleum Pipe Line)	N/A	N/A	Based on the current and historical topographic maps reviewed, a petroleum pipeline appears to be traversing the northern portion of the Project Area in an east/west direction. According to the Mountain Park Specific Plan Amendment Draft EIR No. 331, this pipeline is the Southern Trails (Questar) Pipe Line. This pipeline is currently not in use, and the owner/operator has plans to convert the pipeline to a natural gas facility in the future. This pipeline has been well documented through the Mountain Park Specific Plan Amendment Draft EIR No. 331. This pipeline has not reported any releases to date, is not in use, and the conditions do not appear to have changed since adoption of the Mountain Park Specific Plan Amendment EIR. Based on an interview conducted with Mr. Steve Chapman (a Questar representative) conducted on August 25, 2014, the 2005 Mountain Park Specific Plan EIR description of the pipeline remains current. No potential environmental concerns associated with this pipeline were noted as part of the Mountain Park Specific plan Amendment Draft EIR No. 331 as well. Based on the information, no additional sampling is required at this time. No evidence to suggest that this pipeline has ruptured was noted. It was determined that no REC has resulted on the site as a result of the petroleum pipeline. Although it was determined that the on-site petroleum pipeline has not resulted in an REC at the Project Area, prior to site disturbance, the contractor would be required to comply with Caltrans Standard Specifications pertaining to excavation. Implementation of Caltrans Standard Specifications with regard to notification to the regional notification center would ensure that all utility owners within the project disturbance limits identify the locations of underground transmission lines and facilities (including underground petroleum pipelines).	Yes

Table 3.11.2 Hazardous Materials in the Project Area and Project Vicinity

Figure 3.11.1 ID.	Issue/ Regulatory Property Location	Facility Name	Database Listing/Source	Status/Finding	Concern for the Project?
N/A	Other Potential Sources of Hazardous Materials (Former Rocket Fuel Test Site)	N/A	Mountain Park Specific Plan Documentation	The former Douglas Aircraft Company (McDonnell-Douglas Corporation and Astropower) leased an approximate 480-ac area to the east of the northern portion of the Project Area (to the south of the former Gypsum Canyon Quarry Operations) for use as a rocket fuel test research facility commencing on August 1, 1961. The operational area was located approximately 1 mile south of the mouth of Gypsum Canyon and the development spanned the east and west sides of Gypsum Creek. The majority of activity at the McDonnell-Douglas property occurred between 1961 and 1971, and the lease expired on December 31, 1991. McDonnell-Douglas demolished the majority of buildings upon its exit from the site, and the few remaining structures were demolished in 2003. The prior structures consisted of office trailers, central maintenance and support buildings, smaller maintenance and support buildings, storage bunkers, test pads, blockhouses, storage magazines, and ballistic test range. Water for the operation was piped in from the mouth of Gypsum Canyon in an aboveground metal delivery pipeline. Based on the database research, this historical off-site property does not appear to have impacted groundwater underlying the Project Area. This property has been investigated as part of other reported contamination at the Project Area, as discussed in Off-Site Regulatory Properties (former Gypsum Canyon Quarry Operations) above. During these investigations, no potential contamination to groundwater as a result of the off-site Rocket Fuel Test Site was noted. As no files reviewed indicate that contamination to groundwater has resulted from this off-site property and investigations at this site and in the area have been sampled and undergone site sampling with regulatory agencies in order to prepare the site for future development, it was determined that this off-site property has not resulted in an REC at the Project Area, and no further recommendation is necessary at this time.	No

[1] DTSC Lead Agreement Soil Reuse Requirements and Restrictions: total lead concentration <80 mg/kg: unrestricted reuse, >80 mg/kg and <320 mg/kg: reuse on the State Highway System (SHS) or other commercial property (if relinquished), >320 mg/kg but <3200 mg/kg: reuse on the SHS (cover material is dependent upon soluble lead concentration. Excess soil, total lead >320 mg/kg and <1000 mg/kg with soluble lead <5 mg/l, must be disposed at a Class II landfill. Class I disposal of soils with total lead >1000 mg/kg (soluble >5 mg/l) or with a TCLP level of >5 mg/l must be disposed at a Class I landfill as either a California or RCRA hazardous waste.

Mg/kg = milligrams/kilogram



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- Project Area
- Search Boundary
- Listed Sites
- Petroleum Pipeline
- Powerline
- County Boundary
- Advance Signage Areas

N

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FIGURE 3.11.1

SR-241/SR-91 Express Lanes Connector
Overview Map

SOURCE: Bing Maps (2012); EDR (2013); Michael Baker Intl (2015)

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There are standard procedures to be followed with respect to the potential to encounter hazardous materials during construction. For instance, soils were previously sampled for ADL as part of the SR-91 Corridor Improvement Project (CIP). Additional sampling was recommended if deeper excavations were found to be needed during final design, and these same recommendations are applicable to the Proposed Project (please refer to Table 3.11.2). The Project would also be required to undergo new sampling to confirm Project consistency with the new DTSC Lead Agreement. 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 ADL 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 DTSC. This ADL Agreement allows such soils to be safely reused within the Project limits as long as all requirements of the ADL Agreement are met.

ACM would be removed and disposed of by a certified asbestos abatement specialist in compliance with State regulations and Caltrans Standard Specifications. Treated wood waste and traffic striping would be removed as needed and disposed of during construction in accordance with State regulations and Caltrans Standard Specifications. The potential for hazardous waste to be encountered with respect to the petroleum pipeline or historical use would be addressed during construction through compliance with the Caltrans Construction Manual.

Although there is the potential for hazardous materials associated with roadways and structures in the Project Area, these materials are either confined in building materials, were delineated as part of the SR-91 CIP, or are addressed through compliance with standard regulatory requirements prior to and during construction activities. No additional investigation is necessary prior to final design. Measures HAZ-1 through HAZ-6, listed in Section 3.11.4 below, include further testing and would require proper handling and disposal of hazardous waste and materials in accordance with local, State, and federal regulations including Caltrans Standard Specifications and Special Provisions, prior to and during construction of the Proposed Project, as applicable. With implementation of these measures, all potential impacts related to hazardous materials are expected to be addressed.

No Build Alternative

The No Build Alternative does not include any improvements such as the express lane connector or local roads in the Project Area. The No Build Alternative would not involve ground or structure disturbance or construction activities in the Project Area; therefore, no temporary impacts related to hazardous waste/materials would occur.

3.11.3.2 Permanent Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Routine maintenance activities during operation of the Proposed Project would be required to follow applicable Caltrans standards and other federal and State regulations with respect to the use, storage, handling, transport, and disposal of potentially hazardous materials; therefore, operation of the Proposed Project would not introduce new hazardous waste or materials.

No Build Alternative

The No Build Alternative does not include any improvements to the interchange or local roads in the Project Area. Similar to the Build Alternative, routine maintenance activities would continue under the No Build Alternative, including compliance with applicable regulations regarding the handling and disposal of potentially hazardous materials.

3.11.4 Avoidance, Minimization, and/or Mitigation Measures

The measures below are required for the Build Alternative to avoid and/or minimize potential impacts related to hazardous waste or materials. These include applicable, previously adopted measures from the ETC Final EIR and Final EIS. The approximate cost to conduct the testing, analysis, inspection, and potential contaminant disposal listed below would be $60,000 to $75,000 and would take approximately 3 to 6 months to complete.

Measure HAZ-1 **Aerially Deposited Lead.** Consistent with Minimization Measure MW-3 of the State Route 91 Corridor Improvement Project Final Environmental Impact Report/Environmental Impact Statement (SR-91 CIP 2012 Final EIR/EIS), dated August 2012, the Project Engineer will ensure that a qualified consultant conduct a new soil Aerially Deposited Lead (ADL) evaluation and/or investigation for this project at the Design Phase. The previous ADL test results may be used if applicable

along with any new ADL test results. The new soil ADL evaluation and/or investigation will be consistent with the new DTSC Lead Agreement contaminant concentration limits. In addition, new DTSC Lead Agreement soil reuse requirements and restrictions will apply.

A Lead Compliance Plan will be prepared to address workers' health and safety.

Measure HAZ-2 **Asbestos-Containing Materials.** During the design phase, a certified specialist will confirm the presence or absence of asbestos in the Gypsum Canyon Road Undercrossing, if demolition/renovation of the bridge structure will occur as part of the Project. If asbestos is present, the certified asbestos abatement specialist should monitor the disposal of the asbestos-containing materials as they are uncovered. The construction contractor will comply with the Caltrans Standard Specifications Section 14-9.02 pertaining to air pollution control compliance with rules, regulations, ordinances, and statues during renovation and demolition activities.

Measure HAZ-3 **Treated Wood Waste.** During construction, the construction contractor will comply with Caltrans Standard Specifications Section 14-10 pertaining to the handling and disposal of treated wood waste.

Measure HAZ-4 **Traffic Striping.** During construction, the construction contractor will comply with Caltrans Standard Specifications Section 14-11 pertaining to the testing, removal, and disposal of any traffic striping and pavement-marking materials.

Measure HAZ-5 **Petroleum Pipeline.** During construction, the construction contractor will comply with Caltrans Standard Specifications pertaining to excavation. The contractor shall notify the regional notification center, ensuring that all utility owners within the project disturbance limits identify the locations of underground transmission lines and facilities (including underground petroleum pipelines).

Measure HAZ-6 **Construction Contingency Plan.** Prior to the start of construction, the construction contractor will prepare a Construction Contingency Plan (CCP) in accordance with Caltrans Unknown Hazards Procedures for Construction, in the Caltrans Construction Manual. The CCP will include provisions for emergency response in the event that unidentified hazardous materials, petroleum hydrocarbons, or hazardous or solid wastes are discovered during construction activities. The CCP will address field screening, contaminant materials testing methods, mitigation and contaminate management requirements, and health and safety requirements for construction workers.

The construction contractor will implement the CCP during all construction activities. During construction, the Resident Engineer will require the construction contractor to cease work immediately if an unexpected release of hazardous substances is found in reportable quantities. If an unexpected release of hazardous substances is found in reportable quantities, the Resident Engineer will require the construction contractor to notify the National Response Center by calling 1-800-424-8802. The construction contractor will perform clean up of unexpected releases under the appropriate federal, State, and local agency oversight.

3.11.4.1 ETC Final EIR and Final EIS

Measure HW-2 *Hazardous substances are strictly regulated by the Environmental Protection Agency (U.S. EPA), the California and National Occupational Safety and Health Administration (OSHA) and the United States Department of Transportation (DOT). The DOT specifies the procedures for safely transporting hazardous materials, as well as the procedures to follow in case of accidental spills during transport, in the 49 Code of Federal Regulations (CFR) series of regulations (parts 100 through 177). U.S. EPA specifies the requirements for proper labeling and placarding of hazardous substances. The American National Standards Institute recommends safety procedures for handling and storing hazardous materials, and*

OSHA specifies the procedures required for using and storing hazardous materials. These procedures shall be followed during all ETC site preparation, grading, construction, operations, and maintenance.

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3.12 Air Quality

3.12.1 Regulatory Setting

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act (CCAA) is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (ARB), 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 NAAQS and state standards are set at levels that protect public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

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

3.12.1.1 Conformity

The conformity requirement is based on FCAA 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 (CFR) 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 FCAA 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 RTP) and 4 years (for the FTIP). RTP and FTIP 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 FCAA and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA), make the determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the FCAA. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept, scope, and "open-to-traffic" schedule of a proposed transportation project are the same as described in the RTP and FTIP, 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 RTP and FTIP; the project has a design concept and scope[1] that has not changed significantly from those in the RTP and FTIP; project analyses have used the latest planning assumptions and EPA-approved emissions models; and in PM areas, the project complies with control measures in the SIP. Furthermore, additional

[1] "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.

analyses (known as hot-spot analyses) may be required for projects located in CO and PM nonattainment or maintenance areas to examine localized air quality impacts.

3.12.2 Affected Environment

The information in this section is based on the Proposed Project's *Air Quality Report* (July 2015) and the *Air Quality Report Errata* (August 2016). The findings of that report are summarized in this section. The methodologies and assumptions for the air quality analysis are described in detail in the *Air Quality Report*.

3.12.2.1 Climate

The project site is in the counties of Orange and Riverside, an area within the South Coast Air Basin (Basin), which includes the County of Orange and the nondesert parts of the counties of Los Angeles, Riverside, and San Bernardino. Air quality regulation in the Basin is administered by the South Coast Air Quality Management District (SCAQMD).

Climate in the Basin is determined by its terrain and geographical location. The Basin is a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern boundary of the Basin, and high mountains surround the rest of the Basin. The region lies in the semipermanent high-pressure zone of the eastern Pacific Ocean. The resulting climate is mild and tempered by cool ocean breezes. This climatological pattern is rarely interrupted. However, periods of extremely hot weather, winter storms, and Santa Ana wind conditions do occur in the Basin.

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station closest to the project limits for the Proposed Project that monitors temperature is the Yorba Linda Station. The annual average maximum temperature recorded at this station is 77.5°F, and the annual average minimum temperature is 49.8°F. January is typically the coldest month in this area of the Basin.

The majority of annual rainfall in the Basin occurs between November and April. Summer rainfall is minimal and generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern part of the Basin along the coastal side of the mountains. The climatological station closest to the project limits that monitors precipitation is the Yorba Linda Station. Average rainfall measured at this station varies from 3.45 inches in February to 0.35 inches or less between May

and October, with an average annual total of 14.11 inches. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

The Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific high. This inversion limits the vertical dispersion of air contaminants, holding them relatively close to the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed from mid-afternoon to late afternoon on hot summer days, when the smog appears to clear up suddenly. Winter inversions frequently break by midmorning.

Inversion layers have a substantial role in determining O_3 formation. O_3 and its precursors will mix and react to produce higher concentrations under an inversion. The inversion will also simultaneously trap and hold directly emitted pollutants such as CO. PM_{10} is both directly emitted and indirectly created in the atmosphere as a result of chemical reactions. Concentration levels are directly related to inversion layers due to the limitation of mixing space.

Surface or radiation inversions are formed when the ground surface becomes cooler than the air above it during the night. The earth's surface goes through a radiative process on clear nights, when heat energy is transferred from the ground to a cooler night sky. As the earth's surface cools during the evening hours, the air directly above it also cools, while air higher up remains relatively warm. The inversion is destroyed when heat from the sun warms the ground, which in turn heats the lower layers of air; this heating stimulates the ground level air to float up through the inversion layer.

The combination of stagnant wind conditions and low inversions produces the greatest concentration of pollutants. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas in the counties of Los Angeles and Orange are transported predominantly onshore into the counties of Riverside and San Bernardino. In the winter, the greatest pollution problems are CO and nitrous oxide (NO_x) because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NO_x to form photochemical smog.

3.12.2.3 Air Quality Monitoring

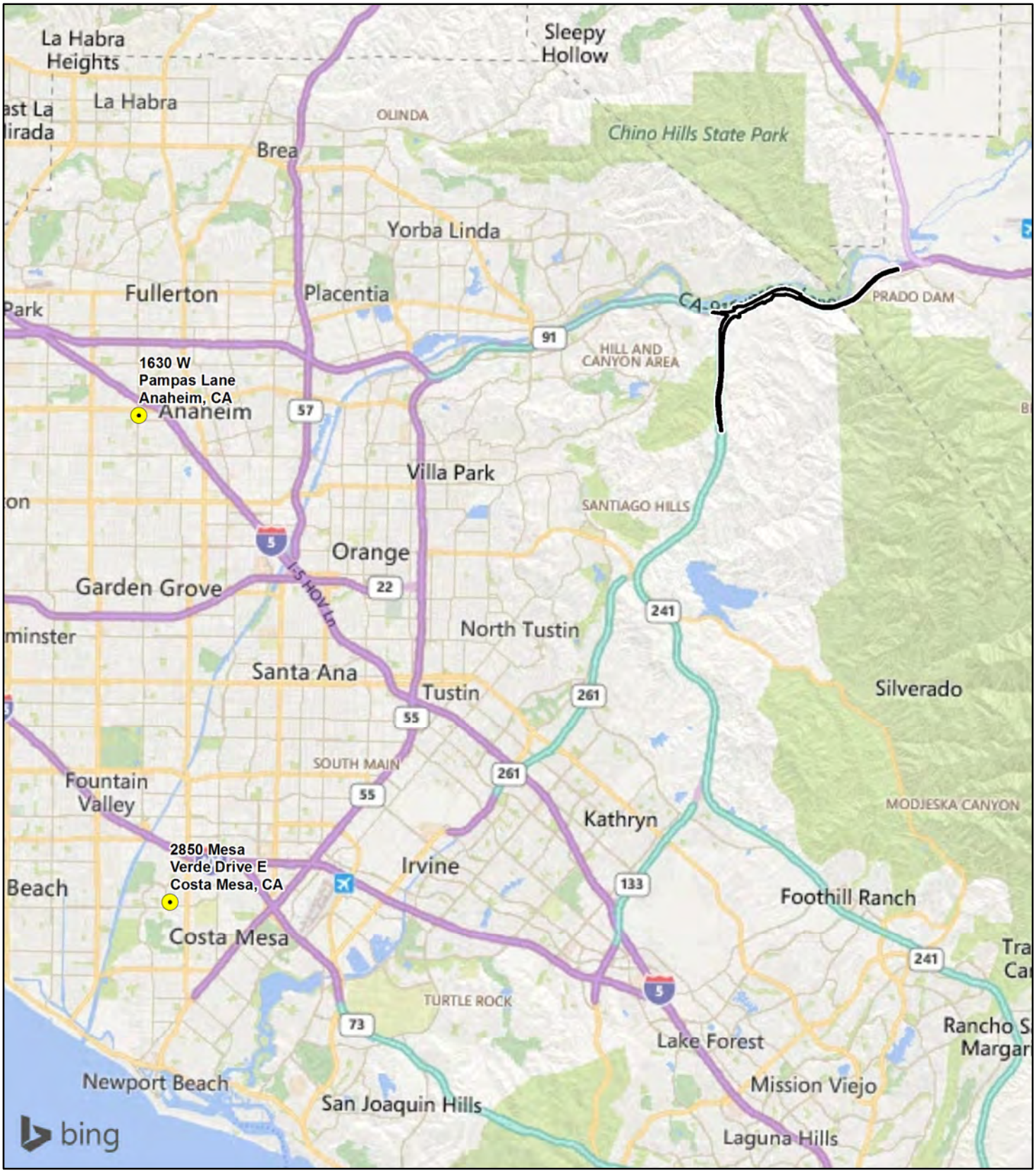
SCAQMD operates several air quality monitoring stations within the Basin. The Anaheim Air Quality Monitoring Station, located approximately 12 miles (mi) west of the project site at 1630 West Pampas Lane in Anaheim, monitors four of the five criteria pollutants: CO, O_3, PM, and NO_2. The next closest monitoring station with SO_2 data is the Costa Mesa Station, which is approximately 16 mi southwest of the project site at 2850 Mesa Verde Drive in Costa Mesa. The monitoring station locations are shown in Figure 3.12.1. Air quality trends identified from data collected at these air quality monitoring stations between 2011 and 2015 are provided in Table 3.12.1.

3.12.2.4 Criteria Pollutant Attainment/Nonattainment Status

As noted earlier, the six criteria pollutants are O_3, CO, PM (including both $PM_{2.5}$ and PM_{10}), NO_2, SO_2, and Pb. The primary standards for these criteria pollutants are shown in Table 3.12.2 along with a brief description of the health effects associated with exposures to these pollutants and the typical sources of these pollutants. The NAAQS are two-tiered: primary, to protect public health, and secondary, to prevent degradation to the environment (e.g., impairment of visibility, and damage to vegetation and property).

Air quality monitoring stations are located throughout the nation and maintained by the local air districts and State air quality regulating agencies. Data collected at permanent monitoring stations are used by the U.S. EPA to identify regions as "attainment," "nonattainment," or "maintenance," depending on whether the regions meet the requirements in the primary NAAQS. Nonattainment areas are imposed with additional restrictions as required by the U.S. EPA. In addition, different classifications of nonattainment, such as marginal, moderate, serious, severe, and extreme, are used to classify each air basin in the State on a pollutant-by-pollutant basis. The classifications are used as a foundation to create air quality management strategies to improve air quality and comply with the NAAQS. Table 3.12.2 lists the attainment status for each of the criteria pollutants in the Basin.

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Project Area

Monitoring Station

FIGURE 3.12.1

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MILES

SOURCE: Bing Maps (2014)

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SR-241/SR-91 Express Lanes Connector

Air Quality Monitoring Stations

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Table 3.12.1 Local Air Quality Levels

Pollutant		Standard	2011	2012	2013	2014	2015
Carbon Monoxide[1]							
Max 1-hour concentration (ppm)			2.7	3.0	3.4	3.1	3.1
No. of days exceeded:	State	> 20 ppm/1-hour	0	0	0	0	0
	Federal	> 35 ppm/1-hour	0	0	0	0	0
Max 8-hour concentration (ppm)			2.1	2.3	2.6	2.1	2.2
No. of days exceeded:	State	≥9 ppm/8-hour	0	0	0	0	0
	Federal	≥9 ppm/8-hour	0	0	0	0	0
Ozone[1]							
Max 1-hour concentration (ppm)			0.088	0.079	0.084	0.111	0.100
No. of days exceeded:	State	> 0.09 ppm/1-hour	0	0	0	2	1
Max 8-hour concentration (ppm)			0.072	0.067	0.070	0.081	0.080
No. of days exceeded:	State	> 0.07 ppm/8-hour	1	0	0	6	1
	Federal	> 0.075 ppm/8-hour	0	0	0	4	1
Particulates (PM_{10})[1]							
Max 24-hour concentration ($\mu g/m^3$)			53.0	48.0	77.0	85.0	59.0
No. of days exceeded:	State	> 50 $\mu g/m^3$	1	0	1	2	2
	Federal	> 150 $\mu g/m^3$	0	0	0	0	0
Annual average concentration ($\mu g/m^3$)			24.7	22.3	25.2	26.7	25.3
Exceeds Standard?	State	> 20 $\mu g/m^3$	Yes	Yes	Yes	Yes	Yes
Particulates ($PM_{2.5}$)[1]							
Max 24-hour concentration ($\mu g/m^3$)			39.1	50.1	37.8	45.0	45.8
No. of days exceeded:	Federal[2]	> 35 $\mu g/m^3$	2	4	1	4	3
Annual average concentration ($\mu g/m^3$)			15.9	10.8	10.1	16.2	14.8
Exceeds Standard?	State	> 12 $\mu g/m^3$	Yes	No	No	Yes	Yes
	Federal	> 12 $\mu g/m^3$	Yes	No	No	Yes	Yes
Nitrogen Dioxide[1]							
Max 1-hour concentration (ppm):	State	> 0.18 ppm/1-hour	0.0738	0.0673	0.0815	0.0758	0.0591
No. of days exceeded			0	0	0	0	0
Annual average concentration:	Federal	0.053 ppm annual average	0.016	0.015	0.017	0.015	0.014
Exceed Federal standard?			No	No	No	No	No
Sulfur Dioxide[2]							
Max 24-hour concentration (ppm)			0.002	0.001	0.001	0.001	0.001
No. of days exceeded:	State	0.04 ppm	0	0	0	0	0
	Federal	0.14 ppm	0	0	0	0	0
Annual average concentration:	Federal	0.030 ppm annual average	0.0001	0.0007	0.0002	0.0003	0.001
Exceed Federal standard?			No	No	No	No	No

Sources: *Air Quality Report* (July 2015).
[1] Air monitoring data obtained from the Anaheim Station.
[2] Air monitoring data obtained from the Costa Mesa Station.
$\mu g/m^3$ = micrograms per cubic meter
N/A = Not Available
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
ppm = parts per million

Table 3.12.2 State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard[1,3]	Federal Standard[2,3,4]	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
Ozone (O_3)	1 hour 8 hours[5]	0.09 ppm (180 µg/m^3) 0.070 ppm (137 µg/m^3)	--- [4] 0.070 ppm (137 µg/m$^{3)}$	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases/ volatile organic compounds (ROG or VOC) and nitrogen oxides (NO_X) in the presence of sunlight and heat. Major sources include motor vehicles and other mobile sources, solvent evaporation, and industrial and other combustion processes.	Federal: Extreme Nonattainment (8-hour) State: Nonattainment (1-hour and 8-hour)
Carbon Monoxide (CO)	8 hours 1 hour 8 hours (Lake Tahoe)	9.0 ppm (10 mg/m^3) 20 ppm (23 mg/m^3) 6 ppm (7 mg/m^3)	9 ppm (10 mg/m^3) 35 ppm (40 mg/m^3) ---	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.	Federal: Attainment/ Maintenance State: Attainment
Respirable Particulate Matter (PM_{10})[6]	24 hours Annual Arithmetic Mean	50 µg/m^3 20 µg/m^3	150 µg/m^3 ---	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many aerosol and solid compounds are part of PM_{10}.	Dust- and fume-producing industrial and agricultural operations; combustion smoke and vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.	Federal: Attainment/ Maintenance State: Nonattainment
Fine Particulate Matter ($PM_{2.5}$)[6]	24 hours Annual Arithmetic Mean	No Separate State Standard 12 µg/m^3	35 µg/m^3 12.0 µg/m^3	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the $PM_{2.5}$ size range. Many toxic and other aerosol and solid compounds are part of $PM_{2.5}$.	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical (including photochemical) reactions involving other pollutants including NO_X, SO_X, ammonia, and ROG.	Federal: Moderate Nonattainment State: Nonattainment

Table 3.12.2 State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard[1,3]	Federal Standard[2,3,4]	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
Nitrogen Dioxide (NO_2)[7]	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	53 pp (100 µg/m^3)	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain. Part of the "NO_X" group of ozone precursors.	Motor vehicles and other mobile sources; refineries; industrial operations.	Federal: Attainment/ Unclassified State: Nonattainment
	1 hour	0.18 ppm (339 µg/m^3)	100 ppb (188 µg/m^3)			
Sulfur Dioxide (SO_2)[8]	Annual Arithmetic Mean	---	0.03 ppm (for certain areas)[7]	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.	Federal: Attainment/ Unclassified State: Attainment/ Unclassified
	24 hours	0.04 ppm (105 µg/m^3)	0.14 ppm (for certain areas)[7]			
	3 hours	---	0.5 ppm (1300 µg/m^3)			
	1 hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)			
Lead (Pb)[9,10]	30-day Average	1.5 µg/m^3	---	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from gasoline may exist in soils along major roads.	Federal: Nonattainment (Los Angeles County only) State: Attainment
	Calendar Quarter	---	1.5 µg/m^3 (for certain areas)[9]			
	Rolling 3-month Average	---	0.15 µg/m[9]			

Table 3.12.2 State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard[1,3]	Federal Standard[2,3,4]	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
Sulfate	24 hours	25 µg/m^3	---	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.	Federal: N/A State: Attainment/ Unclassified
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm (42 µg/m^3)	---	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea.	Industrial processes such as refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.	Federal: N/A State: Attainment/ Unclassified
Visibility Reducing Particles (VRP)[11]	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity less than 70 percent	---	Reduces visibility. Produces haze. Note: Not related to the Regional Haze program under the Federal Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other "Class I" areas.	See PM above.	Federal: N/A State: Attainment/ Unclassified
Vinyl Chloride[9]	24 hours	0.01 ppm (26 µg/m^3)	---	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes	Federal: N/A State: Attainment/ Unclassified

Sources: *Air Quality Report* (July 2015; ARB Website: www.arb.ca.gov/research/aaqs/aaqs2.pdf [accessed May 29, 2015]; ARB, Area Designations. Website: http://www.arb.ca.gov/desig/desig.htm [accessed May 29, 2015]; *Ambient Air Quality Standards* [ARB, October 2015]).

1 California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California Ambient Air Quality Standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once per year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour

Table 3.12.2 State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard[1,3]	Federal Standard[2,3,4]	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status

standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the EPA for further clarification and current national policies.

[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[4] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[5] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[6] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/^{3}, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[7] To attain the 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[8] On June 2, 2010, the new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[9] The ARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[10] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standards are approved.

[11] In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basins, respectively.

µg/m^3 = micrograms per cubic meter
ARB = California Air Resources Board
EPA = United States Environmental Protection Agency
N/A = Not Available
PM = particulate matter
ppb = parts per billion
ppm = parts per million
ROG = reactive organic gases
SIP = State Implementation Plan
SO_x = sulfur oxides
VOC = volatile organic compounds

3.12.2.5 Sensitive Receptors

Sensitive populations are more susceptible to the effects of air pollution than the general population. Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics and CO are of particular concern. Land uses considered sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. Sensitive receptors located near the Proposed Project include residential uses, a church, a recreational vehicle (RV) campground, and playground, and are shown on Figure 3.12.2. Table 3.12.3 lists the address and distance from the edge of pavement for the sensitive land uses in the Project Area.

Table 3.12.3 Sensitive Land Uses in the Project Area

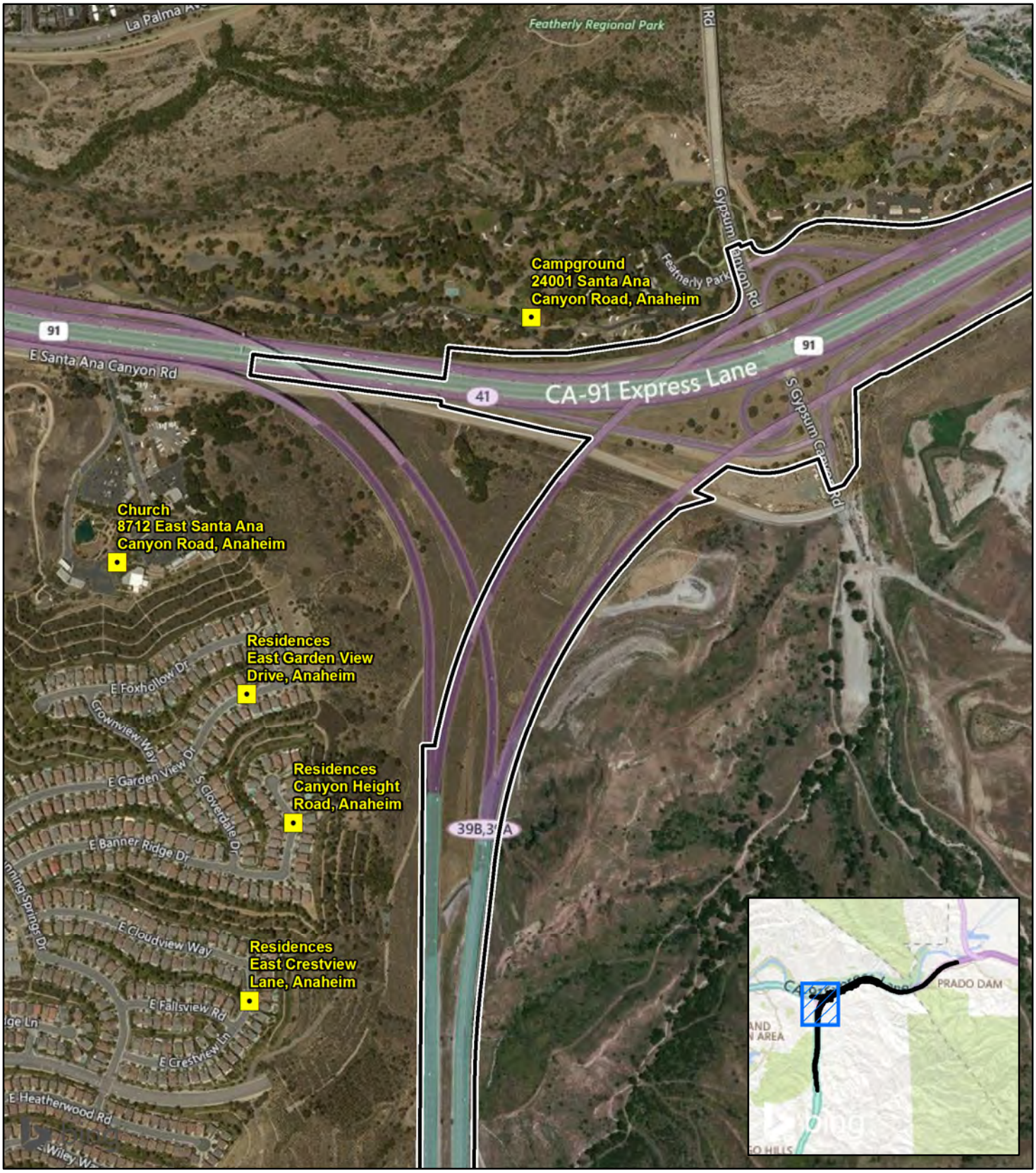
Land Use Type	Address	Distance from the Existing Edge of Pavement (feet)
Campground	24001 Santa Ana Canyon Road, Anaheim	150
Church	8712 East Santa Ana Canyon Road, Anaheim	400
Residences	Canyon Height Road, Anaheim	500
Residences	East Crestview Lane, Anaheim	650
Residences	East Garden View Drive, Anaheim	650

Source: *Air Quality Report* (July 2015).

3.12.3 Environmental Consequences

3.12.3.1 Regional Conformity

The Proposed Project is included in the 2012 financially constrained Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which was found to conform by the Southern California Association of Governments (SCAG) on April 2, 2012, and the FHWA and the FTA made a regional conformity determination finding on June 4, 2012. The Proposed Project is also included in Amendment 15-3 of SCAG's financially constrained 2015 FTIP, which was found to be conforming by the FHWA/FTA on November 2, 2015 (Project ID: ORA111207 Description: HOV/HOT Connector: NB SR-241 to EB SR-91, WB SR-91 to SB SR-241 [1 Lane each dir]). The design concept and scope of the Proposed Project is consistent with the Project Description of the 2012 RTP, Amendment 15-3 of the 2015 FTIP, and the "open to traffic" assumptions of SCAG's regional emissions analysis.



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Project Area

Sensitive Receptors

FIGURE 3.12.2

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0 350 700

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SOURCE: Bing Maps (2014)

SR-241/SR-91 Express Lanes Connector

Sensitive Receptors

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On April 7, 2016, SCAG adopted the 2016–2040 RTP/SCS[1] (2016 RTP/SCS). Also, SCAG received its conformity determination from the FHWA and the FTA indicating that all air quality conformity requirements for the 2016 RTP/SCS and associated 2015 FTIP Consistency Amendment have been met. The Proposed Project is included in the 2016 RTP/SCS,[2] which was found to be conforming by the FHWA/FTA on June 1, 2016. The Proposed Project is also included in Amendment 15-12 to the 2015 FTIP, which was found to be conforming by the FHWA/FTA on June 2, 2016 (Project ID: ORA111207; Description: HOV/HOT Connector: NB SR-241 to EB SR-91, WB SR-91 to SB SR-241 (1 Lane each dir). The Proposed Project is included in the 2017 FTIP, which was found to be conforming by the FHWA/FTA on December 16, 2016 (Project ID: ORA111207; Description: 241/91 EXPRESS LANES (HOT) CONNECTOR; NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241, PER SCAG/TCA MOU 4/05/01). The Proposed Project is also included in the 2019 FTIP, which was found to be conforming by the FHWA/FTA on December 17, 2018 (Project ID: ORA111207; Description: 241/91 EXPRESS LANES (HOT) CONNECTOR: NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241, PER SCAG/TCA MOU 4/05/01. PAED Phase.). Furthermore, the Proposed Project is also included in Amendment 19-13 to the 2019 FTIP, which was found to be conforming by the FHWA/FTA on November 25, 2019 (Project ID: ORA111207; Description: 241/91 EXPRESS LANES (HOT) CONNECTOR: NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241). The design concept and scope of the Proposed Project is consistent with the project description in the 2016 RTP/SCS, 2015 FTIP, 2017 FTIP, and 2019 FTIP, and the "open to traffic assumptions of the SCAG's regional emissions analysis. Copies of the Proposed Project listings from the 2016 RTP/SCS, 2015 FTIP, 2017 FTIP, and 2019 FTIP and amendments are included in Appendix E.

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1 Southern California Association of Governments (SCAG). 2016a. April. 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Website: http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx (accessed July 2016).

2 SCAG. 2016b. June. Federal Conformity Determination for 2016 RTP/SCS. Website: http://scagrtpscs.net/Pages/details.aspx?list=Announcements&lid=18&source=/pages/news.aspx (accessed July 2016).

3.12.3.2 Project-Level Conformity

Construction

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

Operation

With respect to project-level conformity and localized emissions, the primary pollutants of concern are CO and particulates ($PM_{2.5}$ and PM_{10}). The effects of CO emissions were evaluated using the Caltrans CO protocol. The effects of $PM_{2.5}$ and PM_{10} were evaluated through the conformity process described below. If a project is determined to have an air quality concern, then a hot-spot analysis is required.

Carbon Monoxide

The methodology required for a CO local analysis is summarized in the Caltrans Transportation Project-Level Carbon Monoxide Protocol (Protocol), Section 3 (Determination of Project Requirements) and Section 4 (Local Analysis). In Section 3, the Protocol provides two conformity requirement decision flowcharts that are designed to assist the project sponsors in evaluating the requirements that apply to specific projects. The flowchart in Figure 1 of the Protocol (provided as Appendix B in the *Air Quality Report*) applies to new projects and was used in this local analysis conformity decision. Below is a step-by-step explanation of the flow chart. Each level cited is followed by a response, which in turn, determines the next applicable level of the flowchart for the Proposed Project. The flowchart begins with Section 3.1.1.

- **3.1.1. Is this project exempt from all emissions analyses?**

NO.

Table 1 of the Protocol is Table 2 of Section 93.126 of 40 CFR. Section 3.1.1 is inquiring if the Proposed Project is exempt from all emissions analyses. Such projects appear in Table 1 of the Protocol. The Build Alternative does not appear in Table 1. Therefore, the Proposed Project is not exempt from all emissions analyses.

- **3.1.2. Is the project exempt from regional emissions analyses?**

NO.

Table 2 of the Protocol is Table 3 of Section 93.127. The question is attempting to determine whether the Proposed Project is listed in Table 2. The Proposed Project is

an interchange reconfiguration project; however, the Proposed Project would add a new connector between SR-241 and the SR-91. Therefore, it is not exempt from regional emissions analysis.

- **3.1.3. Is the project locally defined as regionally significant?**

YES.

As mentioned above, the Proposed Project would add a new connector between SR-241 and the SR-91. Therefore, the Proposed Project is regionally significant.

- **3.1.4. Is the project in a federal attainment area?**

NO.

The Proposed Project is in an attainment/maintenance area for the federal CO standard.

- **3.1.5. Are there currently a conforming Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP)?**

YES.

Refer to Section 3.12.3.1, Regional Conformity, above.

- **3.1.6. Is the project included in the regional emissions analysis supporting the currently conforming RTP and TIP?**

YES.

The Proposed Project is included in the SCAG 2012 RTP and the 2015 FTIP (Project ID: ORA111207; Description: HOV/HOT Connector: NB SR-241 to EB SR-91, WB SR-91 to SB SR-241 [1 Lane each dir]).

- **3.1.7. Has the project design concept and/or scope changed significantly from that in the regional analysis?**

NO.

As described in Section 3.12.3.1, the proposed Build Alternative is consistent with the description of the Proposed Project in the 2012 RTP/Sustainable Communities Strategy (SCS) and the 2015 FTIP.

- **3.1.9. Examine local impacts.**

Section 3.1.9 of the flowchart directs the Proposed Project evaluation to Section 4 (Local Analysis) of the Protocol. This includes Figure 1 of the Protocol.

Section 4 of the Protocol contains Figure 3 from the Local CO Analysis (provided as Appendix B in the *Air Quality Report*). The flowchart is used to determine the type of CO analysis required for the Proposed Project. Below is a step-by-step explanation of the flowchart. Each level cited is followed by a response, which in turn, determines the next applicable level of the flowchart for the Proposed Project. The flowchart begins at Level 1:

Level 1. Is the project in a CO non-attainment area?

NO.

The project site is in an area that has demonstrated attainment with the federal CO standard.

Level 1 (cont.). Was the area redesignated as "attainment" after the 1990 Clean Air Act?

YES.

Level 1 (cont.). Has "continued attainment" been verified with the local Air District, if appropriate?

YES.

The Basin was designated as attainment/maintenance by the U.S. EPA on June 11, 2007. (Proceed to Level 7.)

Level 7. Does the project worsen air quality?

NO.

Because the Proposed Project would not meet any of the criteria discussed below, it would not potentially worsen air quality.

a. The project significantly increases the percentage of vehicles operating in cold start mode. Increasing the number of vehicles operating in cold start mode by as little as 2 percent should be considered potentially significant.

The percentage of vehicles operating in cold start mode is the same or lower for the connector under study compared to those used for the intersections in the attainment plan. It is assumed that all vehicles on the SR-241 and SR-91 are in a fully warmed-up mode. Therefore, this criterion is not met.

b. *The project significantly increases traffic volumes. Increases in traffic volumes in excess of 5 percent should be considered potentially significant. Increasing the traffic volume by less than 5 percent may still be potentially significant if there is also a reduction in average speeds.*

Based on the *Traffic Analysis Report* (July 2015), the Proposed Project would increase traffic volumes on SR-91 by 1 to 2.6 percent (2040 and 2017, respectively). The 2017 and 2040 traffic volumes with and without the Proposed Project are shown in Tables 3.12.4 and 3.12.5, respectively. The revised planned opening year is 2020. As discussed in the *Traffic Analysis Report Errata Sheet* (July 2016), the projected traffic growth between 2017 and 2020 is relatively small (2.7 percent). Due to the low traffic volumes on SR-241, the percentage increases in traffic are greater than 5 percent for 2017 and 2040.

Table 3.12.4 2017 Data[1] Traffic Volumes

Freeway	No Build Alternative	Build Alternative	Change from No Build Alternative to Build Alternative	Percent Change in Traffic
State Route 91	Total ADT = 303,200	Total ADT = 311,000	Total ADT = 7,800	2.6
	Truck ADT = 14,550	Truck ADT = 14,683	Truck ADT = 133	
State Route 241	Total ADT = 52,200	Total ADT = 60,000	Total ADT = 7,800	14.9
	Truck ADT = 887	Truck ADT = 1,020	Truck ADT = 133	

Source: *Traffic Analysis Report* (July 2015).
[1] The revised planned opening year is 2020. The difference in traffic operations between 2017 and 2020 would be nominal. Although the revised opening year is 2020, all of the tables still refer to 2017, because this is the year for which the modeling was completed.
ADT = average daily traffic

Table 3.12.5 2040 Traffic Volumes

Freeway	No Build Alternative	Build Alternative	Change from No Build Alternative to Build Alternative	Percent Change in Traffic
State Route 91	Total ADT = 345,400	Total ADT = 348,800	Total ADT = 3,400	1.0
	Truck ADT = 16,580	Truck ADT = 16,638	Truck ADT = 58	
State Route 241	Total ADT = 58,600	Total ADT = 62,000	Total ADT = 3,400	5.8
	Truck ADT = 996	Truck ADT = 1,054	Truck ADT = 58	

Source: *Traffic Analysis Report* (July 2015).
ADT = average daily traffic

However, the *Traffic Analysis Report* determined that the Proposed Project would increase the average vehicle speeds in the Project Area by 2–4 miles per hour (mph) and would decrease the average delay per vehicle by up to 20 percent. Therefore, the Proposed Project would not worsen air quality.

c. *The project worsens traffic flow. For uninterrupted roadway segments, a reduction in average speeds (within a range of 3 to 50 mph) should be regarded as worsening traffic flow. For intersection segments, a reduction in average speed or an increase in average delay should be considered as worsening traffic flow.*

As shown in Tables 3.12.6 and 3.12.7, the level of service (LOS) on the *91 Express Lanes* and SR-241 for the Build Alternative would remain the same as the No Build Alternative. Therefore, this criterion is not met.

Table 3.12.6 2017 Level of Service

Freeway	No Build Alternative Level of Service	Build Alternative Level of Service
State Route 91	F	F
State Route 241	A	A

Source: *Traffic Analysis Report* (July 2015).

Table 3.12.7 2040 Level of Service

Freeway	No Build Alternative Level of Service	Build Alternative Level of Service
State Route 91	F	F
State Route 241	A	A

Source: *Traffic Analysis Report* (July 2015).

The Proposed Project is not expected to result in any concentrations exceeding the 1-hour or 8-hour CO standards. Therefore, a detailed Caline4 CO hot-spot analysis is not required.

$PM_{2.5}$ and PM_{10}

The project site is within a nonattainment area for federal $PM_{2.5}$ and in an attainment/ maintenance area for federal PM_{10} standards. Therefore, per 40 CFR, Part 93, analyses are required for conformity purposes. However, the U.S. EPA does not require hot-spot analyses, qualitative or quantitative, for projects that are not listed in Section 93.123(b)(1) as an air quality concern. The Proposed Project does not qualify as a project of air quality concern for the following reasons:

1. The Proposed Project is a highway expansion project, which would build a new tolled connection between SR-241 and the *91 Express Lanes*. Based on the *Traffic Analysis Report* (July 2015), the Build Alternative would increase the traffic volumes on SR-241 and SR-91. The average truck percentages along the project segments of SR-91 and SR-241 are 4.8 and 1.7 percent, respectively. Tables 3.12.4 and 3.12.5 list the average daily traffic (ADT) and truck ADT volumes on SR-241 and SR-91 for 2017 and 2040 conditions, respectively. The largest increase in ADT due to the Proposed Project is 7,800 vehicles per day on SR-241 and SR-91 in 2017. However, due to the very low truck percentage on SR-241, the largest increase in truck ADT due to the Proposed Project is 133 vehicles per day on SR-241 and SR-91 in 2017. These increases would not exceed the 125,000 average daily trips or 10,000 truck trip criteria for a project of air quality concern.
2. The Proposed Project does not affect intersections that are at LOS D, E, or F with a significant number of diesel vehicles.
3. The Proposed Project does not include the construction of a new bus or rail terminal.
4. The Proposed Project does not expand an existing bus or rail terminal.
5. The Proposed Project is not in or affecting locations, areas, or categories of sites that are identified in the $PM_{2.5}$ and PM_{10} applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

The discussion provided above indicates that the Proposed Project would not be considered a Project of Air Quality Concern (POAQC), as defined by 40 CFR 93.123(b)(1). Therefore, $PM_{2.5}$ and PM_{10} hot-spot evaluations are not required. It is unlikely that the Proposed Project would generate new air quality violations, worsen existing violations, or delay attainment of national AAQS for $PM_{2.5}$ and PM_{10}.

The project-level PM hot-spot analysis was presented to SCAG's Transportation Conformity Working Group (TCWG) for discussion and review on March 25, 2014. At this meeting, the TCWG determined that the Proposed Project is not a POAQC. Changes to the Proposed Project geometrics and footprint were made in December 2014; as a result, the Proposed Project was resubmitted to TCWG for review. The May 2014 $PM_{2.5}$ and PM_{10} hot-spot form was updated in March 2015 and submitted to and reviewed by the TCWG on April 28, 2015. At this meeting, the TCWG confirmed that the Proposed Project is not a POAQC (Appendix D of the *Air Quality Report*). Per Caltrans Headquarters policy, all nonexempt projects must go through

review by the TCWG. This project was approved and concurred upon by Interagency Consultation at the TCWG meeting as a project not having adverse impacts on air quality, and it meets the requirements of the Clean Air Act (CAA) and 40 CFR 93.116. In addition, in a letter dated April 5, 2017, Caltrans requested that the FHWA issue a project-level air quality conformity determination for the Proposed Project, and on May 3, 2017, the FHWA determined that the Proposed Project conforms to the State Implementation Plan in accordance with 40 CFR 93.116 and 93.123. A copy of the FHWA letter is provided in Chapter 5, Comments and Coordination.

3.12.3.3 Temporary Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Construction Emissions

During construction of the Build Alternative, short-term degradation of air quality may occur due to the release of particulate emissions generated by excavation, grading, hauling, and other activities related to construction of the Proposed Project. Emissions from construction equipment would include CO, NO_x, volatile organic compounds (VOCs), directly-emitted particulate matter ($PM_{2.5}$ and PM_{10}), and toxic air contaminants such as diesel exhaust particulate matter.

Site preparation and roadway construction would involve clearing, cut-and-fill activities, grading, and paving roadway surfaces. Construction-related effects on air quality from most roadway projects would be 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. If not properly controlled, these activities would temporarily generate PM_{10}, $PM_{2.5}$, CO, SO_2, NO_x, and VOCs. 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 would deposit mud on local streets, which could be an additional source of airborne dust after drying. 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, the silt content of soil, wind speed, and the amount of equipment operating at the time. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NO_x, VOCs, and

some soot particulate ($PM_{2.5}$ and PM_{10}) in exhaust emissions. If construction activities increase traffic congestion in the area, CO and other emissions from traffic would increase while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site.

SO_2 is generated by oxidation during combustion of organic sulfur compounds contained in diesel fuel. Off-road diesel fuel meeting federal standards can contain up to 5,000 parts per million (ppm) of sulfur, whereas on-road diesel is restricted to less than 15 ppm of sulfur. However, under California law and ARB regulations, off-road diesel fuel used in California must meet the same sulfur and additional standards as on-road diesel fuel. Accordingly, SO_2 related to diesel exhaust during construction of the Proposed Project would be minimal.

The maximum amount of construction-related emissions during a peak construction day is presented in Table 3.12.8. The model inputs used in the Sacramento model are included in Appendix A of the *Air Quality Report*. The PM_{10} and $PM_{2.5}$ emissions assume a 50 percent control of fugitive dust as a result of watering and associated dust-control measures. These emissions are based on the best information available at the time of calculations. The Proposed Project is anticipated to take approximately 18 months to construct beginning in 2018.

Table 3.12.8 Maximum Build Alternative Construction Emissions (lbs/day)

Project Phases	ROG	CO	NO_X	Total PM_{10}	Total $PM_{2.5}$
Grubbing/Land Clearing (lbs/day)	7.2	35.0	37.1	17.2	5.1
Grading/Excavation (lbs/day)	13.4	66.5	107.9	20.5	8.2
Drainage/Utilities/Sub-Grade (lbs/day)	11.2	57.1	80.3	19.4	7.2
Paving (lbs/day)	7.1	37.8	41.0	2.6	2.3
Maximum (lbs/day)	13.4	66.5	107.9	20.5	8.2
Total (tons/construction project)	2.2	11.1	16.3	3.4	1.3

Source: *Air Quality Report* (July 2015).
CO = carbon monoxide
lbs/day = pounds per day
NO_X = oxides of nitrogen
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ROG = reactive organic gases

Caltrans Standard Specifications for construction (Section 14-9.03 [Air Monitoring] and Section 14-9.02 [Air Pollution Control]) will be adhered to in order to reduce emissions generated by construction equipment. Additionally, the SCAQMD has established Rule 403 for reducing fugitive dust emissions. The best available control measures (BACM), as specified in SCAQMD Rule 403, would be incorporated into the Proposed Project commitments. With the implementation of standard construction

measures (providing 50 percent effectiveness[1]) such as frequent watering (e.g., minimum twice per day) and Measures AQ-1 through AQ-5 (provided later in this section), fugitive dust and exhaust emissions from construction activities would not result in any adverse direct or indirect air quality impacts.

Naturally Occurring Asbestos

The Proposed Project is located in the counties of Orange and Riverside, which are not among the counties listed as containing serpentine and ultramafic rock. Therefore, the impact from naturally occurring asbestos during project construction would be minimal to none.

No Build Alternative

The No Build Alternative does not include construction of the transportation improvements in the Project Area that would occur as part of the Build Alternative. As a result, the No Build Alternative would not result in temporary impacts to air quality.

3.12.3.4 Permanent Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Long-Term Regional Vehicle Emission Impacts

Long-term air quality impacts are those associated with motor vehicles operating on the roadway network, predominantly those operating in the Project Vicinity. It is anticipated that the Build Alternative would reduce congestion along roadway and freeway segments within the vicinity of the junction of SR-241 and SR-91 once the Proposed Project becomes operational. Emissions of ROG, NO_X, CO, CO_2, PM_{10}, and $PM_{2.5}$ for the 2017 and 2040 No Build Alternative and the 2017 and 2040 Build Alternative were evaluated using the ARB's EMFAC2014 emission rate model and systemwide morning and afternoon peak-hour speed and annual traffic data. The *Traffic Analysis Report* determined that the Build Alternative would increase the average vehicle speeds in the Project Area by 2–4 mph and would decrease the average delay per vehicle by up to 20 percent. In addition, as shown earlier in

[1] SCAQMD 2007. Fugitive Dust Mitigation Measure Tables. Table XI-A: Construction & Demolition. Website: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/mitigation-measures-and-control-efficiencies/fugitive-dust (accessed August 28, 2019).

Tables 3.12.6 and 3.12.7, the largest increase in daily trips would be 7,800 in 2017 and 3,400 in 2040.[1]

Project-level emissions were obtained by comparing future No Build Alternative emissions to future Build Alternative emissions. The results of these calculations are summarized in Table 3.12.9. As shown in Table 3.12.9, the increase in Build Alternative emissions in 2040 would be minimal when compared to the 2040 No Build Alternative. Project-related emissions would not delay the attainment or cause the area to be in non-attainment for the federal PM standards. For the purpose of comparing Project-level forecast emissions to the AQMP's forecast emission inventory, regional operational air quality impacts for the Build Alternative and the No Build Alternative are assessed based on the incremental increase in emissions compared to baseline conditions. Since the Build Alternative would be consistent with the project ID contained in the SCAG RTP/SCS (i.e., the Project has been included in the air quality model for the RTP/SCS), the Build Alternative would be consistent with the emission projections contained in the AQMP.

Table 3.12.9 Systemwide Project-related Motor Vehicle Emissions

Scenario	Daily VMT	Pounds per Day				
		ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
2017 No Build Alternative	10,140,010	781.01	6,360.44	24,027.26	88.76	83.87
2017 Build Alternative	10,369,670	798.70	6,504.50	24,571.45	90.77	85.77
2040 No Build Alternative	11,737,270	377.26	1,519.16	10,125.55	22.97	21.47
2040 Build Alternative	11,936,350	383.66	1,544.92	10,297.29	23.36	21.83
Differences from No Project Alternatives						
Net Emissions (2017)	-	+ 17.69	+ 144.06	+ 544.19	+ 2.01	+ 1.90
Net Emissions (2040)	-	+ 6.40	+25.77	+171.74	+ 0.39	+ 0.36

Sources: EMFAC2014 emission rate model; *Traffic Analysis Report* (July 2015).
Note: The Project Area for both the SR-241 and SR-91 segments was assumed to be 0.78 mile each, as well as an assumed 45 mph for the No Build Alternative and 47 mph for the Build Alternative systemwide segments.
CO = carbon monoxide
mph = miles per hour
NO_X = oxides of nitrogen
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ROG = reactive organic gases
SR-241 = State Route 241
SR-91 = State Route 91
VMT = vehicle miles traveled

For the Horizon Year 2040, the Build Alternative shows substantially lower emission intensity than the 2017 Baseline No Build Alternative due to improvements in vehicle emission technologies and the increase in available hybrid and all-electric vehicles. Also, because the Build Alternative does not generate new regional vehicular trips, no

[1] The revised planned opening year is 2020. The difference in traffic operations between 2017 and 2020 would be nominal. Although the revised opening year is 2020, all of the tables and analysis still refer to 2017, as this is the year for which the modeling was completed.

new regional vehicular emissions would occur. The Build Alternative may have a beneficial effect in helping to reduce congestion on roadway links in the Proposed Project Vicinity.

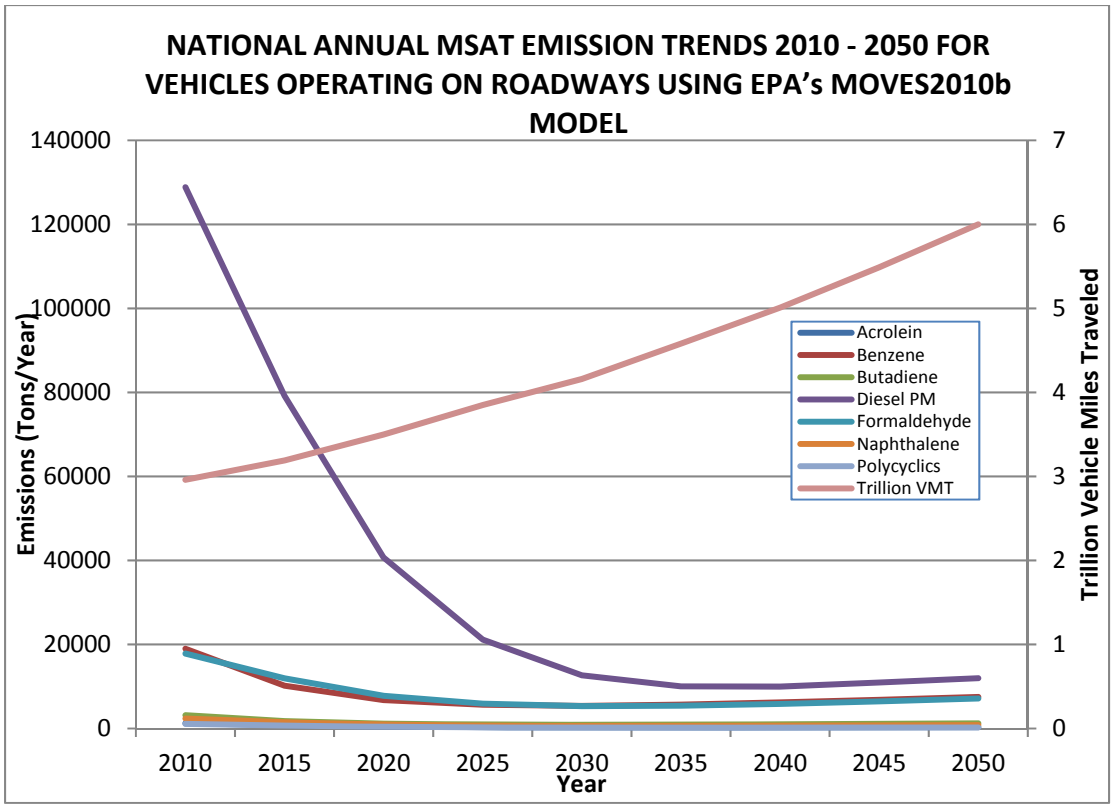
Mobile Source Air Toxics

In addition to the criteria air pollutants for which there are NAAQS, the U.S. EPA also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners), and stationary sources (e.g., factories or refineries).

Controlling air toxic emissions became a national priority with the passage of the CAA Amendments of 1990, whereby Congress mandated that the U.S. EPA regulate 188 air toxics, also known as hazardous air pollutants. The U.S. EPA assessed this expansive list in its rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources that are listed in its Integrated Risk Information System (IRIS). In addition, the U.S. EPA identified the following seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from its 1999 National Air Toxics Assessment (NATA): acrolein, benzene, 1,3-butadiene, DPM plus diesel exhaust organic gases, formaldehyde, naphthalene, and polycyclic organic matter (POM). While the FHWA considers these the priority Mobile Source Air Toxics (MSAT), the list is subject to change and may be adjusted in consideration of future U.S. EPA rules.

The 2007 U.S. EPA rule described above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines.

Based on an FHWA analysis using the U.S. EPA's MOBILE2010b Model, as shown in the figure below, even if the VMT increases by 102 percent as assumed from 2010 to 2050, a combined reduction of 83 percent in the total annual emissions for the priority MSAT is projected for the same time period. The projected reduction in MSAT emissions would be slightly different in California due to the use of the EMFAC emission model in place of the Motor Vehicle Emission Simulator (MOVES) model.



Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how the potential health risks posed by MSAT exposure should be factored into project-level decision-making within the context of NEPA.

Nonetheless, air toxics concerns continue to be raised regarding highway projects during the NEPA process. Even as the science emerges, the public and other agencies expect environmental analyses to address MSAT impacts. The FHWA, the U.S. EPA, the Health Effects Institute, and others have funded and conducted research studies to more clearly define potential risks from MSAT emissions associated with highway projects. The FHWA will continue to monitor the developing research in this field.

NEPA requires, to the fullest extent possible, that the policies, regulations, and laws of the federal government be interpreted and administered in accordance with its environmental protection goals. NEPA also requires federal agencies to use an interdisciplinary approach in planning and decision-making for any action that adversely impacts the environment. NEPA requires, and the FHWA is committed to, the examination and avoidance of potential impacts to the natural and human

environment when considering approval of proposed transportation projects. In addition to evaluating the potential environmental effects, the need for safe and efficient transportation must also be taken into account in reaching a decision that is in the best overall public interest. The FHWA policies and procedures for implementing NEPA are contained in regulations at 23 CFR Part 771.

In December 2012, the FHWA issued guidance to advise FHWA division offices as to when and how to analyze MSATs in the NEPA process for highways. That document is an update to the guidance released in February 2006 and September 2009. The guidance is described as interim because MSAT science is still evolving. As the science progresses, FHWA will update the guidance. The analysis provided here follows the 2012 FHWA guidance.

Information that is Unavailable or Incomplete

In the FHWA's view, information is incomplete or unavailable to credibly predict project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The U.S. EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. It is the lead authority for administering the FCAA and its amendments and has specific statutory obligations with respect to hazardous air pollutants and MSAT. The U.S. EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. It maintains the IRIS, which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects." Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are summarized in Appendix D of the FHWA's *Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents.* Among the adverse health effects linked to MSAT compounds at high exposures are cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the

exacerbation of asthma. Less obvious are the adverse human health effects of MSAT compounds at current environmental concentrations or in the future as vehicle emissions substantially decrease.

The methodologies for forecasting health impacts include emissions modeling, dispersion modeling, exposure modeling, and then final determination of health impacts; each step in the process builds on the model predictions obtained in the previous step. All are encumbered by technical shortcomings and/or uncertain science that prevent a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified due to required lifetime (i.e., 70-year) exposure methodologies, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70 year lifetime MSAT concentrations and exposure near roadways; to determine the part of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSATs, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by the HEI. As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The U.S. EPA and the HEI have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the U.S. EPA as provided by the FCAA to determine whether more stringent controls are required to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires the U.S. EPA to determine a safe or acceptable level of cancer risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with cancer risks less than one

in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than one in a million; in some cases, the residual cancer risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the United States Court of Appeals for the District of Columbia Circuit upheld U.S. EPA's approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than safe or acceptable.

Because of these limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision-makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities, plus improved access for emergency response, that are better suited for quantitative analysis as described below.

MSAT Analysis Methodology

Depending on the specific project circumstances, the FHWA has identified three levels of analysis.

(1) Projects with No Meaningful Potential MSAT Effects or Exempt Projects

The types of projects in this category include: the following:

- Projects qualifying as a Categorical Exclusion under 23 CFR 771.117(c) (subject to consideration whether unusual circumstances exist under 23 CFR 771.117(b));
- Projects exempt under the CAA conformity rule under 40 CFR 93.126; or
- Other projects with no meaningful impacts on traffic volumes or vehicle mix.

For projects that are categorically excluded under 23 CFR 771.117(c) or that are exempt from conformity requirements under the FCAA pursuant to 40 CFR 93.126, no analysis or discussion of MSAT is necessary. Documentation sufficient to demonstrate that the Proposed Project qualifies as a Categorical Exclusion and/or exempt project will suffice. For other projects with no or

negligible traffic impacts, regardless of the class of NEPA environmental document, no MSAT analysis is recommended. However, the project record should document the basis for the determination of "no meaningful potential impacts" with a brief description of the factors considered.

(2) Projects with Low Potential MSAT Effects

The types of projects included in this category are those that serve to improve operations of highway, transit, or freight without adding substantial new capacity or without creating a facility that is likely to meaningfully increase MSAT emissions. This category covers a broad range of projects.

It is anticipated that most highway projects that need an MSAT assessment will fall into this category. Any projects not meeting the criteria in Category (1) above or Category (3) below should be included in this category. Examples of these types of projects are minor widening projects; new interchanges or replacement of a signalized intersection on a surface street; or projects in which design year traffic is projected to be less than 140,000 to 150,000 annual average daily traffic (AADT).

For these projects, a qualitative assessment of emissions projections should be conducted. This qualitative assessment would compare, in narrative form, the expected effect of the project on traffic volumes, vehicle mix, or routing of traffic and the associated changes in MSAT for the alternatives, including the No Build Alternative, based on VMT, vehicle mix, and speed. It would also discuss national trend data projecting substantial overall reductions in emissions due to stricter engine and fuel regulations issued by the U.S. EPA. Because the emission effects of these projects are typically low, it is expected that there would be no appreciable difference in overall MSAT emissions among the various alternatives.

(3) Projects with Higher Potential MSAT Effects

This category includes projects that have the potential for meaningful differences in MSAT emissions among project alternatives. It is expected that a limited number of projects would meet this two-pronged test. To fall into this category, a project should:

- Create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of diesel particulate matter in a single location, involving a significant number of diesel vehicles for new projects or accommodating a significant increase in the number of diesel vehicles for expansion projects; or
- Create new capacity or add significant capacity to urban highways such as interstates, urban arterials, or urban collector-distributor routes with traffic volumes for which the AADT is projected to be in the range of 140,000 to 150,000 or greater by the design year.

The project should also be:

- Proposed to be located in proximity to populated areas.

Projects falling within this category should be more rigorously assessed for impacts. For these projects, a quantitative assessment of emissions projections should be conducted. This approach would include a quantitative analysis to forecast local-specific emission trends of the priority MSAT for each alternative for use as a basis of comparison.

The *Traffic Analysis Report* determined that the Proposed Project would increase the average vehicle speeds in the Project Area by 2–4 mph and would decrease the average delay per vehicle by up to 20 percent. In addition, as shown in Tables 3.12.4 and 3.12-5, the largest increase in daily trips would be 7,800 in 2017 and 3,400 in 2040. Project improvements would have no meaningful impacts on traffic volumes or vehicle mix. The Proposed Project is considered a project with low potential for meaningful MSAT effects. This Build Alternative would not result in any meaningful changes in traffic volumes, vehicle mix, location of the existing facility, or any other factor that would cause an increase in emissions impacts relative to the No Build Alternative. Caltrans has determined that the Proposed Project would generate minimal air quality impacts for Clean Air Act criteria pollutants, and it has not been linked with any special MSAT concerns. Consequently, the Proposed Project is exempt from analysis for MSATs.

Climate Change

Climate change is analyzed in Chapter 4, California Environmental Quality Act (CEQA) Evaluation. Neither the United States Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration (FHWA) has issued explicit guidance or methods to conduct project-level greenhouse gas analysis. FHWA

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.

No Build Alternative

The No Build Alternative does not include construction of the SR-241/SR-91 Express Lanes Connector. It is expected that there would be similar or higher MSAT emissions in the Project Area under the No Build Alternative compared to the Build Alternative in the design year (2040) due to the reduction in average delay per vehicle that would result from operation of the Build Alternative.

3.12.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required for operational air quality impacts because the Build Alternative would not result in substantial operational air quality impacts.

The SCAQMD has established Rule 403 for reducing fugitive dust emissions. The BACM, as specified in SCAQMD Rule 403, will be incorporated into the Proposed Project commitments. In addition, the following avoidance and minimization measures are included in the Build Alternative to reduce and otherwise address particulate matter emissions:

Measure AQ-1 **Fugitive Dust Source Controls.** During clearing, grading, earthmoving, and excavation operations, excessive fugitive dust emissions will be controlled by regular watering or other dust preventive measures using the following procedures, as specified in the South Coast Air Quality Management District (SCAQMD) Rule 403.

- All material excavated or graded will be sufficiently watered to prevent excessive amounts of dust.
- Watering will occur at least twice daily with complete coverage, preferably in the late morning and after work is done for the day.

- All material transported on site or off site will be either sufficiently watered or securely covered to prevent excessive amounts of dust. The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized so as to prevent excessive amounts of dust.

- These control techniques will be indicated in project specifications. Visible dust beyond the property line emanating from the Proposed Project will be prevented to the maximum extent feasible.

Measure AQ-2 **Ozone Precursor Emission Controls.** Construction equipment vehicle engines will be maintained in good condition and in proper tune per manufacturers' specifications in order to minimize emissions.

Measure AQ-3 **Prevention of Spills onto Public Streets.** All trucks hauling excavated or graded material on site will comply with State Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2), and (e)(4), as amended, regarding the prevention of such material spilling onto public streets and roads.

Measure AQ-4 **Caltrans Standard Specifications for Construction.** The contractor will adhere to Caltrans Standard Specifications for Construction (Sections 14-9.02 and 14-9.03).

Measure AQ-5 **Construction Vehicles Prohibition.** All construction vehicles both on- and off-site shall be prohibited from idling in excess of 5 minutes.

3.13 Noise

3.13.1 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.

3.13.1.1 California Environmental Quality Act

The California Environmental Quality Act requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under 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 CFR 772 noise analysis; please see Chapter 4 of this document for further information on noise analysis under CEQA.

3.13.1.2 National Environmental Policy Act and 23 CFR 772

For highway transportation projects with FHWA (and the Department, as assigned) involvement, the federal-Aid Highway Act of 1970 and the associated implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 dBA) is lower than the NAC for commercial areas (72 dBA). The following Table 3.13.1 lists the noise abatement criteria for use in the NEPA 23 CFR 772 analysis.

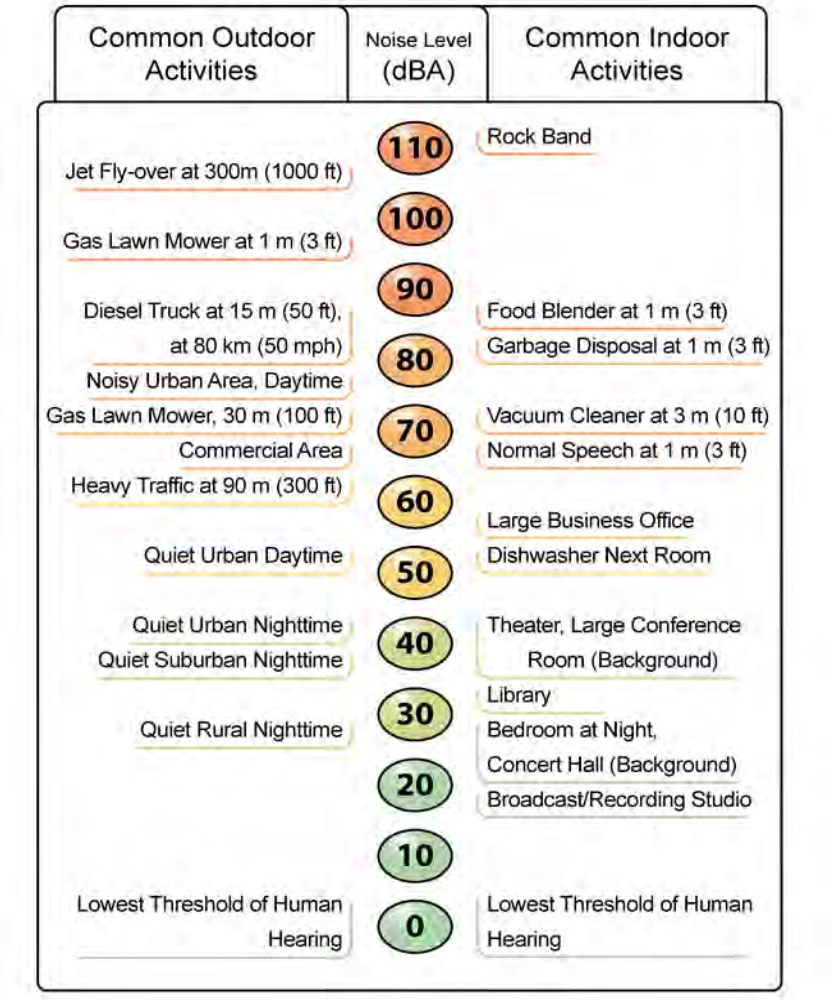
Table 3.13.2 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise levels discussed in this section with common activities.

Table 3.13.1 Noise Abatement Criteria

Activity Category	NAC, Hourly A- Weighted Noise Level, dBA L_{eq}(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.

Table 3.13.2 Noise Levels of Common Activities



According to the Department's *Traffic Noise Analysis Protocol for 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 NAC. Approaching the NAC is defined as coming within 1 dBA of the NAC.

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

The Department's *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 5 dBA reduction in the future noise level must be achieved for an abatement measure to be considered feasible. Other considerations include topography, access requirements, other noise sources, and safety considerations. A minimum 7 dBA reduction must be achieved at one or more benefited receptor to meet the acoustical design goal. 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.

3.13.2 Affected Environment

This section is based on the *Noise Study Report* (NSR) (August 2015) and the *Noise Study Report Errata* (August 2016) prepared for the Proposed Project. The NSR followed Caltrans Protocol.

3.13.2.1 Surrounding Land Uses and Sensitive Receptors

The Study Area includes land uses with receptor locations adjacent to the proposed express lanes connector. Existing land uses in the Study Area include Canyon RV Park, Featherly Regional Park, and Chino Hills State Park. The Santa Ana River also parallels SR-91. Residential uses in the vicinity include the Summit at Anaheim Hills and the Archstone at Yorba Linda communities. Undeveloped lands include Chino Hills State Park and the former Mountain Park Specific Plan areas.

Study Area land uses were grouped into a series of Common Noise Environments (CNE 1-3 to CNE 3-3) as shown in Figure 3.13.1. CNEs were established to aide in the identification of representative receptor locations in the Study Area. The CNEs are representative of land uses, receptors, and noise sources in the Study Area.

CNE 1-3, west of SR-241, encompasses the Summit at Anaheim Hills subdivision. The homes are approximately 385 feet (ft) from the SR-241 mainline and approximately 100 ft above it. As shown in Figure 3.13.2, a total of 20 modeling receptors were established in CNE 1-3, all representing single-family residences.

CNE 2-3 is north of the SR-241/SR-91 interchange, east and west of Gypsum Canyon Road. This area includes Canyon RV Park, the only developed portion of Featherly Regional Park. Canyon RV Park contains 140 recreational vehicle sites and ten cabins. The Santa Ana River Bike Trail runs through this park site.



FIGURE 3.13.1

N

SR 241/SR 91 Express Lanes Connector

Common Noise Environments (CNE)

SOURCE: CH2M HILL

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FIGURE 3.13.2

N

0 200 400

FEET

SOURCE: CH2MHILL

SR-241/SR-91 Express Lanes Connector

Receptors within CNE 1-3

I:\RBF1101\G\Receptors within CNE 1-3.cdr (7/22/2016)

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As shown in Figure 3.13.3, a total of 22 modeled receptors were established in CNE 2-3. These receptors represent all of the over 100 recreational-vehicle sites and the additional noise-sensitive land uses in the vicinity of the SR-241/SR-91 interchange. Noise barriers already exist along the mainline of SR-91, adjacent to Canyon RV Park.

CNE 3-3 is east of the SR-241/SR-91 interchange. Featherly Regional Park Archstone at Yorba Linda residential community is in CNE 3-3. Featherly Regional Park and Archstone at Yorba Linda are approximately 680 ft and 1,000 ft from the SR-91 mainline, respectively. As shown in Figure 3.13.4, a total of 13 modeled receptors were established in CNE 3-3. These receptors represent the frequent human uses in the recreational areas and the single/multifamily residences.

As shown later in this report, the receptors in the Study Area fall into two activity categories with specific NAC. Single-family residences and multifamily residences in the Study Area are considered Activity Category B land uses, which have an exterior NAC of 67 A-weighted decibel (dBA) L_{eq}. In addition, some of the recreational areas within CNEs 2-3 and 3-3 are considered Activity Category C land uses, which have an exterior NAC of 67 dBA L_{eq}.

3.13.2.2 Existing Noise Levels

The primary source of existing noise in the Study Area is traffic on SR-241 and SR-91. Short-term measurement locations were selected to represent the major developed areas within the Study Area. The measurement locations were selected to serve as representative modeling locations for the Study Area. Short-term monitoring was conducted at six locations on September 10, 2014. Measurements were taken over a 15-minute period at each site. The short-term measurement locations are shown in Figure 3.13.2. Table 3.13.3 contains the results of the short-term noise level measurements.

The Federal Highway Administration (FHWA) Traffic Noise Model Version 2.5 (TNM 2.5) was used to compare measured traffic noise levels to modeled noise levels at the short-term measurement locations. Table 3.13.4 compares the measured and modeled (predicted) noise levels at each measurement location. The predicted sound levels are within 3 decibels (dB) of the measured sound levels and are, therefore, considered to be in reasonable agreement with the measured sound levels.

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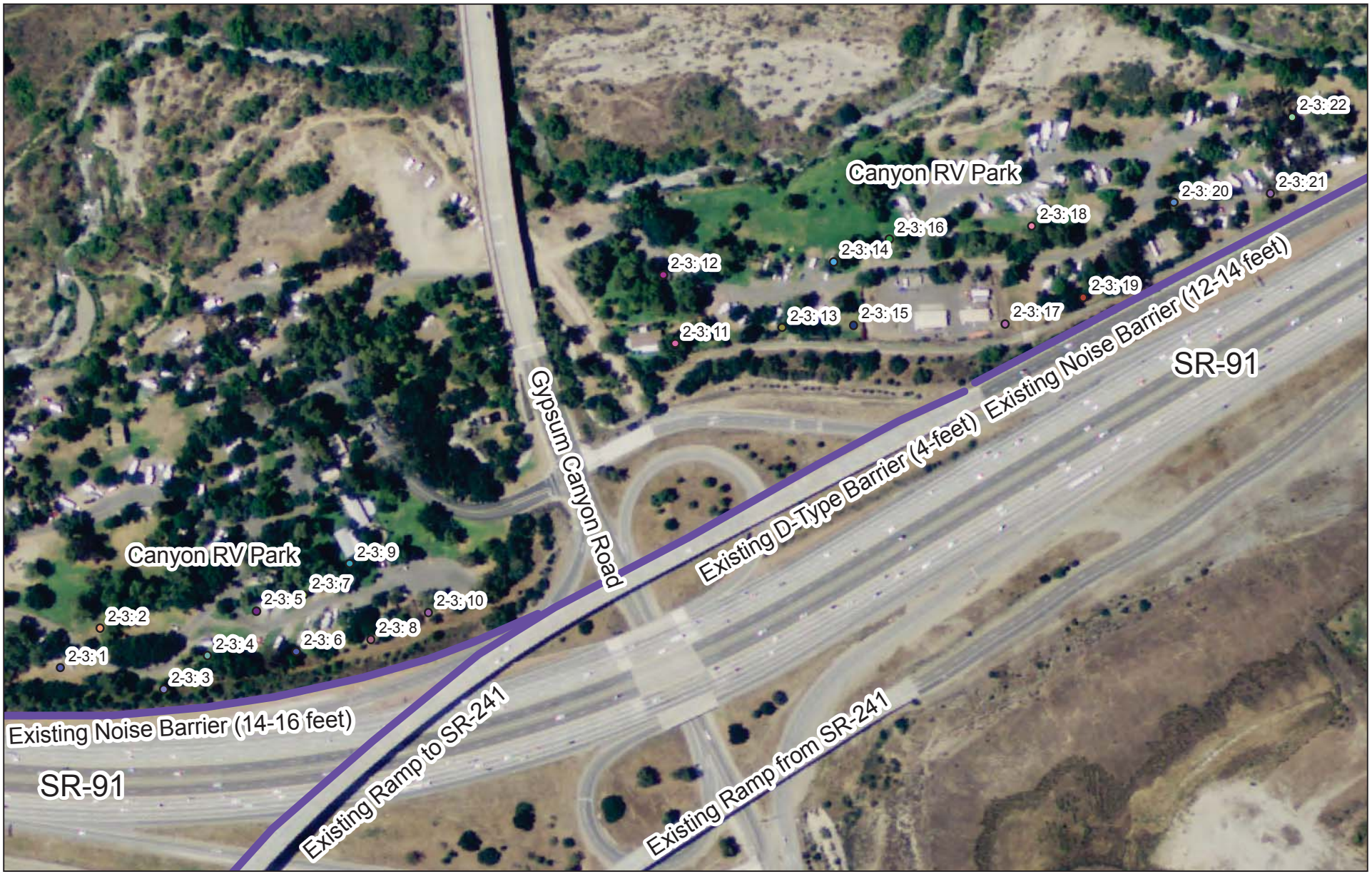


FIGURE 3.13.3

N

0 150 300

FEET

SOURCE: CH2MHILL

SR-241/SR-91 Express Lanes Connector

Receptors within CNE 2-3

I:\RBF1101\G\Receptors within CNE 2-3.cdr (7/22/2016)

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FIGURE 3.13.4

SOURCE: CH2MHILL

SR-241/SR-91 Express Lanes Connector

Receptors within CNE 3-3

I:\RBF1101\G\Receptors within CNE 3-3.cdr (7/22/2016)

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Table 3.13.3 Summary of Short-Term Measurements

Position	Address	CNE	Land Use	Start Time	Duration (minutes)	Measured L_{eq}
M1	Canyon RV Park	2-3	Recreation	9:00 AM	15	69.1
M2	Featherly Regional Park	2-3	Recreation	9:30 AM	15	69.0
M3	25580 Aragon Way	3-3	Residential	10:15 AM	15	49.3
M4	Beneath SR-91 EB off Ramp	2-3	Vacant	10:35 AM	15	76.0
M5	Oak Canyon Road	1-3	Residential	11:15 AM	15	50.7
M6	Garden View Drive	1-3	Residential	12:20 PM	15	52.0

Source: *Noise Study Report* (August 2015).
EB = eastbound
L_{eq} = equivalent continuous sound level
SR-91 = State Route 91

Table 3.13.4 Comparison of Measured to Predicted Sound Levels in the TNM Model

Measurement Position	Measured Sound Level (dBA)	Predicted Sound Level (dBA)	Measured minus Predicted (dBA)	K-Factor	K-Factor Receptors
M1	69.1	66.5	-2.6	2.6	2-3:11 through 2-3:22
M2	69.0	68.2	-0.8	0.8	2-3:1 through 2-3:10
M3	49.3	51.8	2.5	-2.5	3-3:1 through 3-3:11
M4	76.0	78.4	2.4	-2.4	1-3:18 through 1-3:20
M5	50.7	49.1	-1.6	1.6	1-3:1 through 1-3:7
M6	52.0	54.9	2.9	-2.9	1-3:8 through 1-3:17

Source: *Noise Study Report* (August 2015).
dBA = A-weighted decibels
TNM = Traffic Noise Model

Correction factors, known as K-factors, were applied to each of the modeled receptor locations so that the monitored and modeled noise levels were the same. Table 3.13.4 shows the K-factors at each of the monitoring locations and respective receptors.

Traffic modeling projections were used to predict existing baseline noise levels using TNM 2.5. Based on coordination with Caltrans and the Noise Study Report Work Plan, the 2017 No Build Condition was agreed to be the best approximation of existing conditions and was recommended for use in the noise analysis as the baseline for comparison purposes. Due to congestion on the SR-91 corridor throughout the day, traffic volumes/vehicle throughput are projected to remain fairly consistent between 2013 and 2017 since there is no capacity to accommodate a higher traffic

demand. Use of the 2017 predictions allowed for the use of a more accurate depiction of volumes throughout the corridor because the 2017 demand and resulting traffic volumes/vehicle throughput were derived from travel demand modeling completed as part of the *Traffic Analysis Report* (July 2015). Noise levels were predicted at the 55 receptors in the Study Area shown earlier on Figures 3.13.2 through 3.13.4. Table 3.13.5 contains the traffic noise modeling results for existing condition.

CNE 1-3

In CNE 1-3, existing noise levels range between 47 and 60 dBA. As shown in Table 3.13.5, the existing noise levels do not approach or exceed the NAC at any of the 20 receptors located at the Summit at Anaheim Hills neighborhood.

CNE 2-3

In CNE 2-3, existing noise levels range between 64 and 77 dBA. As shown in Table 3.13.5, existing noise levels at 17 of the 22 receptors approach or exceed the NAC. The 22 receptors that are located at camp sites were treated the same as residential dwellings (NAC B/C).

CNE 3-3

In CNE 3-3, existing noise levels are range between 54 and 63 dBA. As shown in Table 3.13.5, existing noise levels do not approach or exceed the NAC at any of the 13 receptors within CNE 3-3.

3.13.3 Environmental Consequences

3.13.3.1 Temporary Impacts

Build Alternative (*Two-Lane Express Lanes Connector*) (*Preferred Alternative*)

Noise from construction activities associated with the Build Alternative may intermittently dominate the noise environment in the immediate area of construction. Table 3.13.6 summarizes noise levels produced by construction equipment that is commonly used on roadway construction projects. As shown, construction equipment is expected to generate noise levels ranging from 70 to 90 dB at a distance of 50 ft from the piece of equipment, and noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance from the piece of equipment.

As described later in Measure N-1, noise control during construction will conform to the provisions in Section 14-8.02 of Caltrans "Noise Control Requirements." No adverse noise impacts from the construction of the Build Alternative are anticipated

Table 3.13.5 No Build Noise Levels (2017 data[1])

Receptor I.D.	Land Use	Number of Dwelling Units	Address	Noise Activity Category	No Build Noise Level (dBA)
CNE 1-3					
1	Single-Family Residential	5	Heatherwood Road	B/C (67)	53.1
2	Single-Family Residential	5	Heatherwood Road	B/C (67)	54.7
3	Single-Family Residential	6	Cloudview Way	B/C (67)	54.4
4	Single-Family Residential	4	Cloudview Way	B/C (67)	54.3
5	Single-Family Residential	6	Cloudview Way	B/C (67)	57.7
6	Single-Family Residential	4	Cloudview Way	B/C (67)	47.7
7	Single-Family Residential	5	Cloudview Way	B/C (67)	60.2
8	Single-Family Residential	6	Banner Ridge Drive	B/C (67)	56.0
9	Single-Family Residential	6	Banner Ridge Drive	B/C (67)	57.3
10	Single-Family Residential	7	Banner Ridge Drive	B/C (67)	57.0
11	Single-Family Residential	6	Banner Ridge Drive	B/C (67)	56.5
12	Single-Family Residential	5	Banner Ridge Drive	B/C (67)	52.5
13	Single-Family Residential	4	Grand View Drive	B/C (67)	51.2
14	Single-Family Residential	4	Grand View Drive	B/C (67)	53.9
15	Single-Family Residential	4	Grand View Drive	B/C (67)	55.5
16	Single-Family Residential	4	Fox Hollow Drive	B/C (67)	47.2
17	Single-Family Residential	4	Fox Hollow Drive	B/C (67)	54.6
18	Single-Family Residential	4	Fox Hollow Drive	B/C (67)	53.3
19	Single-Family Residential	4	Fox Hollow Drive	B/C (67)	49.5
20	Single-Family Residential	4	Fox Hollow Drive	B/C (67)	50.0
CNE 2-3					
1	Recreational	6	Canyon RV Park - West	B/C (67)	68.8
2	Recreational	4	Canyon RV Park - West	B/C (67)	64.5
3	Recreational	5	Canyon RV Park - West	B/C (67)	68.3
4	Recreational	2	Canyon RV Park - West	B/C (67)	64.3
5	Recreational	6	Canyon RV Park - West	B/C (67)	64.1
6	Recreational	6	Canyon RV Park - West	B/C (67)	67.4
7	Recreational	8	Canyon RV Park - West	B/C (67)	65.5
8	Recreational	7	Canyon RV Park - West	B/C (67)	68.0
9	Recreational	6	Canyon RV Park - West	B/C (67)	66.3
10	Recreational	0	Canyon RV Park - West	B/C (67)	71.3
11	Recreational	2	Canyon RV Park - East	B/C (67)	67.4

Table 3.13.5 No Build Noise Levels (2017 data[1])

Receptor I.D.	Land Use	Number of Dwelling Units	Address	Noise Activity Category	No Build Noise Level (dBA)
12	Recreational	2	Canyon RV Park - East	B/C (67)	65.6
13	Recreational	2	Canyon RV Park - East	B/C (67)	69.3
14	Recreational	3	Canyon RV Park - East	B/C (67)	67.5
15	Recreational	0	Canyon RV Park - East	B/C (67)	73.7
16	Recreational	11	Canyon RV Park - East	B/C (67)	70.1
17	Recreational	3	Canyon RV Park - East	B/C (67)	77.0
18	Recreational	8	Canyon RV Park - East	B/C (67)	72.8
19	Recreational	3	Canyon RV Park - East	B/C (67)	71.0
20	Recreational	6	Canyon RV Park - East	B/C (67)	68.6
21	Recreational	5	Canyon RV Park - East	B/C (67)	69.1
22	Recreational	6	Canyon RV Park - East	B/C (67)	67.8
CNE 3-3					
1	Single-Family Residential	6	Corsica Road	B (67)	53.9
2	Single-Family Residential	7	Corsica Road	B (67)	54.2
3	Recreational	0	Featherly Regional Park	B (67)	59.9
4	Single-Family Residential	7	Corsica Road	B (67)	54.2
5	Recreational	0	Featherly Regional Park	C (67)	62.5
6	Recreational	0	Featherly Regional Park	C (67)	60.6
7	Single-Family Residential	5	Corsica Road	B (67)	55.4
8	Multi-Family Residential	8	Corsica Road	B (67)	59.2
8a	Multi-Family Residential	8	Corsica Road	B (67)	61
9	Multi-Family Residential	8	Corsica Road	B (67)	56.5
9a	Multi-Family Residential	8	Corsica Road	B (67)	60.6
10	Recreational	0	Featherly Regional Park	C (67)	59.4
11	Recreational	0	Featherly Regional Park	C (67)	61.3

Source: *Noise Study Report* (August 2015).
Note: Shaded cells signify that noise levels approach or exceed the NAC.
[1] The revised planned opening year is 2020. The difference in traffic operations between 2017 and 2020 would be nominal. Although the revised opening year is 2020, all of the tables still refer to 2017 as this is the year for which the modeling was completed.
CNE = Common Noise Environment
dBA = A-weighted decibels
NAC = Noise Abatement Criteria

Table 3.13.6 Construction Equipment Noise

Equipment	Maximum Noise Level (dBA at 50 ft)
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82

Source: *Noise Study Report* (August 2015).
dBA = A-weighted decibels
ft = foot/feet

because construction would be conducted in accordance with Caltrans Standard Specifications Section 14.8-02. Construction noise would be short-term, intermittent, and overshadowed by local traffic noise.

No Build Alternative

The No Build Alternative would not result in the construction of improvements in the Study Area and, therefore, would not result in temporary noise effects.

3.13.3.2 Permanent Impacts

Build Alternative (*Two-Lane Express Lanes Connector*) (*Preferred Alternative*)

The FHWA defines a Type I project as a proposed federal or federal-aid highway project for the construction of a highway on a new location or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment of the highway. The Proposed Project is considered a Type 1 project. Consideration of noise abatement is required for all Type 1 projects.

TNM 2.5 was used to predict noise levels for the future (2040) Build Alternative. The 2040 noise levels for the Build Alternative are shown in Tables 3.13.7 through 3.13.9. K-factors were applied to the output data in these tables.

The proposed express lanes connector would start on SR-241 in the vicinity of CNE 1-3. As shown in Table 3.13.7, in CNE 1-3, 2040 noise levels for the Build Alternative would not approach or exceed the NAC at any of the receptor locations. As shown in Table 3.13.7, the noise levels for the Build Alternative at the receptors in CNE 1-3 would be a maximum of 3 dBA higher than the No Build Alternative, which is barely perceptible to the human ear. Because a substantial noise increase would not occur at the receptor locations in CNE 1-3, noise abatement is not required.

Table 3.13.7 2040 Noise Levels for CNE 1-3 (west side of SR-241 [Summit at Anaheim Hills])

Receptor I.D	K-Factor	Land Use	Number of Dwelling Units	Address	Activity Category (NAC)	2017 No Build Noise Level $L_{eq}(h)$, dBA	2040 Noise Level without Project $L_{eq}(h)$, dBA	2040 Noise Level with Project $L_{eq}(h)$, dBA	2040 Noise Level with Project minus 2017 No Build Conditions $L_{eq}(h)$, dBA	2040 Noise Level with Project minus 2040 No Build Conditions $L_{eq}(h)$, dBA
1	1.6	Single-Family Residential	5	Heatherwood Road	B (67)	53.1	53.8	54.3	1.2	0.5
2	1.6	Single-Family Residential	5	Heatherwood Road	B (67)	54.7	55.4	56.2	1.5	0.8
3	1.6	Single-Family Residential	6	Cloudview Way	B (67)	54.4	55.0	56.0	1.6	1.0
4	1.6	Single-Family Residential	4	Cloudview Way	B (67)	54.3	54.9	56.2	1.9	1.3
5	1.6	Single-Family Residential	6	Cloudview Way	B (67)	57.7	58.5	59.9	2.2	1.4
6	1.6	Single-Family Residential	4	Cloudview Way	B (67)	47.7	47.8	48.3	0.6	0.5
7	1.6	Single-Family Residential	5	Cloudview Way	B (67)	60.2	60.8	62.1	1.9	1.3
8	-2.9	Single-Family Residential	6	Banner Ridge Drive	B (67)	56.0	56.5	58.8	2.8	2.3
9	-2.9	Single-Family Residential	6	Banner Ridge Drive	B (67)	57.3	57.8	59.5	2.2	1.7
10	-2.9	Single-Family Residential	7	Banner Ridge Drive	B (67)	57.0	57.4	58.4	1.4	1.0
11	-2.9	Single-Family Residential	6	Banner Ridge Drive	B (67)	56.5	57.0	58.5	2.0	1.5
12	-2.9	Single-Family Residential	5	Banner Ridge Drive	B (67)	52.5	52.7	53.9	1.4	1.2
13	-2.9	Single-Family Residential	4	Grand View Drive	B (67)	51.2	51.3	53.4	2.2	2.1
14	-2.9	Single-Family Residential	4	Grand View Drive	B (67)	53.9	54.5	56.7	2.8	2.2
15	-2.9	Single-Family Residential	4	Grand View Drive	B (67)	55.5	56.0	58.0	2.5	2.0
16	-2.9	Single-Family Residential	4	Fox Hollow Drive	B (67)	47.2	46.8	47.5	0.3	0.7
17	-2.9	Single-Family Residential	4	Fox Hollow Drive	B (67)	54.6	54.9	56.8	2.2	1.9
18	-2.4	Single-Family Residential	4	Fox Hollow Drive	B (67)	53.3	53.5	55.3	2.0	1.8
19	-2.4	Single-Family Residential	4	Fox Hollow Drive	B (67)	49.5	49.2	50.0	0.5	0.8
20	-2.4	Single-Family Residential	4	Fox Hollow Drive	B (67)	50.0	49.7	50.5	0.5	0.8

Source: *Noise Study Report* (August 2015).
CNE = Common Noise Environments
dBA = A-weighted decibels
$L_{eq}(h)$ = one-hour A-weighted equivalent continuous sound level
NAC = Noise Abatement Criteria
SR-241 = State Route 241

Table 3.13.8 2040 Noise Levels and Barrier Analysis for CNE 2-3 (north side of SR-91 at Gypsum Canyon Road) Noise Barrier on Express Lanes

Receptor I.D	K-Factor	Land Use	Number of Dwelling Units	Address	Activity Category (NAC)	2017 No Build Noise Level $L_{eq}(h)$, dBA	2040 Noise Level without Project $L_{eq}(h)$, dBA	2040 Noise Level with Project $L_{eq}(h)$, dBA	2040 Noise Level with Project minus 2017 No Build Conditions $L_{eq}(h)$, dBA	2040 Noise Level with Project minus 2040 No Build Conditions $L_{eq}(h)$, dBA
1	0.8	Recreational	6	Canyon RV Park- West	B/C (67)	68.8	67.7	68.7	-0.1	1
2	0.8	Recreational	4	Canyon RV Park -West	B/C (67)	64.5	63.9	64.8	0.3	0.9
3	0.8	Recreational	5	Canyon RV Park -West	B/C (67)	68.3	67.2	68.2	-0.1	1
4	0.8	Recreational	2	Canyon RV Park -West	B/C (67)	64.3	63.7	64.7	0.4	1
5	0.8	Recreational	6	Canyon RV Park -West	B/C (67)	64.1	63.7	64.7	0.6	1
6	0.8	Recreational	6	Canyon RV Park -West	B/C (67)	67.4	66.7	67.7	0.3	1
7	0.8	Recreational	8	Canyon RV Park -West	B/C (67)	65.5	65.3	66.2	0.7	0.9
8	0.8	Recreational	7	Canyon RV Park -West	B/C (67)	68.0	67.7	68.6	0.6	0.9
9	0.8	Recreational	6	Canyon RV Park -West	B/C (67)	66.3	66.2	67.1	0.8	0.9
10	0.8	Recreational	0	Canyon RV Park -West	B/C (67)	71.3	71.0	71.7	0.4	0.7
11	2.6	Recreational	2	Canyon RV Park -East	B/C (67)	67.4	67.9	68.2	0.8	0.3
12	2.6	Recreational	2	Canyon RV Park -East	B/C (67)	65.6	66.1	66.5	0.9	0.4
13	2.6	Recreational	2	Canyon RV Park -East	B/C (67)	69.3	69.8	69.7	0.4	-0.1
14	2.6	Recreational	3	Canyon RV Park -East	B/C (67)	67.5	68.0	68.0	0.5	0
15	2.6	Recreational	0	Canyon RV Park -East	B/C (67)	73.7	74.1	73.8	0.1	-0.3
16	2.6	Recreational	11	Canyon RV Park -East	B/C (67)	70.1	70.6	70.2	0.1	-0.4
17	2.6	Recreational	3	Canyon RV Park -East	B/C (67)	77.0	77.4	76.5	-0.5	-0.9
18	2.6	Recreational	8	Canyon RV Park -East	B/C (67)	72.8	73.3	72.3	-0.5	-1
19	2.6	Recreational	3	Canyon RV Park -East	B/C (67)	71.0	71.3	71.0	0	-0.3
20	2.6	Recreational	6	Canyon RV Park -East	B/C (67)	68.6	69.0	69.0	0.4	0

Table 3.13.8 2040 Noise Levels and Barrier Analysis for CNE 2-3 (north side of SR-91 at Gypsum Canyon Road) Noise Barrier on Express Lanes

Receptor I.D	K-Factor	Land Use	Number of Dwelling Units	Address	Activity Category (NAC)	2017 No Build Noise Level $L_{eq}(h)$, dBA	2040 Noise Level without Project $L_{eq}(h)$, dBA	2040 Noise Level with Project $L_{eq}(h)$, dBA	2040 Noise Level with Project minus 2017 No Build Conditions $L_{eq}(h)$, dBA	2040 Noise Level with Project minus 2040 No Build Conditions $L_{eq}(h)$, dBA
21	2.6	Recreational	5	Canyon RV Park -East	B/C (67)	69.1	69.4	68.4	-0.7	-1
22	2.6	Recreational	6	Canyon RV Park -East	B/C (67)	67.8	68.2	68.4	0.6	0.2

Source: *Noise Study Report* (August 2015).
Note: Shaded cells signify that noise levels approach or exceed the NAC.
CNE = Common Noise Environment
dBA = A-weighted decibels
$L_{eq}(h)$ = one-hour A-weighted equivalent continuous sound level
NAC = Noise Abatement Criteria
SR-91 = State Route 91

Table 3.13.9 2040 Noise Levels for CNE 3-3 (north side of SR-91 [Archstone at Yorba Linda and Sycamore Park])

Receptor I.D	K-Factor	Land Use	Number of Dwelling Units	Address	Activity Category (NAC)	2017 No Build Noise Level $L_{eq}(h)$, dBA	2040 Noise Level without Project $L_{eq}(h)$, dBA	2040 Noise Level with Project $L_{eq}(h)$, dBA	2040 Noise Level with Project minus 2017 No Build Conditions $L_{eq}(h)$, dBA	2040 Noise Level with Project minus 2040 No Build Conditions $L_{eq}(h)$, dBA
1	-2.5	Single-Family Residential	6	Corsica Road	B (67)	53.9	54	54.1	0.2	0.1
2	-2.5	Single-Family Residential	7	Corsica Road	B (67)	54.2	54.2	54.4	0.2	0.2
3	-2.5	Recreational	0	Featherly Regional Park	B (67)	59.9	59.9	60.2	0.3	0.3
4	-2.5	Single-Family Residential	7	Corsica Road	B (67)	54.2	54.2	54.3	0.1	0.1
5	-2.5	Recreational	0	Featherly Regional Park	C (67)	62.5	62.4	62.7	0.2	0.3
6	-2.5	Recreational	0	Featherly Regional Park	C (67)	60.6	60.5	60.8	0.2	0.3
7	-2.5	Single-Family Residential	5	Corsica Road	B (67)	55.4	55.3	55.5	0.1	0.2
8	-2.5	Multi-Family Residential	8	Corsica Road	B (67)	59.2	59	59.3	0.1	0.3
8a	-2.5	Multi-Family Residential	8	Corsica Road	B (67)	61	60.8	61.1	0.1	0.3
9	-2.5	Multi-Family Residential	8	Corsica Road	B (67)	56.5	56.4	56.6	0.1	0.2
9a	-2.5	Multi-Family Residential	8	Corsica Road	B (67)	60.6	60.4	60.7	0.1	0.3
10	-2.5	Recreational	0	Featherly Regional Park	C (67)	59.4	59.2	59.5	0.1	0.3
11	-2.5	Recreational	0	Featherly Regional Park	C (67)	61.3	61.2	61.4	0.1	0.2

Source: *Noise Study Report* (August 2015).
CNE = Common Noise Environment
dBA = A-weighted decibels
$L_{eq}(h)$ = one-hour A-weighted equivalent continuous sound level
NAC = Noise Abatement Criteria
SR-91 = State Route 91

The proposed express lanes connector would be at its highest in the vicinity of CNE 2-3. As shown in Table 3.13.8, in CNE 2-3, 2040 noise levels for the Build Alternative are expected to approach or exceed the NAC at 19 of the 22 modeled receptor locations at the Canyon RV Park. As shown in Table 3.13.8, the traffic level increases associated with the Build Alternative are very low (1 dBA or less) compared to the No Build Alternative and are not perceptible to the human ear. In addition, Measure N-2 would ensure noise levels are minimized by requiring quieter deck texture specifications for the ramps. Because noise levels are predicted to approach or exceed the NAC, evaluation of noise abatement was conducted and barriers were evaluated to determine the level of noise reduction that was possible. The evaluation of noise abatement is discussed in Section 3.13.4, below.

The proposed express lanes connector would end on SR-91 in the vicinity of CNE 3-3. As shown in Table 3.13.9, in CNE 3-3, 2040 noise levels for the Build Alternative would not approach the NAC at any of the receptor locations. In addition, as shown in Table 3.13.9, the traffic level increases associated with the Build Alternative are very low (1 dBA or less) compared to the No Build Alternative and are not perceptible to the human ear. Because a substantial noise increase would not occur at the receptor locations in CNE 3-3, noise abatement is not required.

No Build Alternative

The traffic noise model (TNM 2.5) was used to predict 2040 noise levels for the future (2040) No Build condition. The 2040 noise levels for the No Build Alternative are shown in Tables 3.13.7 to 3.13.9.

In CNE 1-3, future 2040 noise levels are predicted to range between 47 and 61 dBA. As shown in Table 3.13.7, noise levels within CNE 1-3 are not predicted to approach or exceed the NAC at any of the 20 receptors within the Summit at Anaheim Hills neighborhood.

In CNE 2-3, future 2040 noise levels are predicted to range between 64 and 77 dBA. As shown in Table 3.13.8, noise levels at 18 of the 22 receptors are predicted to approach or exceed the NAC in 2040.

In CNE 3-3, future 2040 noise levels are predicted to range between 54 and 62 dBA. As shown in Table 3.13.9, noise levels are not predicted to approach or exceed the NAC in 2040.

3.13.4 Avoidance, Minimization, and/or Mitigation Measures

3.13.4.1 Construction Measures

Measure N-1 would avoid and/or minimize effects related to construction noise.

Measure N-1 **Control of Construction Noise Levels.** The control of noise from construction activities will conform to the California Department of Transportation (Caltrans) Standard Specifications, Section 14-8.02, "Noise Control." The nighttime noise level from the contractor's operations, between the hours of 9:00 p.m. and 6:00 a.m., will not exceed 86 A-weighted decibels (dBA) one-hour A weighted equivalent continuous sound level (Leq(h)) at a distance of 50 feet.

3.13.4.2 Operational Measures

Measure N-2 would minimize effects related to operational noise.

Measure N-2 **Deck Specifications.** To ensure that noise impacts are minimized, the deck texture on the direct connector ramps will be constructed using the new quieter longitudinally-tined Groove and Grind deck specification, instead of a transversely-tined texture.

3.13.4.3 Consideration of Noise Abatement

Two scenarios for noise abatement within CNE 2-3 were evaluated. These include a new noise barrier along the proposed express lanes connector and improvements to the existing noise barriers along SR-91.

For the noise barrier along the proposed express lanes connector, a 4 ft D Type barrier was assumed. The modeling examined barriers up to 16 ft tall. Table 3.13.10 summarizes these traffic noise modeling results for the barrier at the proposed express lanes connector. Even at a maximum height, an express lanes connector noise barrier would fail to discernibly reduce noise at any of the receptors. No receptor would experience an insertion loss of over 1 dBA. As a result, an express lanes connector noise barrier is not feasible. The primary reason for this is the low number of vehicles using the express ramps per the *Traffic Analysis Report* (July 2015), which was 1,876 vehicles in the peak noise hour (6:00 AM to 7:00 AM).

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Table 3.13.10 Sound Barrier Analysis at CNE 2-3 (north side of SR-91 at Gypsum Canyon Road) Noise Barrier on Express Lanes

Receptor I.D.	Land Use	Number of Dwelling Units	Address	Activity Category	2017 No Build Noise Level L_{eq}(h), dBA	Future Worst Hour Noise Levels - L_{eq}(h), dBA																				
						2040 Noise Level without Project L_{eq}(h), dBA	2040 Noise 2040 Noise Level with Project L_{eq}(h), dBA Level with Project L_{eq}(h), dBA	2040 Noise Level with Project minus 2017 No Build Conditions L_{eq}(h), dBA	2040 Noise Level with Project minus 2040 No Build Conditions L_{eq}(h), dBA	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR) Noise Barrier on Express Lanes														
										6 ft			8 ft			10 ft			12 ft			14 ft			16 ft		
										L_{eq}(h)	I.L.	NBR	L_{eq}(h)	I.L.	NBR	L_{eq}(h)	I.L.	NBR	L_{eq}(h)	I.L.	NBR	L_{eq}(h)	I.L.	NBR	L_{eq}(h)	I.L.	NBR
1	Recreational	6	Canyon RV Park - West	B/C (67)	68.8	67.7	68.7	-0.1	1	68.7	0.0	0	68.7	0.0	0	68.7	0.0	0	68.7	0.0	0	68.7	0.0	0	68.6	0.1	0
2	Recreational	4	Canyon RV Park - West	B/C (67)	64.5	63.9	64.8	0.3	0.9	64.8	0.0	0	64.7	0.1	0	64.7	0.1	0	64.7	0.1	0	64.7	0.1	0	64.7	0.1	0
3	Recreational	5	Canyon RV Park - West	B/C (67)	68.3	67.2	68.2	-0.1	1	68.2	0.0	0	68.1	0.1	0	68.1	0.1	0	68.1	0.1	0	68.1	0.1	0	68.1	0.1	0
4	Recreational	2	Canyon RV Park - West	B/C (67)	64.3	63.7	64.7	0.4	1	64.6	0.1	0	64.6	0.1	0	64.6	0.1	0	64.5	0.2	0	64.5	0.2	0	64.5	0.2	0
5	Recreational	6	Canyon RV Park - West	B/C (67)	64.1	63.7	64.7	0.6	1	64.6	0.1	0	64.5	0.2	0	64.5	0.2	0	64.5	0.2	0	64.5	0.2	0	64.5	0.2	0
6	Recreational	6	Canyon RV Park - West	B/C (67)	67.4	66.7	67.7	0.3	1	67.7	0.0	0	67.5	0.2	0	67.5	0.2	0	67.5	0.2	0	67.5	0.2	0	67.5	0.2	0
7	Recreational	8	Canyon RV Park - West	B/C (67)	65.5	65.3	66.2	0.7	0.9	66.2	0.0	0	66.1	0.1	0	66.1	0.1	0	66.1	0.1	0	66.0	0.2	0	66.0	0.2	0
8	Recreational	7	Canyon RV Park - West	B/C (67)	68.0	67.7	68.6	0.6	0.9	68.6	0.0	0	68.5	0.1	0	68.5	0.1	0	68.5	0.1	0	68.5	0.1	0	68.5	0.1	0
9	Recreational	6	Canyon RV Park - West	B/C (67)	66.3	66.2	67.1	0.8	0.9	67.1	0.0	0	67.0	0.1	0	67.0	0.1	0	67.0	0.1	0	67.0	0.1	0	67.0	0.1	0
10	Recreational	0	Canyon RV Park - West	B/C (67)	71.3	71.0	71.7	0.4	0.7	71.7	0.0	0	71.7	0.0	0	71.7	0.0	0	71.7	0.0	0	71.7	0.0	0	71.7	0.0	0
11	Recreational	2	Canyon RV Park - East	B/C (67)	67.4	67.9	68.2	0.8	0.3	68.2	0.0	0	68.3	-0.1	0	68.3	-0.1	0	68.3	-0.1	0	68.3	-0.1	0	68.3	-0.1	0
12	Recreational	2	Canyon RV Park - East	B/C (67)	65.6	66.1	66.5	0.9	0.4	66.5	0.0	0	66.5	0.0	0	66.5	0.0	0	66.5	0.0	0	66.5	0.0	0	66.5	0.0	0
13	Recreational	2	Canyon RV Park - East	B/C (67)	69.3	69.8	69.7	0.4	-0.1	69.7	0.0	0	69.7	0.0	0	69.7	0.0	0	69.7	0.0	0	69.7	0.0	0	69.7	0.0	0
14	Recreational	3	Canyon RV Park - East	B/C (67)	67.5	68.0	68.0	0.5	0	68.0	0.0	0	68.1	-0.1	0	68.1	-0.1	0	68.1	-0.1	0	68.1	-0.1	0	68.1	-0.1	0
15	Recreational	0	Canyon RV Park - East	B/C (67)	73.7	74.1	73.8	0.1	-0.3	73.8	0.0	0	73.8	0.0	0	73.8	0.0	0	73.8	0.0	0	73.8	0.0	0	73.8	0.0	0
16	Recreational	11	Canyon RV Park - East	B/C (67)	70.1	70.6	70.2	0.1	-0.4	70.2	0.0	0	70.2	0.0	0	70.2	0.0	0	70.2	0.0	0	70.2	0.0	0	70.2	0.0	0
17	Recreational	3	Canyon RV Park - East	B/C (67)	77.0	77.4	76.5	-0.5	-0.9	76.5	0.0	0	76.5	0.0	0	76.5	0.0	0	76.5	0.0	0	76.5	0.0	0	76.5	0.0	0
18	Recreational	8	Canyon RV Park - East	B/C (67)	72.8	73.3	72.3	-0.5	-1	72.3	0.0	0	72.3	0.0	0	72.3	0.0	0	72.3	0.0	0	72.3	0.0	1	72.3	0.0	1
19	Recreational	3	Canyon RV Park - East	B/C (67)	71.0	71.3	71.0	0	-0.3	71.0	0.0	0	71.0	0.0	0	71.0	0.0	0	71.0	0.0	0	71.0	0.0	0	71.0	0.0	0
20	Recreational	6	Canyon RV Park - East	B/C (67)	68.6	69.0	69.0	0.4	0	69.0	0.0	0	69.0	0.0	0	69.0	0.0	0	69.0	0.0	0	69.0	0.0	0	69.0	0.0	0
21	Recreational	5	Canyon RV Park - East	B/C (67)	69.1	69.4	68.4	-0.7	-1	68.4	0.0	0	68.4	0.0	0	68.4	0.0	0	68.4	0.0	0	68.4	0.0	0	68.4	0.0	0
22	Recreational	6	Canyon RV Park - East	B/C (67)	67.8	68.2	68.4	0.6	0.2	68.4	0.0	0	68.4	0.0	0	68.4	0.0	0	68.4	0.0	0	68.4	0.0	0	68.4	0.0	0

Source: *Noise Study Report* (August 2015).
Note: Shaded cells signify that noise levels approach or exceed the NAC.
CNE = Common Noise Environments
dBA = A-weighted decibels
ft = foot/feet
L_{eq}(h) = one-hour A-weighted equivalent continuous sound level
NAC = Noise Abatement Criteria

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The second scenario examined increasing the height of the existing noise barrier along SR-91. The existing SR-91 barrier segments examined for modification include the portion west of Gypsum Canyon (currently 14 to 16 ft tall) and the portion east of Gypsum Canyon (currently 12 to 14 ft tall). The existing ramp from SR-91 to SR-241 was also analyzed. Currently, there is a 4 ft Jersey barrier (a concrete or plastic barrier employed to separate traffic lanes and also to prevent a crossover case of a head-on collision) on that ramp. Noise barriers were modeled starting with the existing height in 2 ft increments up to an additional 8 ft.

Table 3.13.11 summarizes the traffic noise modeling results for increasing the height of the existing noise barriers along SR-91. The existing barriers are effective in reducing noise levels and adding height to the existing barriers would provide limited benefits. Table 3.13.12 summarizes the average noise levels and reductions associated with CNE 2-3 and alternations to the existing SR-91 noise barriers. An addition of 8 ft to the existing barrier height would provide between 0 and 3 dBA in additional insertion loss. The receptors with the greatest benefits (2 to 3 dBA) are located nearest to the termini of the SR-91 noise barriers. The benefits of altering the existing barriers would be below the typical threshold of perception; therefore, this approach is not considered feasible.

In summary, with respect to CNE 2-3:

- Noise levels in the Canyon RV Park exceed the Noise Abatement Criteria. This applies to No Build (2017), Build (2040), and Future No Build (2040) conditions.
- The noise levels under the No Build (2017), Build (2040), and Future No Build (2040) conditions are virtually identical.
- The additional traffic noise associated with the Proposed Project is minimal.
- Noise barriers to reduce the noise associated with the Proposed Project have very limited effectiveness.
- The existing barriers along SR-91 are effective at reducing traffic noise.
- Increasing the size of the existing barriers along SR-91 would provide limited additional benefits.

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Table 3.13.11 Sound Barrier Analysis at CNE 2-3 (north side of SR-91 at Gypsum Canyon Road) Noise Barrier along SR-91 (above existing)

Receptor I.D.	Land Use	Number of Dwelling Units	Address	Activity Category	2017 No Build Noise Level $L_{eq}(h)$, dBA	Future Worst Hour Noise Levels - $L_{eq}(h)$, dBA																
						2040 Noise Level without Project $L_{eq}(h)$, dBA	2040 Noise Level with Project $L_{eq}(h)$, dBA	2040 Noise Level with Project minus 2017 No Build Conditions $L_{eq}(h)$, dBA	2040 Noise Level with Project minus 2040 No Build Conditions $L_{eq}(h)$, dBA	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receptors (NBR) Noise Barrier along SR-91 (above existing)											
										Existing			+2 ft			+4 ft			+6 ft			+8 ft		
										$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR	$L_{eq}(h)$	I.L.	NBR
1	Recreational	6	Canyon RV Park - West	B/C (67)	68.8	67.7	68.7	-0.1	1	68.7	0.0	0	67.6	1.1	0	66.7	2.0	0	66.0	2.7	0	65.4	3.3	0
2	Recreational	4	Canyon RV Park - West	B/C (67)	64.5	63.9	64.8	0.3	0.9	64.8	0.0	0	64.2	0.6	0	63.8	1.0	0	63.4	1.4	0	63.0	1.8	0
3	Recreational	5	Canyon RV Park - West	B/C (67)	68.3	67.2	68.2	-0.1	1	68.2	0.0	0	67.2	1.0	0	66.4	1.8	0	65.7	2.5	0	65.1	3.1	0
4	Recreational	2	Canyon RV Park - West	B/C (67)	64.3	63.7	64.7	0.4	1	64.7	0.0	0	64.1	0.6	0	63.7	1.0	0	63.3	1.4	0	63.0	1.7	0
5	Recreational	6	Canyon RV Park - West	B/C (67)	64.1	63.7	64.7	0.6	1	64.7	0.0	0	64.2	0.5	0	63.9	0.8	0	63.6	1.1	0	63.4	1.3	0
6	Recreational	6	Canyon RV Park - West	B/C (67)	67.4	66.7	67.7	0.3	1	67.7	0.0	0	67.1	0.6	0	66.6	1.1	0	66.0	1.7	0	65.4	2.3	0
7	Recreational	8	Canyon RV Park - West	B/C (67)	65.5	65.3	66.2	0.7	0.9	66.2	0.0	0	65.9	0.3	0	65.6	0.6	0	65.4	0.8	0	65.2	1.0	0
8	Recreational	7	Canyon RV Park - West	B/C (67)	68.0	67.7	68.6	0.6	0.9	68.6	0.0	0	68.3	0.3	0	68.0	0.6	0	67.7	0.9	0	67.4	1.2	0
9	Recreational	6	Canyon RV Park - West	B/C (67)	66.3	66.2	67.1	0.8	0.9	67.1	0.0	0	66.9	0.2	0	66.7	0.4	0	66.5	0.6	0	66.4	0.7	0
10	Recreational	0	Canyon RV Park - West	B/C (67)	71.3	71.0	71.7	0.4	0.7	71.7	0.0	0	71.7	0.0	0	71.6	0.1	0	71.6	0.1	0	71.6	0.1	0
11	Recreational	2	Canyon RV Park - East	B/C (67)	67.4	67.9	68.2	0.8	0.3	68.2	0.0	0	68.2	0.0	0	68.1	0.1	0	68.1	0.1	0	68.0	0.2	0
12	Recreational	2	Canyon RV Park - East	B/C (67)	65.6	66.1	66.5	0.9	0.4	66.5	0.0	0	66.4	0.1	0	66.4	0.1	0	66.3	0.2	0	66.3	0.2	0
13	Recreational	2	Canyon RV Park - East	B/C (67)	69.3	69.8	69.7	0.4	-0.1	69.7	0.0	0	69.7	0.0	0	69.6	0.1	0	69.6	0.1	0	69.6	0.1	0
14	Recreational	3	Canyon RV Park - East	B/C (67)	67.5	68.0	68.0	0.5	0	68.0	0.0	0	68.0	0.0	0	68.0	0.0	0	67.9	0.1	0	67.9	0.1	0
15	Recreational	0	Canyon RV Park - East	B/C (67)	73.7	74.1	73.8	0.1	-0.3	73.8	0.0	0	73.8	0.0	0	73.8	0.0	0	73.8	0.0	0	73.8	0.0	0
16	Recreational	11	Canyon RV Park - East	B/C (67)	70.1	70.6	70.2	0.1	-0.4	70.2	0.0	0	70.2	0.0	0	70.2	0.0	0	70.1	0.1	0	70.1	0.1	0
17	Recreational	3	Canyon RV Park - East	B/C (67)	77.0	77.4	76.5	-0.5	-0.9	76.5	0.0	0	76.5	0.0	0	76.5	0.0	0	76.5	0.0	0	76.5	0.0	0
18	Recreational	8	Canyon RV Park - East	B/C (67)	72.8	73.3	72.3	-0.5	-1	72.3	0.0	0	72.2	0.1	0	72.2	0.1	0	72.1	0.2	0	72.1	0.2	1
19	Recreational	3	Canyon RV Park - East	B/C (67)	71.0	71.3	71.0	0	-0.3	71.0	0.0	0	71.0	0.0	0	70.9	0.1	0	70.8	0.2	0	70.7	0.3	0
20	Recreational	6	Canyon RV Park - East	B/C (67)	68.6	69.0	69.0	0.4	0	69.0	0.0	0	68.1	0.9	0	67.2	1.8	0	66.5	2.5	0	66.3	2.7	0
21	Recreational	5	Canyon RV Park - East	B/C (67)	69.1	69.4	68.4	-0.7	-1	68.4	0.0	0	67.4	1.0	0	66.6	1.8	0	65.9	2.5	0	65.3	3.1	0
22	Recreational	6	Canyon RV Park - East	B/C (67)	67.8	68.2	68.4	0.6	0.2	68.4	0.0	0	67.2	1.2	0	66.2	2.2	0	65.5	2.9	0	65.1	3.3	0

Source: *Noise Study Report* (August 2015).
Note: Shaded cells signify that noise levels approach or exceed the NAC.
CNE = Common Noise Environment
dBA = A-weighted decibels
$L_{eq}(h)$ = one-hour A-weighted equivalent continuous sound level
NAC = Noise Abatement Criteria

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Table 3.13.12 Average Noise Levels at CNE 2-3 Receptors (dBA)

No Build Condition (2017)	No Build Alternative (2040)	Build Alternative (2040)	Build Alternative (2040) with Additional 8 ft Barrier Height to Existing Barrier	Build Alternative (2040) without Existing Barriers	Abatement from Existing Barriers	Additional Abatement from Improved Barriers
66.78	66.77	67.05	65.84	71.16	4.11	1.21

Source: *Noise Study Report* (August 2015).
Note: Average TNM results of the 22 receptors in CNE 2-3.
CNE = Common Noise Environment
dBA = A-weighted decibels
ft = foot/feet
TNM = Traffic Noise Model

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3.14 Energy

3.14.1 Regulatory Setting

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires the identification of all potentially significant impacts to the environment, including energy impacts.

The California Environmental Quality Act (CEQA) Guidelines Section 15126.2(b), Appendix F, Energy Conservation, require an analysis of a project's energy use to determine if the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources.

3.14.2 Affected Environment

3.14.2.1 Energy Resources and Consumption

The information in this section is from the United States Energy Information Administration Profile Analysis, June 2014.[1]

With the largest economy in the nation, California runs on energy. It is the most populous state and its total energy demand is second only to Texas. California State policy promotes energy efficiency. The State's extensive efforts to increase energy efficiency and the implementation of alternative technologies have restrained energy demand growth. Although it is a leader in the energy-intensive petroleum, chemical, forest product, and food product industries, California has one of the lowest per capita total energy consumption levels in the country.

Transportation dominates California's energy consumption profile. Major airports, military bases, and California's many motorists all contribute to high demand. More motor vehicles are registered in California than in any other state, and commute times in California are among the longest in the country. California leads the nation in registered alternatively fueled vehicles and requires that all California motorists use, at a minimum, a specific blend of gasoline called California Reformulated Gasoline (CaRFG). In ozone non-attainment areas, motorists face even stricter requirements and must use California Oxygenated Reformulated Gasoline. As a result, California also leads the nation in retail sales of reformulated gasoline products.

[1] Energy Information Administration. 2015. Website: http://www.eia.gov/state/analysis.cfm ?sid=CA (accessed July 29, 2015).

In much of the more densely populated areas of the State, the climate is dry and relatively mild. More than two-fifths of households in California report that they do not have or do not use their air-conditioning, and residential energy use per person in the State is among the lowest in the nation.

California is also rich in energy resources. The State has an abundant supply of crude oil and is a top producer of conventional hydroelectric power. California also has extensively developed solar, wind, biomass, and geothermal resources that produce substantial amounts of energy.

Petroleum

California is oil rich. Even though California's crude oil production has declined overall in the past 25 years, it is one of the top producers of crude oil in the nation, accounting for more than 7 percent of total production in the United States. Petroleum reservoirs in the geologic basins along the Pacific Coast and in the Central Valley contain large crude oil reserves. The most prolific oil-producing area is the San Joaquin basin in the southern half of the Central Valley.

Federal assessments of California's offshore areas indicate the potential for large undiscovered reserves of recoverable crude oil and natural gas in the federally administered Outer Continental Shelf (OCS), possibly as much as 10 billion barrels of crude oil and 16 trillion cubic feet of natural gas. A federal moratorium on oil and gas leasing in OCS waters expired in 2008. However, no new lease sales for exploration in California federal offshore waters are currently scheduled. In California, concerns regarding the cumulative impacts and risks of offshore oil and gas development led to a permanent State moratorium on offshore oil and gas leasing in State waters after 1969. Development of State leases acquired prior to 1969 is not affected by this moratorium.

California ranks third in the nation in petroleum refining capacity and accounts for more than one-tenth of the total capacity in the United States. However, California is a net importer of oil. It produces only about 37 percent of the petroleum it uses.[1] A network of crude oil pipelines connects the State's oil production to refining centers in the Central Valley, Los Angeles, and the San Francisco Bay area. California refiners also process large volumes of Alaskan and foreign crude oil received at ports in Los Angeles, Long Beach, and the Bay Area. Crude oil production in California

[1] California Petroleum Statistics and Data. 2015, Website: http://energyalmanac.ca.gov/petroleum/ (accessed August 2015).

and Alaska has declined, and California refineries have become increasingly dependent on foreign imports to meet the State's needs. Led by Saudi Arabia, Ecuador, Iraq, and Colombia, foreign suppliers now provide more than half of the crude oil refined in California.

California's largest refineries are highly sophisticated and are capable of processing a wide variety of crude oil types. To meet strict federal and State environmental regulations, California refineries are configured to produce cleaner fuels, including reformulated gasoline and low-sulfur diesel. California refineries often operate at or near maximum capacity because of the high demand for those petroleum products. The relative isolation and specific requirements of the California fuel market make California motorists particularly vulnerable to short-term spikes in the price of motor gasoline. When unplanned refinery outages occur, replacement supplies must be brought in by marine tanker. Locating and transporting replacement motor gasoline that conforms to the State's strict fuel specifications can take 2 to 6 weeks.

Natural Gas

As with crude oil production, California's natural gas gross production has experienced a gradual overall decline in the past 2 decades. The natural gas reserves and production are primarily in geologic basins in the Central Valley, the coastal basins onshore in northern California, and offshore along the southern California coast. California production accounts for a very small percentage of total natural gas production in the United States and meets about one-tenth of State demand.

Interstate pipelines bring natural gas from Arizona, Nevada, and Oregon to California where markets are served by two key natural gas trading centers, the Golden Gate Center in northern California and the California Energy Hub in southern California. As of July 2011, new supply has arrived by way of the Ruby pipeline that extends from Wyoming to Oregon, linking Wyoming natural gas supplies to markets in northern California. The State also has more than a dozen natural gas storage fields that help stabilize supply. Together, those storage fields have a storage capacity of more than 500 billion cubic feet of natural gas and a working gas capacity of approximately 300 billion cubic feet. California has long exported natural gas to Mexico, but since 2008 has also imported natural gas from Mexico. In May 2008, operations began at Mexico's liquefied natural gas import terminal in Baja, Mexico. Although Baja California in Mexico is the primary market for the terminal's natural gas supply, natural gas not consumed in Mexico will be exported to the southwestern

United States, including California, until demand in Mexico reaches the terminal's full capacity.

Coal

California has no coal production and has been phasing out its use of electricity generated by coal-fired power plants. In addition to minor amounts of coal currently consumed at plants in the electric power sector, some coal is also consumed at industrial facilities. Almost all of the coal consumed in California is from mines in Utah and Colorado. Some coal also arrives by rail from western coal mines and is exported to overseas markets from port facilities located primarily in the Los Angeles and San Francisco areas.

Electricity

Because California consumes much more electricity than it generates, about one-fourth of California's electricity comes from out of State. Overall, the State receives more electricity from outside its borders than any other state in the nation. States in the Pacific Northwest deliver power to California markets that is generated at hydroelectric power plants, and states in the southwest have, in the past, delivered power primarily generated at coal-fired power plants. Electricity supplied from coal-fired power plants has decreased since the enactment of a State law in 2006 that requires California utilities to limit new long-term financial investments in base-load generation to those power plants that meet strict California emissions performance standards.

In-state natural gas-fired power plants account for more than half of the electricity generation in California. Until 2012, California's two nuclear power plants with their four reactors typically provided almost one-fifth of the State's total generation. However, the two reactors at the San Onofre Nuclear Generating Station (SONGS) were permanently shut down in 2013 cutting the amount of electricity generation in California from nuclear power in half. With adequate snowpack, hydroelectric power typically accounts for between one-tenth and one-fourth of California's total net generation of electricity. In the past decade alone, hydroelectric power has averaged one-sixth of the State's net generation of electricity. By contrast, only a small amount of the electricity generated in California comes from coal-fired sources.

In 2000 and 2001, California suffered an energy crisis caused by a supply and demand imbalance characterized by electricity price instability and blackouts. Many factors contributed to this imbalance, including the State's dependence on out-of-state

electricity providers, a lack of generation capacity, drought, market manipulation, a pipeline rupture, increased competition with other western states for supply, and unusually high temperatures. Following the crisis, the California State government developed an Energy Action Plan that was designed to eliminate outages and excessive price spikes. Its goal was to ensure that adequate, reliable, and reasonably priced electrical power and natural gas supplies, including prudent reserves, were provided. To achieve its goals, the Plan called for optimizing energy conservation, building new generation facilities, and upgrading and expanding the electricity transmission and distribution infrastructure to ensure that generation facilities could quickly come online when needed. California imports substantial amounts of electricity from neighboring systems, making transmission capability a critical reliability concern. For example, the Sunrise Powerlink Transmission project, which was put into service in June 2012, added approximately 800 megawatts (MW) of transmission capability to the southern California electricity grid. Those new transmission lines bring electricity generated from renewable energy from Imperial County, in the southeastern corner of the State, to San Diego.

Renewable Energy

California is among the top states in the nation, typically second after Washington, in net electricity generation from renewable resources. A top producer of electricity from conventional hydroelectric power, California is also a leader in net electricity generation from other renewable energy sources, including geothermal, solar, wind, and biomass. There are substantial geothermal resources in the coastal mountain ranges and in volcanic areas in northern California, as well as along the State's borders with Nevada and Mexico. There are wind resources along the State's many eastern and southern mountain ranges and there is high solar energy potential in the southeastern California deserts. The California Renewable Portfolio Standard sets a goal of 33 percent of electricity generation from eligible renewable resources by 2020. Eligible resources include wind, solar, geothermal, biomass, biogas, and small hydroelectric generation facilities (less than 30 MW).

With over 2,700 MW of installed capacity, California is the top producer of electricity from geothermal energy in the nation. The facility known as The Geysers, in the Mayacamas Mountains north of San Francisco, is the largest complex of geothermal power plants in the world, with more than 700 MW of installed capacity. Although wind power potential is widespread, almost three-fourths of the land in the State is excluded from development of this type of energy generation because the land consists of wilderness area, parks, urban areas, or bodies of water. Nonetheless,

the State is a top generator of electricity from wind energy, producing almost 8 percent of the nation's total, ranking third behind Texas and Iowa. California also leads the nation in the generation of electricity from biomass and solar energy. The world's largest solar thermal plant, in California's Mojave Desert, began delivering electricity to the grid in early 2014. On a smaller scale, the California Solar Initiative offers cash back for installing solar power systems on rooftops of homes and businesses.

Growing concern over the environment has spurred policy initiatives to reduce greenhouse gas (GHG) emissions. California's Low Carbon Fuel Standard, issued in January 2007, called for a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020. That standard requires substitutes for fossil fuels that demonstrate lower lifecycle GHG emissions than the fuels they replace. A reduction in the carbon intensity of transportation fuels was first required in 2011. A number of alternative pathways have been identified that reduce the levels of GHG emissions in the production of ethanol, biodiesel, and renewable diesel. California has several ethanol production plants in State, but most of its ethanol supply arrives by rail from the Midwest.

California has also established an emissions cap-and-trade program as part of the State's Global Warming Solutions Act of 2006. The goal of that program is to reduce the State's GHG emissions to their 1990 levels by 2020. Major sources of GHG emissions in the State, including refineries, power plants, industrial facilities, and transportation fuels, must meet a GHG emissions gas cap that declines over time. To minimize the costs of pollution controls, a system for trading allowable emissions permits was created. The California Air Resources Board (ARB) held its first auction of the tradable GHG emissions permits for the cap-and-trade program in November 2012. California also has adopted policies to promote increased energy efficiency, including introducing stricter appliance efficiency standards and setting higher standards for public buildings. The State also requires net metering and power source disclosure from utilities.

3.14.2.2 Energy Consumption in California and Orange County[1]

Unless otherwise noted, the following information and statistics are from the California Energy Commission (CEC) Energy Almanac.[2] Statistics are the most recent available as of July 2015.

Electricity

Fueled by population growth, the demand for electricity in California is increasing. At the same time, the State is mandating a decrease in GHG emissions. In 2013, California's electricity mix was generated by natural gas (approximately 44.3 percent), coal (approximately 7.8 percent), large hydroelectric (approximately 7.8 percent), nuclear (approximately 8.8 percent), and renewable (approximately 19 percent) sources. In 2013, California produced approximately 67 percent of the electricity it used; the rest was imported from the Pacific Northwest (approximately 12 percent) and the southwestern United States (approximately 21 percent). Under the Renewables Portfolio Standard, California's goal was to increase the amount of electricity generated from renewable energy resources to 20 percent by 2010. Legislation passed in 2011 pushed that goal to 33 percent by 2020. Currently, California's in-State renewable generation consists of biomass, geothermal, small hydroelectric, wind, and solar generation sites that made up approximately 17 percent of the total in-State generational output.[3]

The electrical use in Orange County in 2013 is shown in Table 3.14.1.

Table 3.14.1 Annual Electric Consumption in Orange County in 2013

Type of Consumer	Millions of kWh
Orange County	
Residential	6,301
Nonresidential	13,721
Total	**20,022**

Source: *California Energy Commission* (2013). Energy Consumption Data Management System (October 2013). Website: http://www.ecdms.energy.ca.gov/elecbycounty.aspx.
kWh = kilowatt-hours. A unit of power equal to 1,000 watts of electricity consumed in an hour.

1 Energy consumption for the County of Riverside is not discussed in this section because the only project improvements in the County of Riverside consist of advance signage.

2 California Energy Commission, California Energy Almanac. 2015. Website: http://www.energyalmanac.ca.gov/index.html (accessed July 30 and August 4, 2015).

3 California Energy Commission. 2015. Website: http://www.energy.ca.gov/renewables/tracking_progress/documents/renewable.pdf (accessed July 29, 2015).

Natural Gas Consumption

Demand for natural gas falls mainly into four sectors: residential, commercial, industrial, and electric power generation. Very small amounts are also used for vehicle fuel, and for production and transmitting natural gas to consumers.

Approximately 90 percent of the natural gas California used was imported from other states. Dispatchable natural gas-fired generation is the dominant source of electricity in California, accounting for 43 percent of all generation in California in 2012. The majority of natural gas is distributed by the State's three major natural gas utility companies (San Diego Gas and Electric, Southern California Gas Company, and Pacific Gas and Electric). Natural gas is the most widely used energy source in California. The use of natural gas in Orange County in 2013 is shown in Table 3.14.2.

Table 3.14.2 Natural Gas Consumption in Orange County in 2013

Land Use	Millions of Therms
Orange County	
Residential	398
Non-residential	243
Total	**641**

Source: California Energy Commission. Energy Consumption Data Management System. 2013. Website: http://www.ecdms.energy.ca.gov/ (October 2013).
therm = a unit of heat containing 100,000 British thermal units (BTUs).

Nuclear Energy

In 2010, nuclear provided almost 14 percent of the entire California power mix (including out-of-State imports). As of mid-2012, California had one operating nuclear power plant: Diablo Canyon (2,160 MW), near San Luis Obispo. That plant's nuclear units use ocean water for cooling.

The 2,150 MW SONGS, about midway between Los Angeles and San Diego, went offline in January 2012 and was ordered by the Nuclear Regulatory Commission to stay offline while tubing wear issues were investigated. The plant owners announced in June 2013 that remaining Units 2 and 3 would be permanently retired.

Petroleum

California is a net importer of oil. It produces only about 37.2 percent of the petroleum it uses. In 2007, the State spent nearly $50 billion for gasoline and $9.7 billion for diesel.

Petroleum-based fuels account for 96 percent of the State's transportation needs which makes Californians vulnerable to petroleum price spikes.

The State is now developing flexible strategies to reduce petroleum use. In the meantime, the demand for gasoline and diesel fuel will continue to rise because of population growth, the lack of mass transit, and the number of sports utility vehicles on California's roads. Also, jobs and housing continue to be further apart, increasing the miles traveled by the work force.

Renewable Energy

California with its abundant natural resources has had a long history of support for renewable energy. In 2009, 11.6 percent of all electricity came from renewable resources such as wind, solar, geothermal, biomass, and small hydroelectric facilities. Large hydroelectric plants generated another 9.2 percent of California's energy.

Liquid Petroleum Gas/Propane

Liquefied petroleum gas (LPG), usually referred to as propane, is a mixture of gaseous hydrocarbons (mainly propane and butane) that change into liquid form under moderate pressure. Propane is commonly used as a fuel for rural homes for space and water heating, as a fuel for barbecues and recreational vehicles, and as a transportation fuel. It is normally created as a byproduct of petroleum refining and from natural gas production.

Propane has been used as a transportation fuel since 1912 and is the third most commonly used fuel in the United States, behind gasoline and diesel. More than four million vehicles fueled by propane are in use around the world in light-, medium-, and heavy-duty applications. Propane holds approximately 86 percent of the energy of gasoline and so requires more storage volume to drive a range equivalent to gasoline, but it is generally price-competitive on a cents-per-mile-driven basis.

Propane is generally an unregulated fuel in California (except for storage and safety issues, which are regulated). Because it is an unregulated commodity, the State does not collect data on propane sales or usage. The statistics for propane in Alternatives to Traditional Transportation Fuels (provided later in this section) are from the United States Department of Energy, Energy Information Administration, Office of Coal, Nuclear, Electric, and Alternate Fuels. As such, statistics are unavailable for propane as a fuel for rural homes, for space and water heating, or for barbecues, and none are provided in this section.

Traditional Transportation Fuels (Fossil Fuels)

Fossil fuels are energy resources that come from the remains of plants and animals that are millions of years old. There are three fossil fuels: petroleum oil, natural gas, and coal. These fossil fuels provide the energy that powers our lifestyles and our economy, and are overwhelmingly responsible for fueling our transportation system. Our country's entire transportation infrastructure of pipelines and gas stations is built around fossil fuels. They are the foundation that we base our energy mix on, and they are a limited resource. Once these resources are depleted, they will no longer be part of our energy mix.

The main challenges with fossil fuels, in addition to their unsustainability, are related to their negative environmental impacts. The burning of fossil fuels is responsible for emissions that contribute to global climate change, acid rain, and ozone. As such, the development of alternatives to traditional transportation fuels is a priority.

Alternatives to Traditional Transportation Fuels

Alternatives to traditional transportation fuels are being developed and introduced into the consumer marketplace. Alternative fuels and vehicles currently in use in the United States are:

- Biodiesel and biogas
- Compressed natural gas (CNG)
- Liquefied natural gas (LNG)
- LPG/propane
- Ethanol, 85 percent (E85) (used in flexible fuel vehicles)
- Hydrogen and fuel cell vehicles
- Electric vehicles

The information in this section was prepared by the Energy Information Administration, the independent statistical and analytical agency within the United States Department of Energy.[1] Each year, the Energy Information Administration collects data on the number of alternative fuel vehicles supplied and, for a limited set of fleet user groups, the number of alternative fuel vehicles in use and the amount of alternative transportation fuel consumed. The user groups surveyed are the federal and State governments, alternative fuel providers, and transit companies.

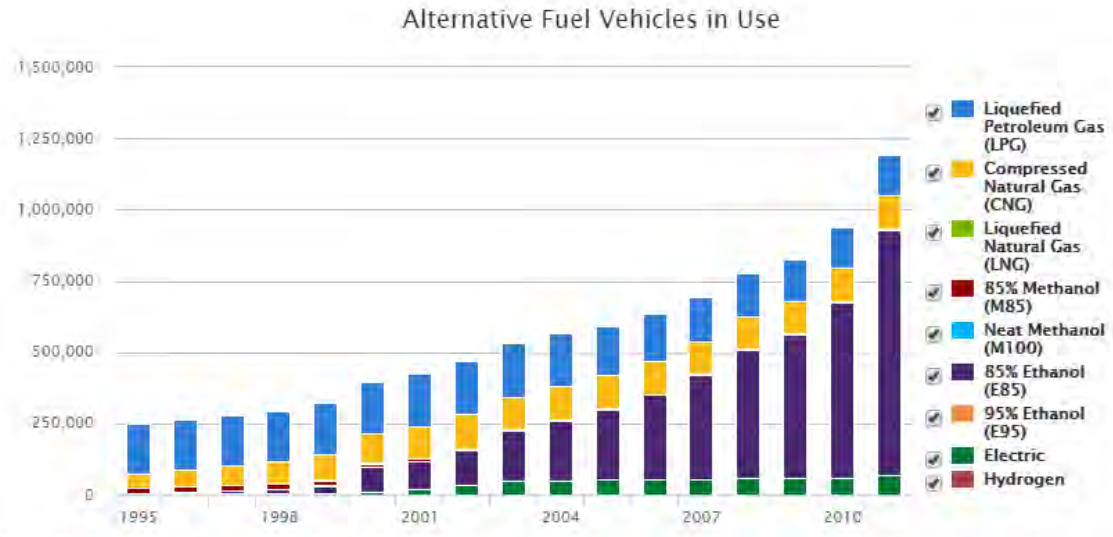
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[1] Energy Information Administration. 2015. Website: http://www.eia.gov/state/?sid=CA (accessed August 4, 2015).

Alternative Fuel in Vehicle Use

The use of alternative fuel vehicles in the United States has steadily increased between 1995 and 2011, as shown on Figure 3.14.1. Overall, an estimated 1,191,786 alternative fuel vehicles were in use in the United States in 2011 (most recent data available). Total alternative fuel vehicle use in California increased from 136,409 in 2009 to 176,619 vehicles in 2011, which is 14.9 percent of all the alternative fuel vehicles in operation in the United States in 2011.

Figure 3.14.1 Alternative Fueled Vehicles in Use in the United States between 1995 and 2011



Source: Energy Information Administration's Alternative Fuel Vehicle Data

Notes: "E85 vehicles" includes only fleet-based vehicles and excludes vehicles with E85 fueling capability that are owned by individuals

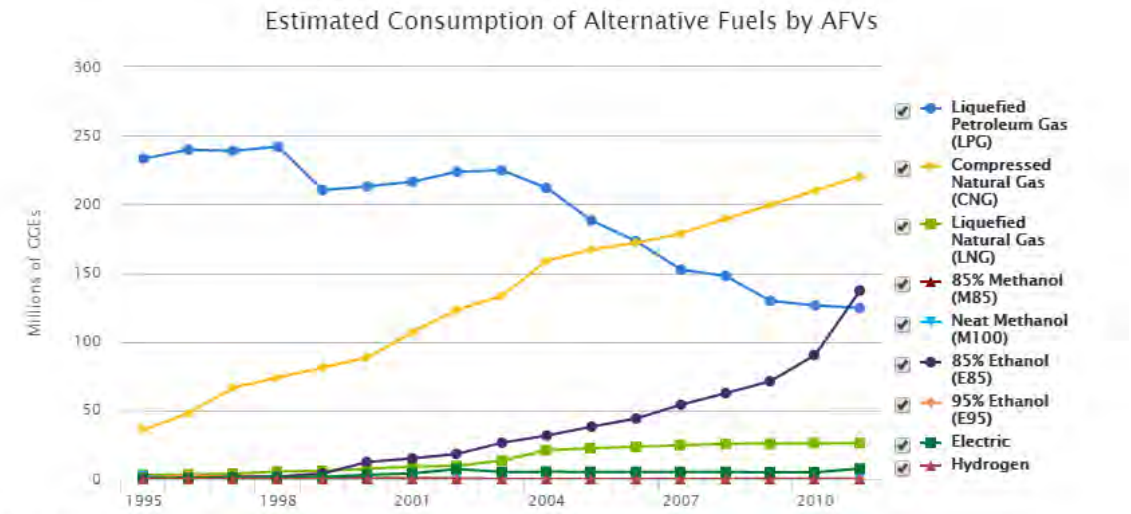
This chart shows the number of alternative fuel vehicles (AFVs) in use in the United States between 1995 and 2011. The number of AFVs in use has been increasing steadily during the past 15 years, largely due to federal policies that encourage and incentivize the manufacture, sale, and use of vehicles that use non-petroleum fuels. AFVs in widest use today are those that run on E85, propane, compressed natural gas, and electricity. The popularity of ethanol vehicles has grown widely since 1995 while the number of other alternative fueled vehicles has remained relatively constant.

Source: United States Department of Energy, *Alternative Fuels Data Center* (2014).

Alternative Fuel Consumption

Overall consumption of alternative transportation fuels in the United States increased almost 13 percent in 2011 to a total of 515,920,000 gasoline gallon equivalents (GGEs), compared to 457,755,000 GGEs in 2010. The estimated consumption of alternative fuels (in million GGEs) in the United States from 1995 through 2010 is shown on Figure 3.14.2.

Figure 3.14.2 Estimated Consumption of Alternative Fuel by Alternative Fuel Vehicles in the United States between 1995 and 2011



Source: EIA's Alternative Fuel Vehicle Data

Notes: Fuel volumes are expressed in gasoline gallon-equivalents (GGEs), representing a volume of fuel with the same energy content as a gallon of gasoline.

This chart shows trends in alternative fuel consumption in alternative fuel vehicles, by fuel type, from 1995 to 2011. Compressed natural gas (CNG) consumption has increased steadily since 1995, owing largely to state and federal government incentives, increased natural gas supply, and falling natural gas prices. Use of propane, on the other hand, which was once the most common alternative vehicle fuel, has trended downward as CNG has become more popular. E85 use has been growing as the availability of flex fuel vehicles from major manufacturers has increased, and as an increasing number of fueling stations offer E85.

Source: United States Department of Energy, *Alternative Fuels Data Center* (2014).

3.14.3 Environmental Consequences

The Build Alternative and the No Build Alternative were evaluated to determine if they would result in a demand for energy that would exceed the current supply, or cause a substantial increase in the rate of energy use. The analyses in this section are based on the Proposed Project's *Traffic Analysis Report* (July 2015).

3.14.3.1 Methodology

This energy analysis is based on the methodology described in detail in the Caltrans Standard Environmental Reference (SER), Volume 1, Chapter 13 – Energy (updated January 20, 2015). A quantitative energy analysis was conducted which discusses the direct and indirect energy conservation potential of the Build Alternative and the No Build Alternative. The Proposed Project would not be considered a "Major Project" requiring a more detailed energy analysis because the Proposed Project is not likely to have substantial impacts on energy consumption.

The energy analysis addresses two elements: direct and indirect energy consumption. Direct energy use is the energy consumed in the actual propulsion of a vehicle using

the facility. It can be measured in terms of the thermal value of the fuel, the cost of the fuel, or the quantity of electricity used in the engine or motor. Direct energy use factors are:

- **Traffic-Related.** Year of study, volume of traffic, speed, distance, composition of vehicle types, characteristics of traffic flow, cold-start effects and idling; and.
- **Facility-Related.** Grades, curvature, pavement condition, stops (signs, signals, etc.) and altitude.

Indirect energy is defined as all the remaining energy consumed to run a transportation system, including construction energy, maintenance energy, and any substantial changes to energy consumption related to project-induced land use changes and mode shifts, and any substantial changes in energy associated with vehicle operation, manufacturing, or maintenance due to increased automobile use. Indirect energy use factors are:

- **Vehicle manufacture.** Materials and quantities, manufacture energy, useful life and salvage energy.
- **Vehicle maintenance.** Routine wear and replacement, road-related wear, operation of repair facilities, and fuel distribution.
- **Facility construction.** Excavation, backfill, dredging, structures, surface/pavements, signs, lights, heating, ventilation, and air conditioning (HVAC), landscaping, material transport, useful lives; or date/constant dollar cost, location, type of construction, useful lives.
- **Facility operation/maintenance.** Age of facility, equipment needed, and surface/pavement type and cost.
- **Peripheral effects.** Change in land use with time, change in fuel source with time, change in local energy need with time, future power plant sites, and location of energy-related natural resources.

Direct transportation energy consumption impacts were estimated for the Build Alternative and the No Build Alternative using traffic forecasts provided in the *Traffic Analysis Report* (July 2015), and the ARB EMFAC2014 air quality model, which provides estimated gasoline and diesel fuel consumption rates. The EMFAC2014 model assumptions include that the project location is in the South Coast Air Basin, with ambient temperatures at 50 degrees Fahrenheit (°F), and humidity at 50 percent.

Of the scenario years analyzed, estimated energy consumption in 2040 is expected to represent the most conservative (i.e., highest) energy consumption because population and employment are projected to be higher in that year than in any earlier year; therefore, energy consumption associated with the Proposed Project is calculated for 2040 in this impact analysis. In addition, this analysis does not reflect the benefit of energy efficiency and conservation measures that are likely to be adopted by 2040 and which would result in lower energy consumption than projected in these estimates (i.e., new California Environmental Protection Agency/United States Environmental Protection Agency fuel economy standards, bus rapid transit programs reducing personal vehicle use, and increased use of high-occupancy vehicles).

Project-related indirect energy impacts were estimated using standard Caltrans approximation factors as described in the SER. The analysis of these impacts is at the regional level and, therefore, by its nature, is a cumulative impacts analysis. Two main areas of potential impacts were identified: (1) energy demand for construction; and (2) energy demand for operation of the Proposed Project in 2040.

The indirect energy analysis for the Proposed Project was also conducted using the Caltrans Input-Output Method as described in the Caltrans *Energy and Transportation Systems Handbook* (July 1983). It was assumed that the energy requirements for manufacturing vehicles have not changed from those listed in the Handbook.

Because the Proposed Project is a transportation improvement, the Study Area for potential energy impacts is the *Traffic Analysis Report* (July 2015) Study Area, SR-91 from west of the Weir Canyon Road interchange in Anaheim Hills to east of the Serfas Club Drive/Auto Center Drive interchange in the City of Corona. The Study Area also includes SR-241 from north of the Santiago Canyon Road interchange to SR-91 and State Route 71 south of the Butterfield Ranch Road interchange to SR-91.

3.14.3.2 Temporary Impacts

Temporary indirect energy impacts result from the manufacture of vehicles that would operate on the project facilities and be used for project construction. Indirect manufacturing energy effects involve the one-time, nonrecoverable energy costs associated with the manufacture of vehicles. Construction energy impacts involve the one-time, nonrecoverable energy costs associated with construction of roads and structures. The Proposed Project would not, on its own, increase the manufacture of

vehicles, therefore, the per-vehicle indirect energy impacts for the No Build Alternative, the Build Alternative, and the existing condition would all be the same.

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

The Build Alternative involves no planned use of natural resources beyond fuel and energy needed during construction and maintenance activities, including the materials needed for construction that require energy to produce and transport them to the project site.

As shown in Table 3.14.3, the estimated energy needed to construct the Build Alternative would be approximately 17 trillion BTUs. Table 3.14.3 shows that the Build Alternative would have a substantial increase to temporary indirect energy consumption in the Study Area compared to the No Build Alternative, approximately 660 percent. However, the energy expenditure to construct the Build Alternative would be off-set by the reduction in fuel consumption realized through more efficient freeway operations.

Table 3.14.3 Study Area Temporary Indirect Energy Impacts

Scenario	Construction-Related Energy				Total Temporary Indirect Energy (billion BTUs)	% Change from No Build
	Manufacturing		Energy to Build (billion BTUs)	Build Cost (millions)		
	Auto (billion BTUs)	Truck (billion BTUs)				
2040 No Build Alternative	2,490	139	–	–	2,629	–
2040 Build Alternative	2,530	140	17,300	$114	19,970	660%

Source: LSA Associates, Inc., based on data from the Caltrans *Energy and Transportation Systems Handbook* (July 1983) and the project *Traffic Analysis Report* (July 2015).
[1] Build cost in 2017 dollars, the earliest planned opening year.
BTUs = British thermal units

No Build Alternative

The No Build Alternative does not include any improvements to the interchange or local roads in the Project Area. Generally, construction energy can be compared to increased roadway maintenance energy if a project is not built. However, there is insufficient information to quantify this roadway maintenance energy. Therefore, the No Build Alternative would only result in temporary impacts related to energy from the manufacture of vehicles that operate on SR-241 and SR-91, which is included in Table 3.14.3.

3.14.3.3 Permanent Direct Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Local energy demand for transportation projects typically is dominated by vehicle fuel usage. Energy calculations are based on the annual VMT; the annual VMT in the project Study Area in 2040 for the Build Alternative is shown in Table 3.14.4. In addition to VMT, traffic operating conditions in the Study Area also influence fuel consumption rates. Without the capacity improvements proposed in the Build Alternative, congested traffic conditions would be more prevalent throughout the Study Area. Those conditions would contribute to a higher energy consumption rate because vehicles use extra fuel while idling in stop-and-go traffic or moving at slow speeds on congested roads.

Table 3.14.4 Operational Annual Vehicle Miles Traveled in the Study Area

Scenario	Study Area Annual VMT (millions)		Total Study Area Annual VMT (millions)
	Auto	Truck	
2040 No Build Alternative	1,779	90	1,869
2040 Build Alternative	1,808	91	1,899

Source: *Traffic Analysis Report* (July 2015).
VMT = vehicle miles traveled

Both VMT and travel speeds were used to estimate the vehicle fuel consumption for the Build Alternative in 2040. For the energy consumption calculations, the EMFAC2014 fuel use percentages for each vehicle category were used to determine total gasoline and diesel fuel usage rates. Table 3.14.5 summarizes the annual energy use for cars and trucks (in millions of gallons) for the Study Area with the Build Alternative in 2040. Table 3.14.5 converts these measures of energy consumption into BTUs to provide a uniform metric to represent energy consumption for the Build Alternative, which was compared against the No Build Alternative for the Study Area. Table 3.14.5 shows that the reduced traffic congestion provided in the Build Alternative would result in a 3.2 percent reduction in direct energy use annually in 2040 compared to the No Build Alternative.

Table 3.14.5 Study Area Direct Energy Consumption – Annual

Scenario	Annual Study Area Energy Consumption			Percent Change from 2040 No Build
	Gasoline (millions of gallons)	Diesel (millions of gallons)	Operational Energy (billions of BTUs)	
2040 No Build Alternative	35	8.6	5,100	-
2040 Build Alternative	33	8.5	4,900	-3.9%

Source: LSA Associates, Inc., based on data from *Traffic Analysis Report* (July 2015) and California Air Resources Board EMFAC2014.
Note: Assumes an energy content of 130,500 BTUs per gallon of diesel fuel and 115,000 BTUs per gallon of gasoline.
Average speed in 2040 for the No Build Alternative is 39.6 mph and for the Build Alternative is 42.4 mph.
BTUs = British thermal units
mph = miles per hour

Although the vehicle mix operating in the Study Area roads would include increasing numbers of electric passenger and alternative fuel use vehicles, those vehicles use similar amounts of energy as gasoline-powered vehicles per mile. Therefore, shifts to non-gasoline powered vehicles would not result in a large change in the energy use results shown in Table 3.14.5.

Local energy demand for transportation projects is typically dominated by vehicle fuel usage. For projects similar to the Proposed Project, it is assumed that the energy consumption by vehicles is much larger than the small change in other direct energy consumption, such as electrical energy consumption. The existing SR-241/SR-91 interchange has electrical demands from the operation of road and sign lighting. It is not expected that implementation of the Build Alternative would substantially change these current energy demands on the SR-241/SR-91 interchange.

2017 Conditions (*Opening Year*)[1]

The Build Alternative in the 2017 AM peak period would result in a slight increase in demand in the Study Area, resulting in a higher VMT; however, the overall efficiency of the westbound system in the AM peak period would increase under the Build Alternative. The total vehicle hours travelled (VHT) in the AM peak period would decrease by 2,056 hours, average speeds would increase by 5.8 miles per hour, and average delay would decrease by 1.9 minutes per vehicle.

[1] The revised planned opening year is 2020. The difference in traffic operations between 2017 and 2020 in the Project Area would be nominal in the peak hours.

The Build Alternative in the 2017 PM peak period would result in a slight increase in demand in the Study Area, also resulting in a higher VMT. These increases would result in an overall decrease in efficiency of the 2017 eastbound system in the PM peak period with implementation of the Build Alternative. The increase in both travel times on certain segments during the peak period and total vehicle demand in the area would result in an increase of 1,330 total VHT, a nominal decrease in average speeds by 1.0 mile per hour, and a nominal increase in travel time of 0.4 minute per vehicle.

With implementation of the Build Alternative in 2017, the net total change in VHT would decrease by 726 VHT, indicating a slight increase in efficiency compared to the No Build Alternative because of the hours of vehicle use. Therefore, vehicle fuel/energy consumption would be reduced.

2040 Conditions (*Design Year*)

The Build Alternative in the 2040 AM peak period would increase demand in the Study Area, and VMT would increase from 2017 Build Conditions; however, the transportation system in the Study Area would be continue to be more efficient. That is, in the 2040 AM peak period, the total VHT would decrease by 2,422 hours, with the Build Alternative compared to the No Build Alternative.

The Build Alternative in the 2040 PM peak period would increase demand, and VMT would increase from 2017 Build Conditions; however, the transportation system in the Study Area would continue to be more efficient. In 2040, the total VHT would decrease by 586 hours with the Build Alternative compared to the No Build Alternative.

The Build Alternative would improve the overall efficiency of the Study Area freeways when compared to the future No Build Alternative, reducing the total VHT while also increasing the capacity in the Study Area. This overall reduction in the VHT and increase in system efficiency would result in less energy use than the No Build Alternative in 2040.

No Build Alternative

As presented in the traffic analysis, the No Build Alternative in 2017 and 2040 would result in forecasted increases in traffic volumes that would result in further worsening of traffic congestion and slower vehicle speeds in the Study Area. As discussed above, VHT in 2017 and 2040 will increase with the No Build Alternative, which will increase energy consumption when compared to the Build Alternative.

3.14.3.4 Permanent Indirect Impacts

Permanent indirect energy impacts consist principally of the ongoing, nonrecoverable energy costs associated with the maintenance of vehicles. This analysis was conducted using the Caltrans Input-Output Method. That method converts VMT based on existing data from other road improvement projects in the United States using conversions listed in the Caltrans *Energy and Transportation Systems Handbook*. It was assumed that the energy requirements for maintaining vehicles have not changed from those listed in the handbook. Thus, the per-vehicle indirect energy impacts for the Build Alternative and the No Build Alternative would be the same.

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Using the annual VMT data for autos and trucks shown in Table 3.14.4, Table 3.14.6 shows maintenance-related energy consumption in the Study Area. As shown in Table 3.14.6, the Build Alternative would result in a 1.5 percent increase in maintenance-related permanent indirect energy consumption in 2040.

Table 3.14.6 Study Area Permanent Indirect Energy Impacts

Scenario	Maintenance-Related Energy			% Change from No Build
	Auto (billion BTUs)	Truck (billion BTUs)	Total (billion BTUs)	
2040 No Build Alternative	2,010	259	2,269	-
2040 Build Alternative	2,040	262	2,302	1.5%

Source: LSA Associates, Inc., using data from the *Traffic Analysis Report* (July 2015) and the Caltrans *Energy and Transportation Systems Handbook* (July 1983).
BTUs = British thermal units

No Build Alternative

Under the No Build Alternative, the existing permanent indirect energy consumption associated with the maintenance of vehicles operating on the facility would continue to occur in 2040.

3.14.4 Total Energy Impacts

The combination of the direct and indirect energy impacts of the Build Alternative and the No Build Alternative are summarized in Table 3.14.7. An important criterion in any energy impact analysis is if or when the energy savings a project achieves would offset the energy cost to construct the Proposed Project. If the energy savings would offset the energy costs, the Proposed Project would have a payback period (the

Table 3.14.7 Study Area Energy Consumption Summary

Scenario	Non-Construction Energy			Construction Energy (BBTUs/yr)	Total Energy (BBTUs/yr)	% Total Change from No Build
	Direct Energy (BBTUs/yr)	Indirect Energy (BBTUs/yr)	% Change from No Build			
2040 No Build Alternative	5,100	4,640	_	-	12,240	--
2040 Build Alternative	4,900	4,710	-1.3	17,300	26,960	261%

Source: LSA Associates, Inc., using data from the *Traffic Analysis Report* (July 2015) and the Caltrans *Energy and Transportation Systems Handbook* (July 1983).

[1] A payback period of fewer than 5 years is considered an excellent investment, while a payback period of greater than 20 years will generally be beyond the foreseeable future of the Proposed Project (Caltrans 1983).

BBTUs/yr = billion British thermal units per year

period of time that it would take for the savings to exceed the costs). As is shown in Table 3.14.7, there are only very small non-construction energy direct and no indirect energy savings associated with the Build Alternative compared to the No Build Alternative, so the payback period for the Build Alternative is very large.

As shown in Table 3.14.7, the temporary indirect energy impacts of constructing the Build Alternative would be substantial. However, as shown in Table 3.14.7, the Build Alternative would not consume substantially more total energy than the No Build Alternative. Thus, while the Build Alternative would not have a quantifiable payback period from energy savings, the Build Alternative energy use and subsequent impact to regional energy supplies would not be substantial. Because the non-construction energy increase as a result of the Build Alternative is minimal when compared to the No Build Alternative, regional energy resources and utilities (electricity/vehicle fuels) would not be adversely impacted by the maintenance or operation energy demands of the Build Alternative. Therefore, no avoidance, minimization, or mitigation measures would be required.

3.14.5 Avoidance, Minimization, and/or Mitigation Measures

The Build Alternative would not result in adverse impacts related to energy consumption in the Study Area or region compared to the No Build Alternative. No avoidance, minimization, or mitigation measures are required.

3.14.6 Consistency with Energy Conservation Plans

The CEC, the California Public Utilities Commission (CPUC), and the City Planning Area (CPA) approved the final State of California Energy Action Plan in 2003. The Plan established shared goals and specific actions to ensure that adequate, reliable, and reasonably priced electrical power and natural gas supplies are achieved and provided through policies, strategies, and actions that are cost effective and

environmentally sound for California's consumers and taxpayers. In 2005, an updated Energy Action Plan was adopted by the CEC and the CPUC to reflect policy changes and actions after 2003.

The State's energy policies have been substantially influenced by the passage of Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. The CEC's Integrated Energy Policy Report (IEPR) advances policies that would enable the State to meet its energy needs in a carbon-constrained world. That report also provides a comprehensive set of recommended actions to achieve these policies.

Rather than produce a new Energy Action Plan, the CEC and the CPUC have prepared instead the Energy Action Plan – 2008 Update, which examines the State's ongoing actions in the context of global climate change. The update was prepared using the information and analysis prepared for the 2007 IEPR as well as recent CPUC decisions.

As described in Section 3.14.3, while the temporary indirect energy impacts of constructing the Build Alternative are substantial at a local level, the total indirect energy impacts would be negligible at the regional level. Because the California energy conservation planning actions are conducted at a regional level and, as described in Section 3.14.4, the total project impact to regional energy supplies would be minor, the Build Alternative would not conflict with these California energy conservation plans.

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BIOLOGICAL ENVIRONMENT

3.15 Natural Communities

3.15.1 Regulatory Setting

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed below in the Threatened and Endangered Species, Section 3.19. Wetlands and Other Waters are also discussed below in Section 3.16.

The Project Area is subject to the requirements of the Orange County Central and Coastal Subregion Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP). The entire footprint of the ETC Corridor was assumed "take" through its construction, and per the NCCP/HCP documents, all development activities and uses addressed by the NCCP/HCP by participating landowners within the NCCP/HCP Plan Areas are considered fully mitigated by the NCCP/HCP. No additional mitigation is required for impacts to identified species and their habitat or for species residing in covered habitats.

3.15.2 Affected Environment

This section is based on the *Natural Environment Study* (NES; December 2015), the *Natural Environment Study Errata* (August 2016), and the *Supplemental Natural Environment Study* (Supplemental NES; April 2016) prepared for the Proposed Project.

3.15.2.1 Biological Study Area

The Project Area (physical footprint of the Proposed Project) is in the cities of Anaheim, Yorba Linda, and Corona and in unincorporated counties of Orange and Riverside. The Project Area is mostly within Caltrans right-of-way along SR-241 and SR-91 with the exception of a slope that is part of the Irvine Ranch National Natural Landmark (NNL), south of SR-91 and approximately 3,600 feet (ft) west of Coal Canyon Undercrossing. The Project Limits extend farther east on SR-91 than the ETC

Project; the ETC Project limits are shown on Figure 3.15.1. The Project Vicinity is dominated by the NNL, the Santa Ana River, and local and State parks.

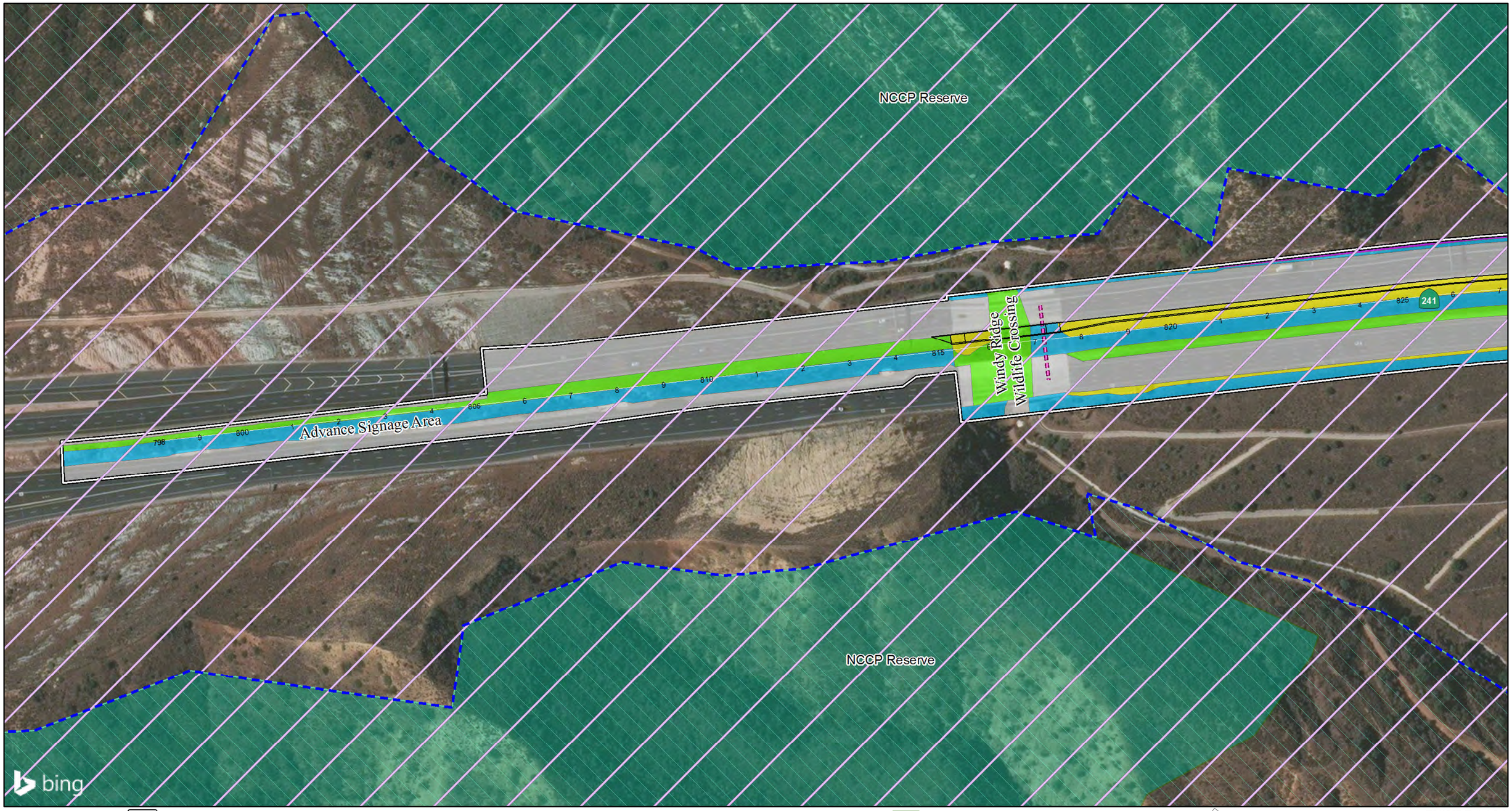
The Study Area assessed for biological resources, the Biological Study Area (BSA), is entirely within the Project Area. The limits of the BSA are shown on Figure 3.15.1. The BSA includes all areas of potential direct impact. The limits of the BSA were extended beyond the maximum extent of potential direct impact, where necessary, to identify sensitive biological resources in the Project Area. The BSA was limited to within the SR-241 and SR-91 right-of-way except the slope identified above, that would be graded as part of the Proposed Project. That slope area, on land owned by the County of Orange (Assessor's Parcel Number 085-071-56), has a conservation easement over it and is part of the NNL. Although the slope would be revegetated after construction is complete, a maintenance access road and drainage structures may need to be constructed on the slope; therefore, all impacts on this parcel are considered permanent impacts. In general, this resulted in the identification of a BSA that was larger than the area of potential direct impact. The BSA was used as the study limit boundary for all the biological resources studies for the Proposed Project.

3.15.2.2 Natural Communities

Reconnaissance-level survey and plant community mapping were conducted on May 10, 2011; March 17, 2015; and March 19, 2015. Plant communities and subcommunities were determined in general accordance with categories set forth in Preliminary Descriptions of the Terrestrial Natural Communities of California. Plant communities were mapped on an orthographically corrected 1 inch = 200 feet (ft) aerial photograph. Plant communities that were considered too small to map separately were included in nearby community types determined to be the most appropriate based on species composition.

To adequately identify plant communities in the BSA, the survey methods included pulling off onto the SR-241 and SR-91 right-of-way, and using frontage roads adjacent to the freeways leading to observation points. Access to the County of Orange-owned parcel was provided by a County of Orange Park Ranger and Nature Conservancy staff. At the observation points, the roadside areas were investigated on foot or with the aid of binoculars if pedestrian access was not possible.

As shown on Figure 3.15.1, the following six plant communities were identified in the BSA: coastal sage scrub, chaparral, coast live oak woodland, ruderal vegetation, nonnative grassland, and developed areas. The acreages of each of these plant



Biological Study Area
Proposed Acquisition Area (approx. 5 acres)
Existing Caltrans Right-of-Way

Project Features
Proposed Bridge Structure
Proposed Roadway
Proposed Retaining Wall
Proposed Storm Drain Pipe
Proposed Storm Drain Swale
Proposed Storm Drain Structure
California Black Walnut Observed
Coast Live Oak Tree
Western Sycamore Tree
Coulter's Matilija Poppy Observed

Plant Communities
Bare Ground
Chaparral
Coastal Sage Scrub
Developed
Native Plant Restoration
Nonnative Grassland
Oak Woodland
Ruderal

Potential Bat Roosting Sites
CAGN Use Area Observed
Patch of tall (≥ 1 m tall) cactus suitable for coastal cactus wren nesting
Coastal Cactus Wren Nest Remnants
CAGN Designated Critical Habitat
Braunton's Milk-vetch Designated Critical Habitat
Santa Ana Sucker Designated Critical Habitat
NCCP Plan Area

NCCP Reserve
NCCP Existing Use Area
Drainage Feature (with ID#)
CDFW Jurisdiction
USACE Jurisdiction
Approved Jurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters

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SOURCE: Bing Maps (2012); USFWS (2011); RBF (12/2014)

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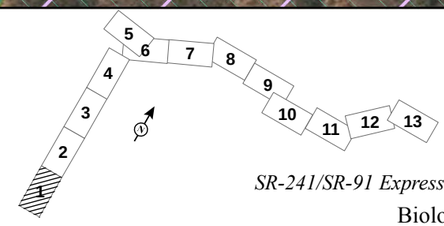
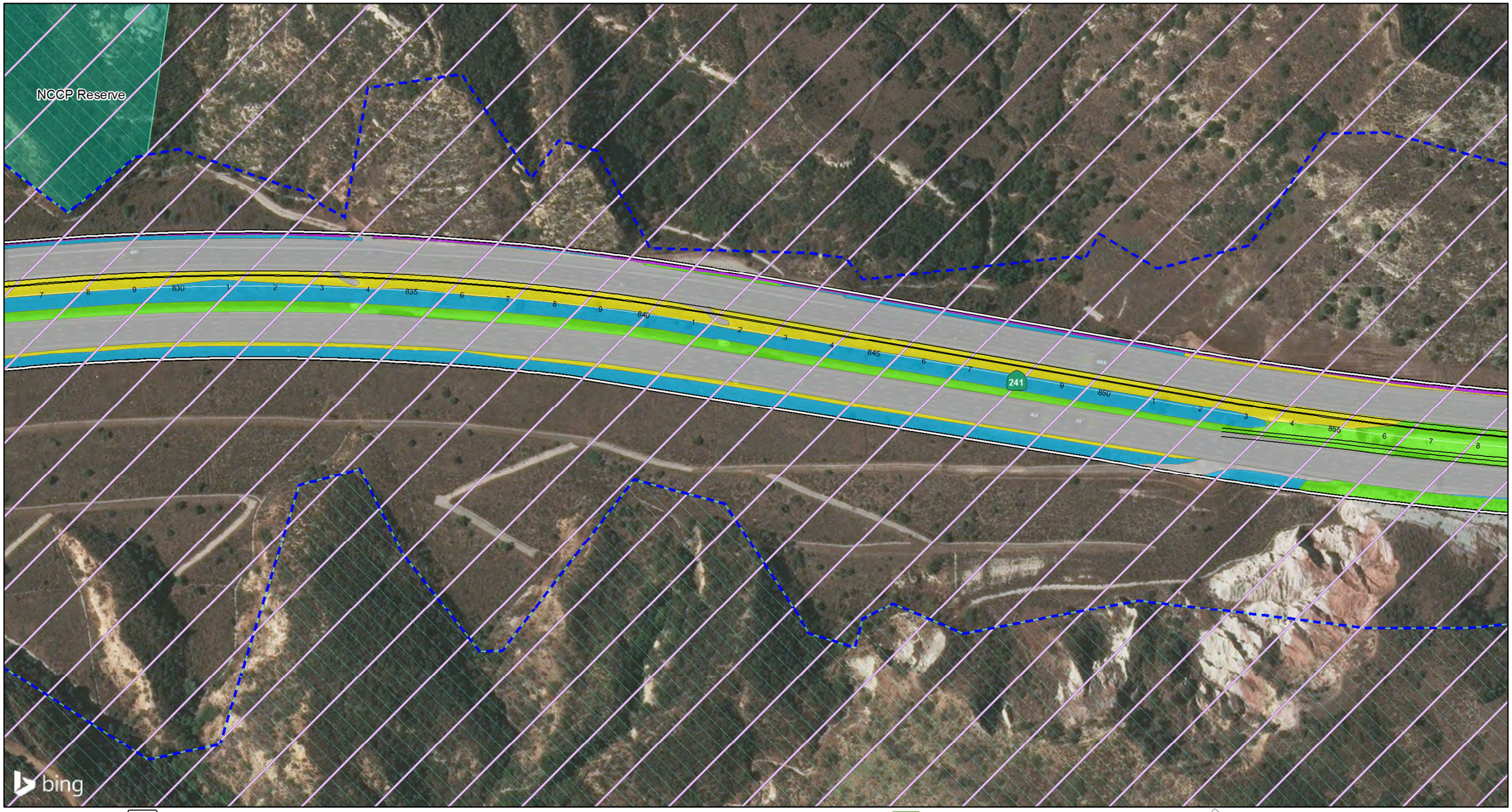


FIGURE 3.15.1
Sheet 1 of 13

SR-241/SR-91 Express Lanes Connector

Biological Resources

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Biological Study Area
Proposed Acquisition Area (approx. 5 acres)
Existing Caltrans Right-of-Way
Project Features
Proposed Bridge Structure
Proposed Roadway
Proposed Retaining Wall

Proposed Storm Drain Pipe
Proposed Storm Drain Swale
Proposed Storm Drain Structure
California Black Walnut Observed
Coast Live Oak Tree
Western Sycamore Tree
Coulter's Matilija Poppy Observed

Plant Communities
Bare Ground
Chaparral
Coastal Sage Scrub
Developed
Native Plant Restoration
Nonnative Grassland
Oak Woodland
Ruderal

Potential Bat Roosting Sites
CAGN Use Area Observed
Patch of tall (≥ 1 m tall) cactus suitable for coastal cactus wren nesting
Coastal Cactus Wren Nest Remnants
CAGN Designated Critical Habitat
Braunton's Milk-vetch Designated Critical Habitat
Santa Ana Sucker Designated Critical Habitat
NCCP Plan Area

NCCP Reserve
NCCP Existing Use Area
Drainage Feature (with ID#)
CDFW Jurisdiction
USACE Jurisdiction
Approved Jurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters

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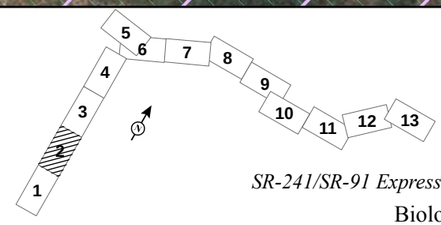
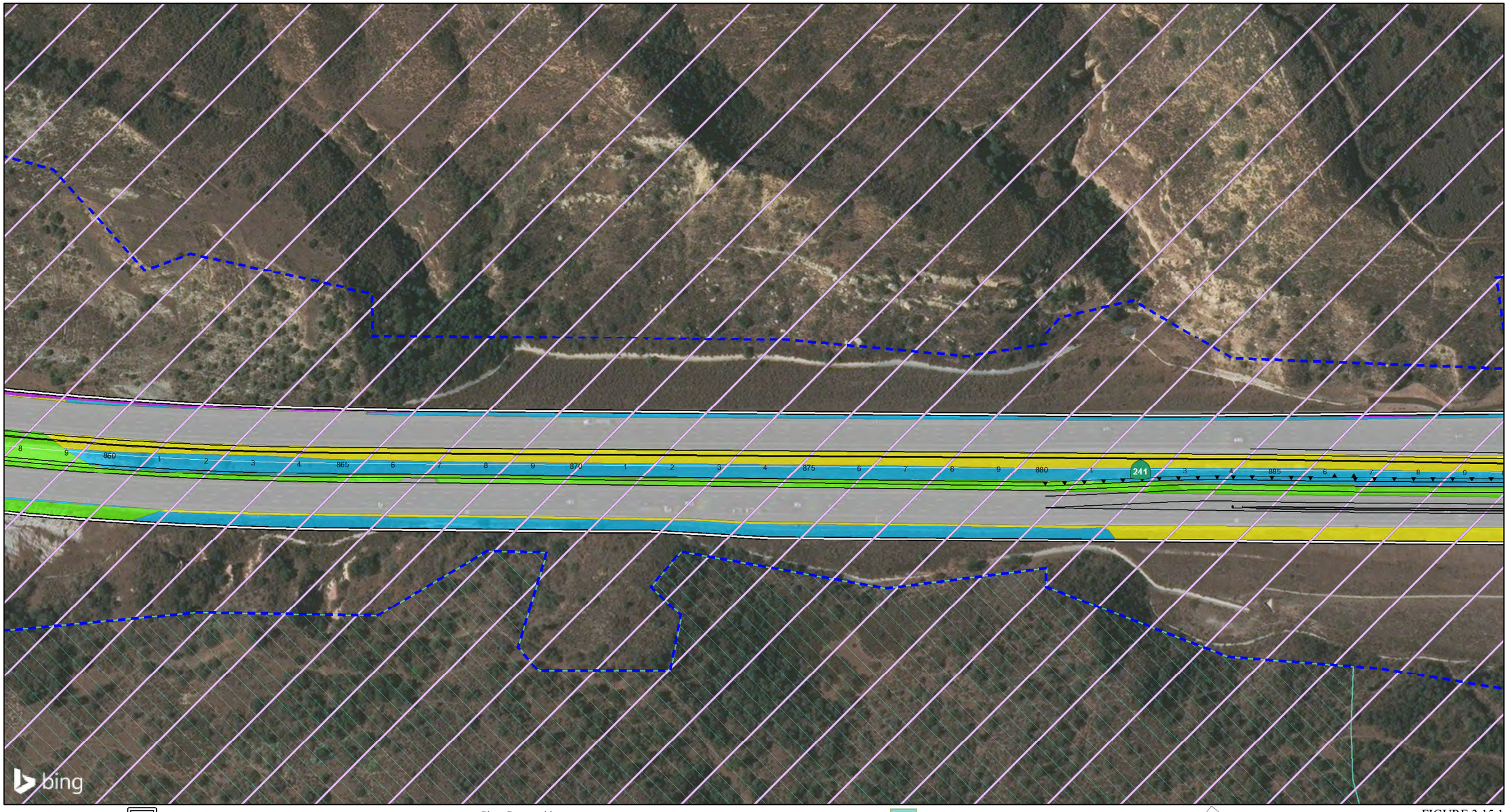


FIGURE 3.15.1
Sheet 2 of 13

SR-241/SR-91 Express Lanes Connector
Biological Resources

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- Biological Study Area
- Proposed Acquisition Area (approx. 5 acres)
- Existing Caltrans Right-of-Way

Project Features

- Proposed Bridge Structure
- Proposed Roadway
- Proposed Retaining Wall
- Proposed Storm Drain Pipe
- Proposed Storm Drain Swale
- Proposed Storm Drain Structure
- California Black Walnut Observed
- Coast Live Oak Tree
- Western Sycamore Tree
- Coulter's Matilija Poppy Observed

Plant Communities

- Bare Ground
- Chaparral
- Coastal Sage Scrub
- Developed
- Native Plant Restoration
- Nonnative Grassland
- Oak Woodland
- Ruderal

- Potential Bat Roosting Sites
- CAGN Use Area Observed
- Patch of tall (≥ 1 m tall) cactus suitable for coastal cactus wren nesting
- Coastal Cactus Wren Nest Remnants
- CAGN Designated Critical Habitat
- Braunton's Milk-vetch Designated Critical Habitat
- Santa Ana Sucker Designated Critical Habitat
- NCCP Plan Area
- NCCP Reserve
- NCCP Existing Use Area
- Drainage Feature (with ID#)
- CDFW Jurisdiction

USACE Jurisdiction

- Approved Jurisdictional Nonwetland Waters
- Approved Nonjurisdictional Nonwetland Waters
- Approved Nonjurisdictional Nonwetland Waters

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SOURCE: Bing Maps (2012); USFWS (2011); RBF (12/2014)

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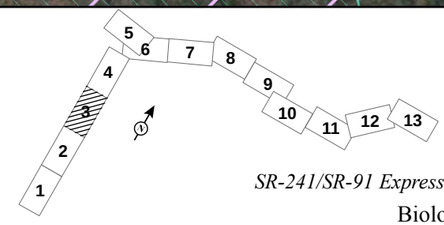
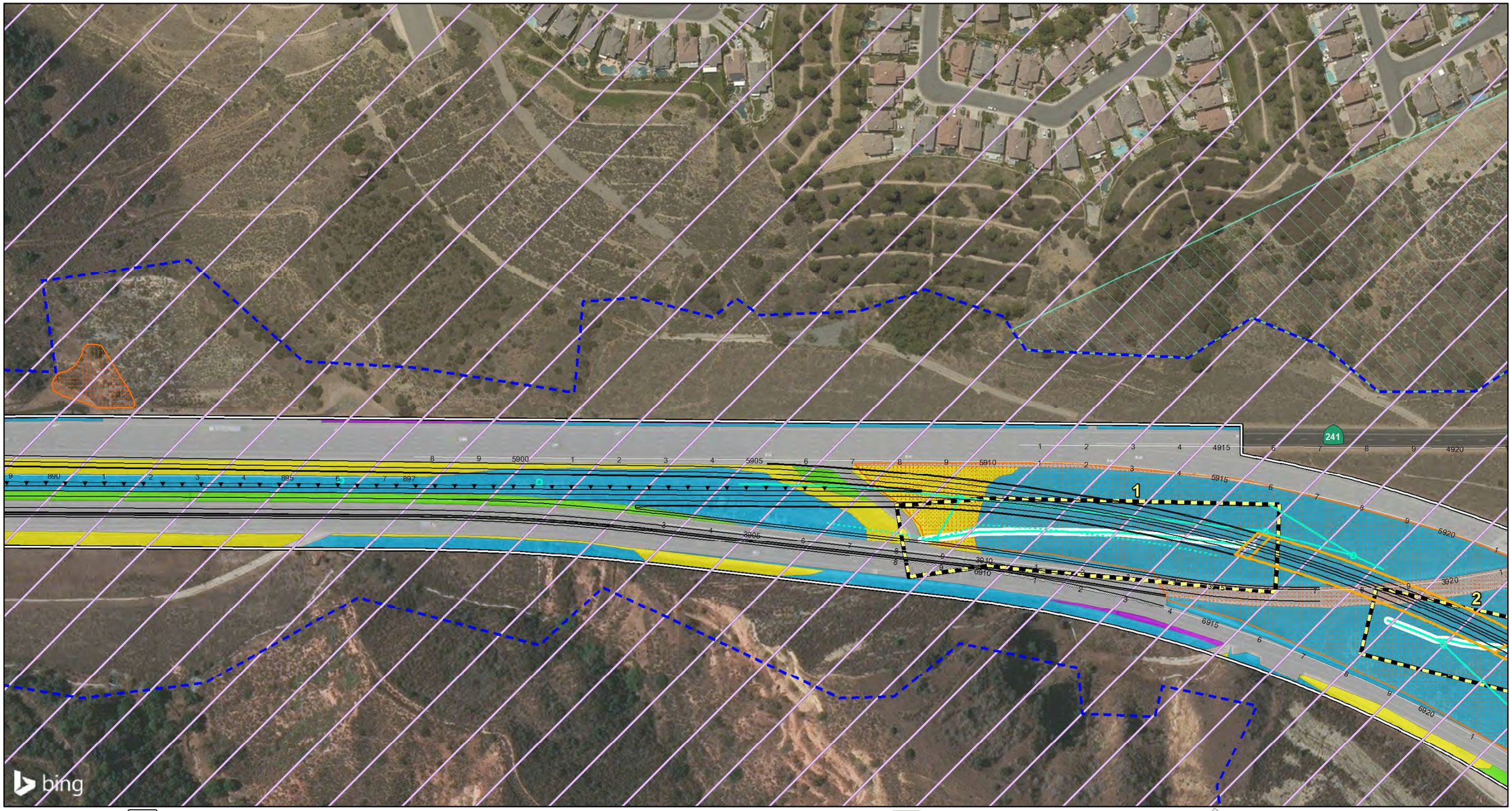


FIGURE 3.15.1
Sheet 3 of 13

SR-241/SR-91 Express Lanes Connector
Biological Resources

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Biological Study Area
Proposed Acquisition Area (approx. 5 acres)
Existing Caltrans Right-of-Way

Project Features
Proposed Bridge Structure
Proposed Roadway
Proposed Retaining Wall
Proposed Storm Drain Pipe
Proposed Storm Drain Swale
Proposed Storm Drain Structure
California Black Walnut Observed
Coast Live Oak Tree
Western Sycamore Tree
Coulter's Matilija Poppy Observed

Plant Communities
Bare Ground
Chaparral
Coastal Sage Scrub
Developed
Native Plant Restoration
Nonnative Grassland
Oak Woodland
Ruderal

Potential Bat Roosting Sites
CAGN Use Area Observed
Patch of tall (≥ 1 m tall) cactus suitable for coastal cactus wren nesting
Coastal Cactus Wren Nest Remnants
CAGN Designated Critical Habitat
Braunton's Milk-vetch Designated Critical Habitat
Santa Ana Sucker Designated Critical Habitat
NCCP Plan Area

NCCP Reserve
NCCP Existing Use Area
Drainage Feature (with ID#)
CDFW Jurisdiction
USACE Jurisdiction
Approved Jurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters

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SOURCE: Bing Maps (2012); USFWS (2011); RBF (12/2014)

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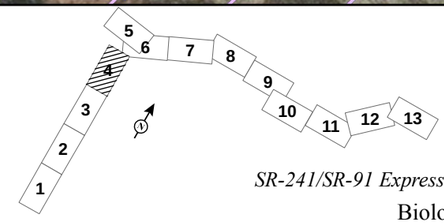
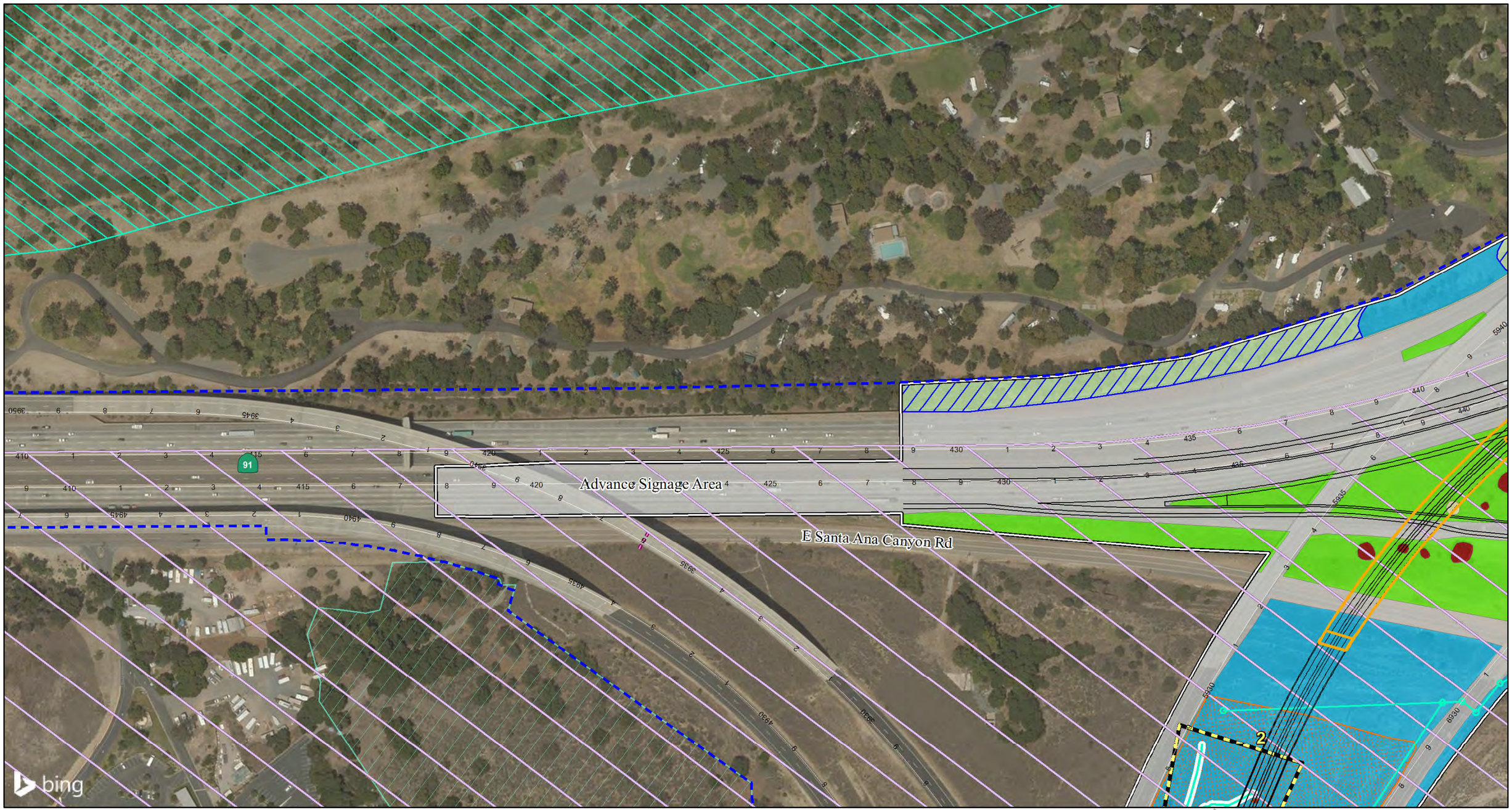


FIGURE 3.15.1
Sheet 4 of 13

SR-241/SR-91 Express Lanes Connector

Biological Resources

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Biological Study Area
Proposed Acquisition Area (approx. 5 acres)
Existing Caltrans Right-of-Way

Project Features
Proposed Bridge Structure
Proposed Roadway
Proposed Retaining Wall
Proposed Storm Drain Pipe
Proposed Storm Drain Swale
Proposed Storm Drain Structure
California Black Walnut Observed
Coast Live Oak Tree
Western Sycamore Tree
Coulter's Matilija Poppy Observed

Plant Communities
Bare Ground
Chaparral
Coastal Sage Scrub
Developed
Native Plant Restoration
Nonnative Grassland
Oak Woodland
Ruderal

Potential Bat Roosting Sites
CAGN Use Area Observed
Patch of tall (≥ 1 m tall) cactus suitable for coastal cactus wren nesting
Coastal Cactus Wren Nest Remnants
CAGN Designated Critical Habitat
Braunton's Milk-vetch Designated Critical Habitat
Santa Ana Sucker Designated Critical Habitat
NCCP Plan Area

NCCP Reserve
NCCP Existing Use Area
Drainage Feature (with ID#)
CDFW Jurisdiction

USACE Jurisdiction
Approved Jurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters

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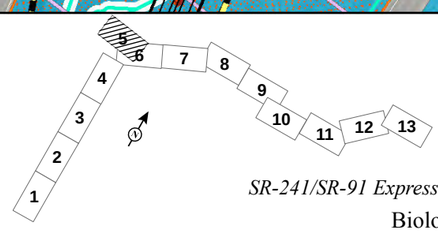
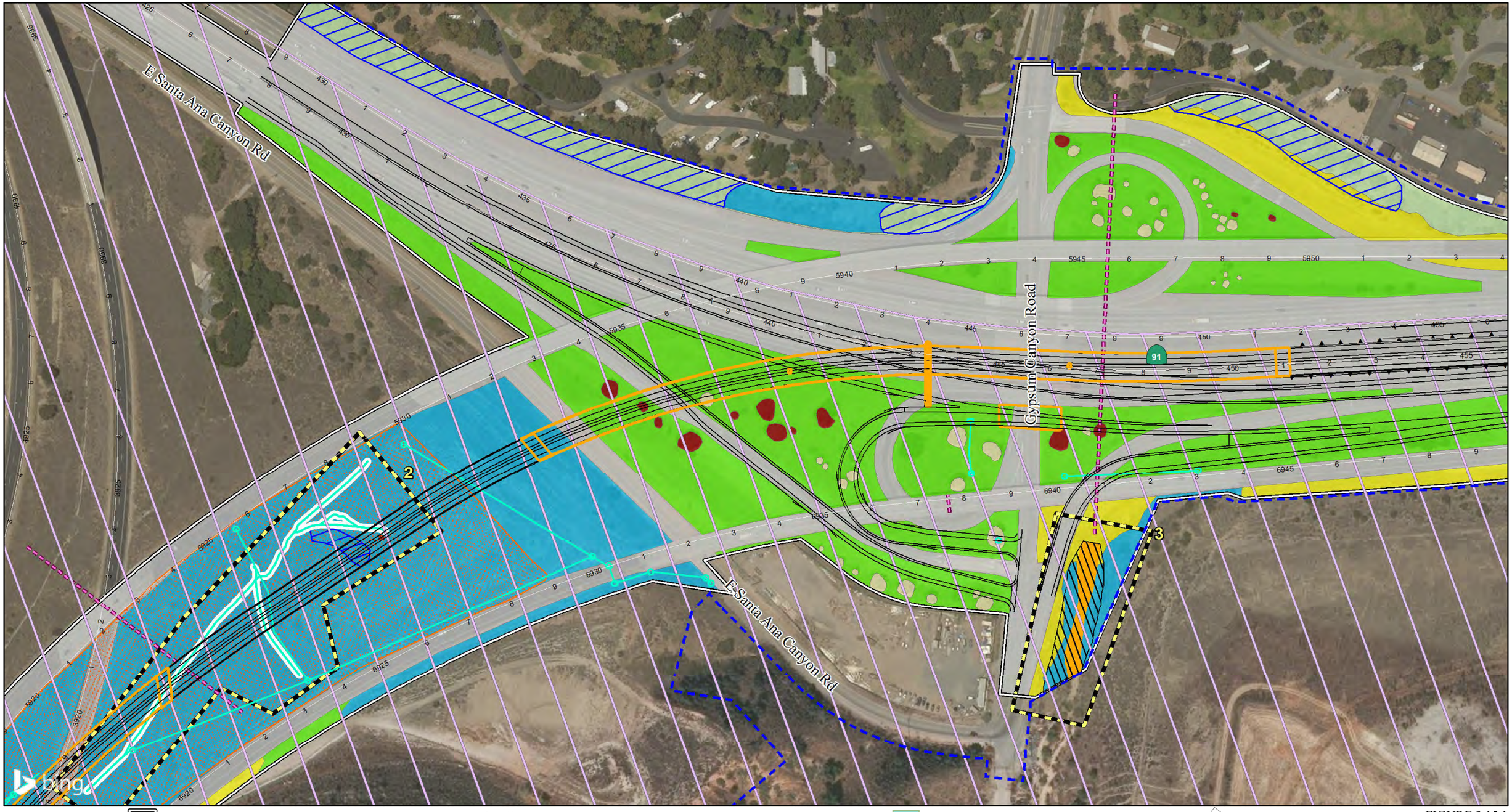


FIGURE 3.15.1
Sheet 5 of 13

SR-241/SR-91 Express Lanes Connector
Biological Resources

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Biological Study Area
Proposed Acquisition Area (approx. 5 acres)
Existing Caltrans Right-of-Way

Project Features
Proposed Bridge Structure
Proposed Roadway
Proposed Retaining Wall

Proposed Storm Drain Pipe
Proposed Storm Drain Swale
Proposed Storm Drain Structure
California Black Walnut Observed
Coast Live Oak Tree
Western Sycamore Tree
Coulter's Matilija Poppy Observed

Plant Communities
Bare Ground
Chaparral
Coastal Sage Scrub
Developed
Native Plant Restoration
Nonnative Grassland
Oak Woodland
Ruderal

Potential Bat Roosting Sites
CAGN Use Area Observed
Patch of tall (≥ 1 m tall) cactus suitable for coastal cactus wren nesting
Coastal Cactus Wren Nest Remnants
CAGN Designated Critical Habitat
Braunton's Milk-vetch Designated Critical Habitat
Santa Ana Sucker Designated Critical Habitat
NCCP Plan Area

NCCP Reserve
NCCP Existing Use Area
Drainage Feature (with ID#)
CDFW Jurisdiction

USACE Jurisdiction
Approved Jurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters

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SOURCE: Bing Maps (2012); USFWS (2011); RBF (12/2014)

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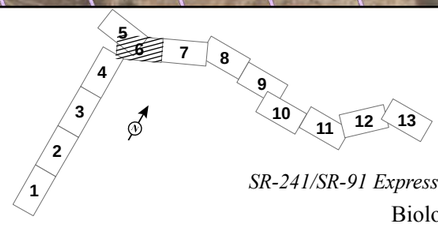
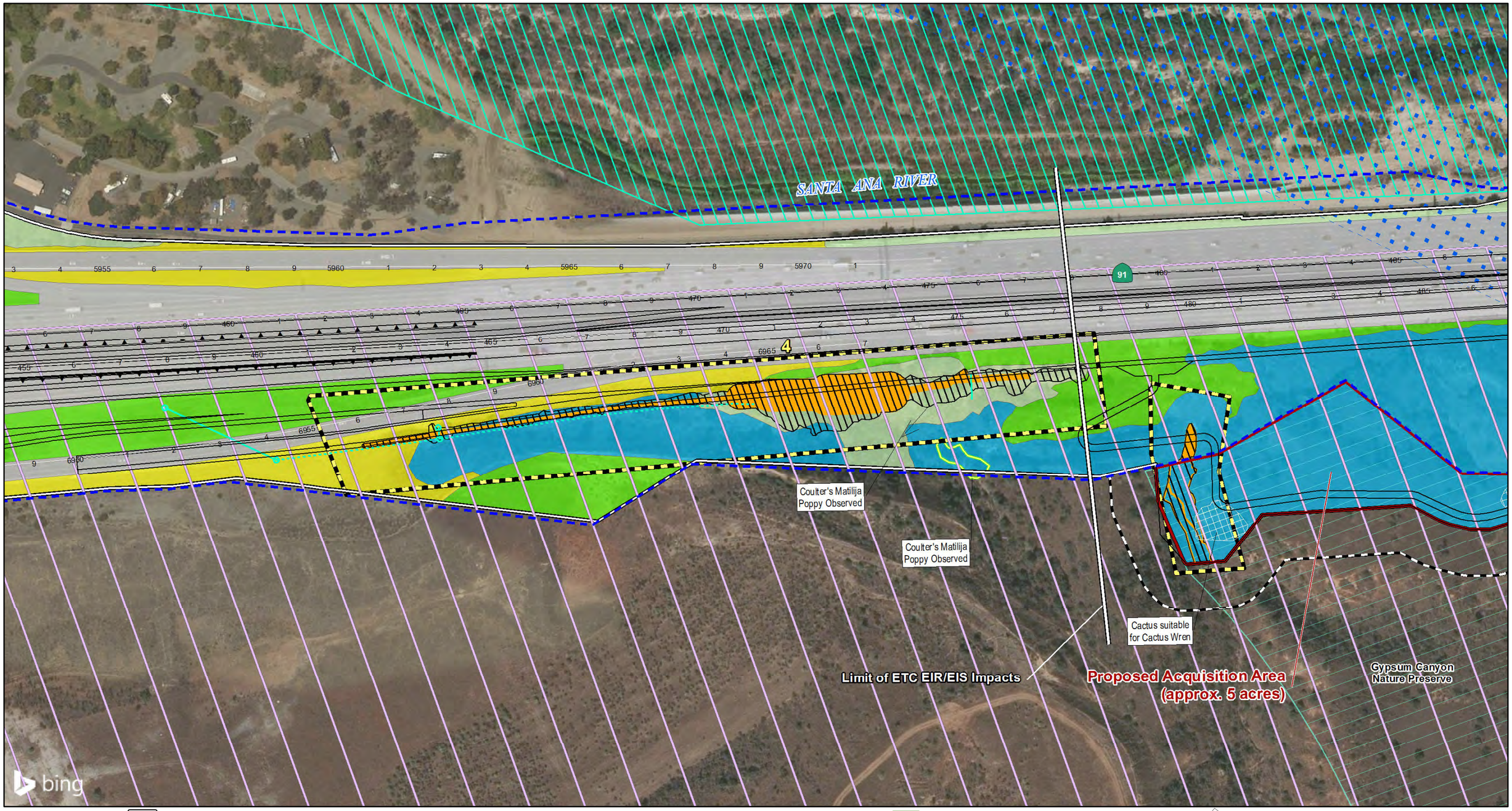


FIGURE 3.15.1
Sheet 6 of 13

SR-241/SR-91 Express Lanes Connector

Biological Resources

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Biological Study Area
Proposed Acquisition Area (approx. 5 acres)
Existing Caltrans Right-of-Way

Project Features
Proposed Bridge Structure
Proposed Roadway
Proposed Retaining Wall
Proposed Storm Drain Pipe
Proposed Storm Drain Swale
Proposed Storm Drain Structure
California Black Walnut Observed
Coast Live Oak Tree
Western Sycamore Tree
Coulter's Matilija Poppy Observed

Plant Communities
Bare Ground
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Oak Woodland
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Potential Bat Roosting Sites
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CAGN Designated Critical Habitat
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Santa Ana Sucker Designated Critical Habitat
NCCP Plan Area

NCCP Reserve
NCCP Existing Use Area
Drainage Feature (with ID#)
CDFW Jurisdiction
USACE Jurisdiction
Approved Jurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters

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SOURCE: Bing Maps (2012); USFWS (2011); RBF (12/2014)

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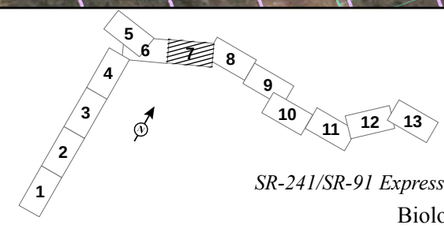
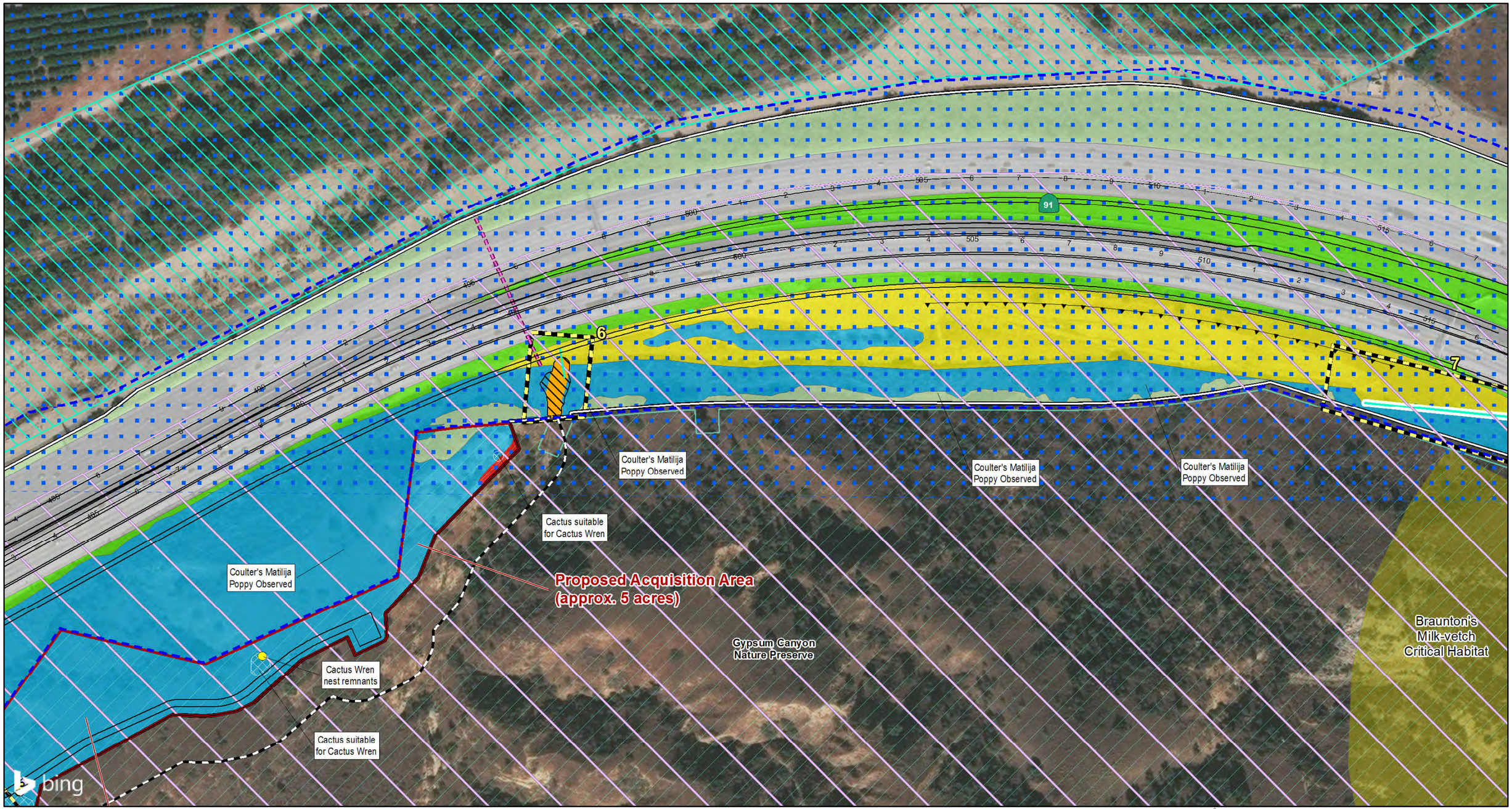


FIGURE 3.15.1
Sheet 7 of 13

SR-241/SR-91 Express Lanes Connector

Biological Resources

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Biological Study Area
Proposed Acquisition Area (approx. 5 acres)
Existing Caltrans Right-of-Way

Project Features
Proposed Bridge Structure
Proposed Roadway
Proposed Retaining Wall
Proposed Storm Drain Pipe
Proposed Storm Drain Swale
Proposed Storm Drain Structure
California Black Walnut Observed
Coast Live Oak Tree
Western Sycamore Tree
Coulter's Matilija Poppy Observed

Plant Communities
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NCCP Plan Area

NCCP Reserve
NCCP Existing Use Area
Drainage Feature (with ID#)
CDFW Jurisdiction
USACE Jurisdiction
Approved Jurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters

0 100 200
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SOURCE: Bing Maps (2012); USFWS (2011); RBF (12/2014)
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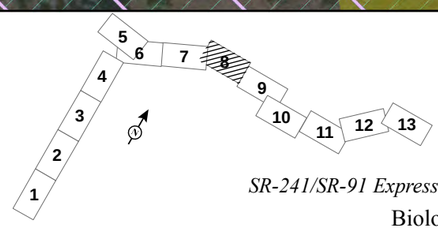
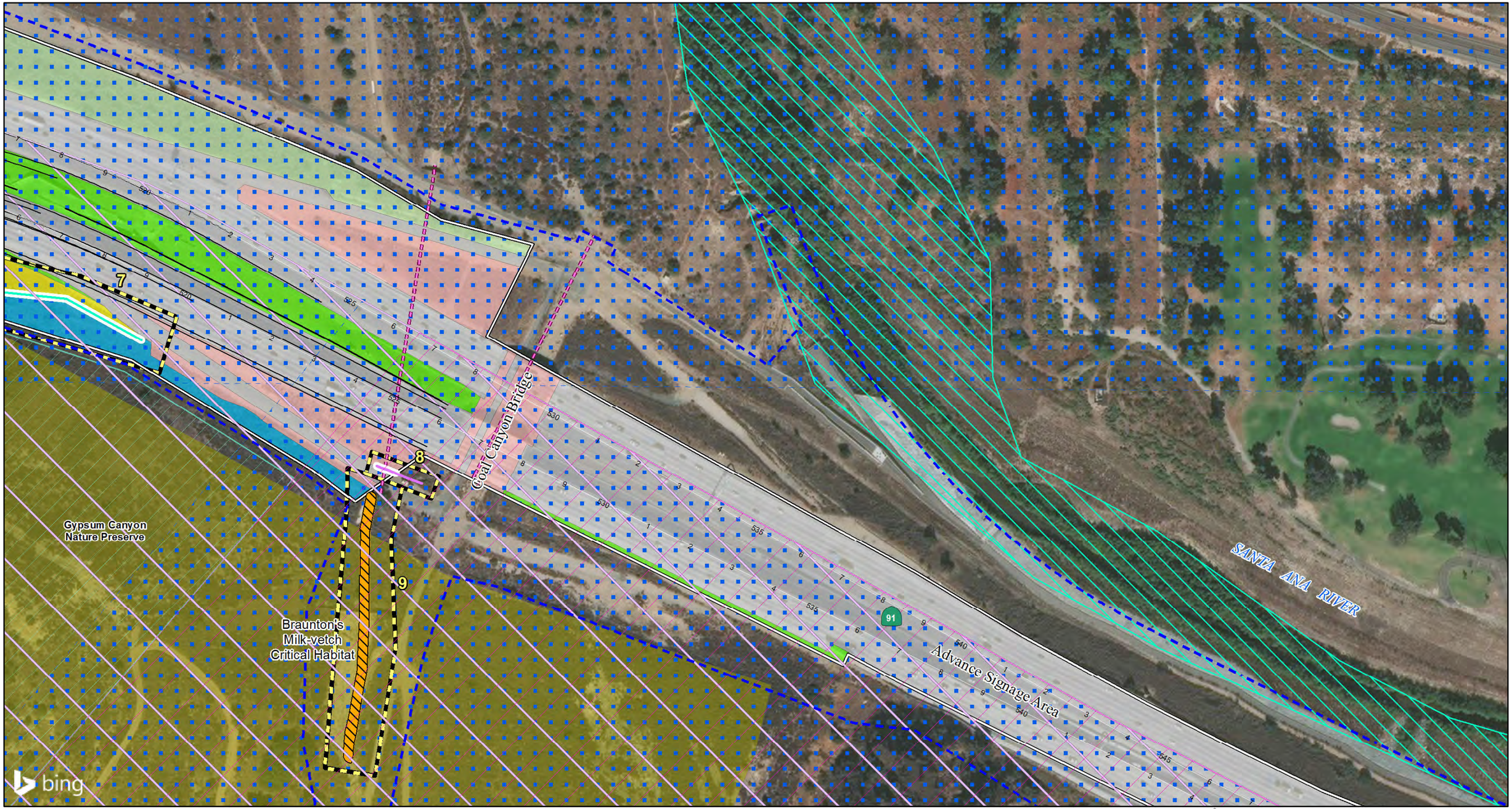


FIGURE 3.15.1
Sheet 8 of 13

SR-241/SR-91 Express Lanes Connector
Biological Resources

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Biological Study Area
Proposed Acquisition Area (approx. 5 acres)
Existing Caltrans Right-of-Way

Project Features
Proposed Bridge Structure
Proposed Roadway
Proposed Retaining Wall
Proposed Storm Drain Pipe
Proposed Storm Drain Swale
Proposed Storm Drain Structure
California Black Walnut Observed
Coast Live Oak Tree
Western Sycamore Tree
Coulter's Matilija Poppy Observed

Plant Communities
Bare Ground
Chaparral
Coastal Sage Scrub
Developed
Native Plant Restoration
Nonnative Grassland
Oak Woodland
Ruderal

Potential Bat Roosting Sites
CAGN Use Area Observed
Patch of tall (≥ 1 m tall) cactus suitable for coastal cactus wren nesting
Coastal Cactus Wren Nest Remnants
CAGN Designated Critical Habitat
Braunton's Milk-vetch Designated Critical Habitat
Santa Ana Sucker Designated Critical Habitat
NCCP Plan Area

NCCP Reserve
NCCP Existing Use Area
Drainage Feature (with ID#)
CDFW Jurisdiction

USACE Jurisdiction
Approved Jurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters

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SOURCE: Bing Maps (2012); USFWS (2011); RBF (12/2014)

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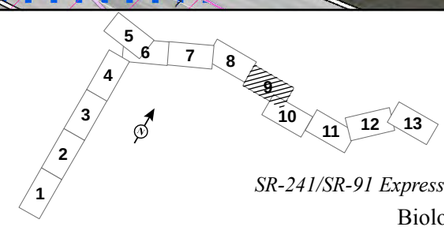
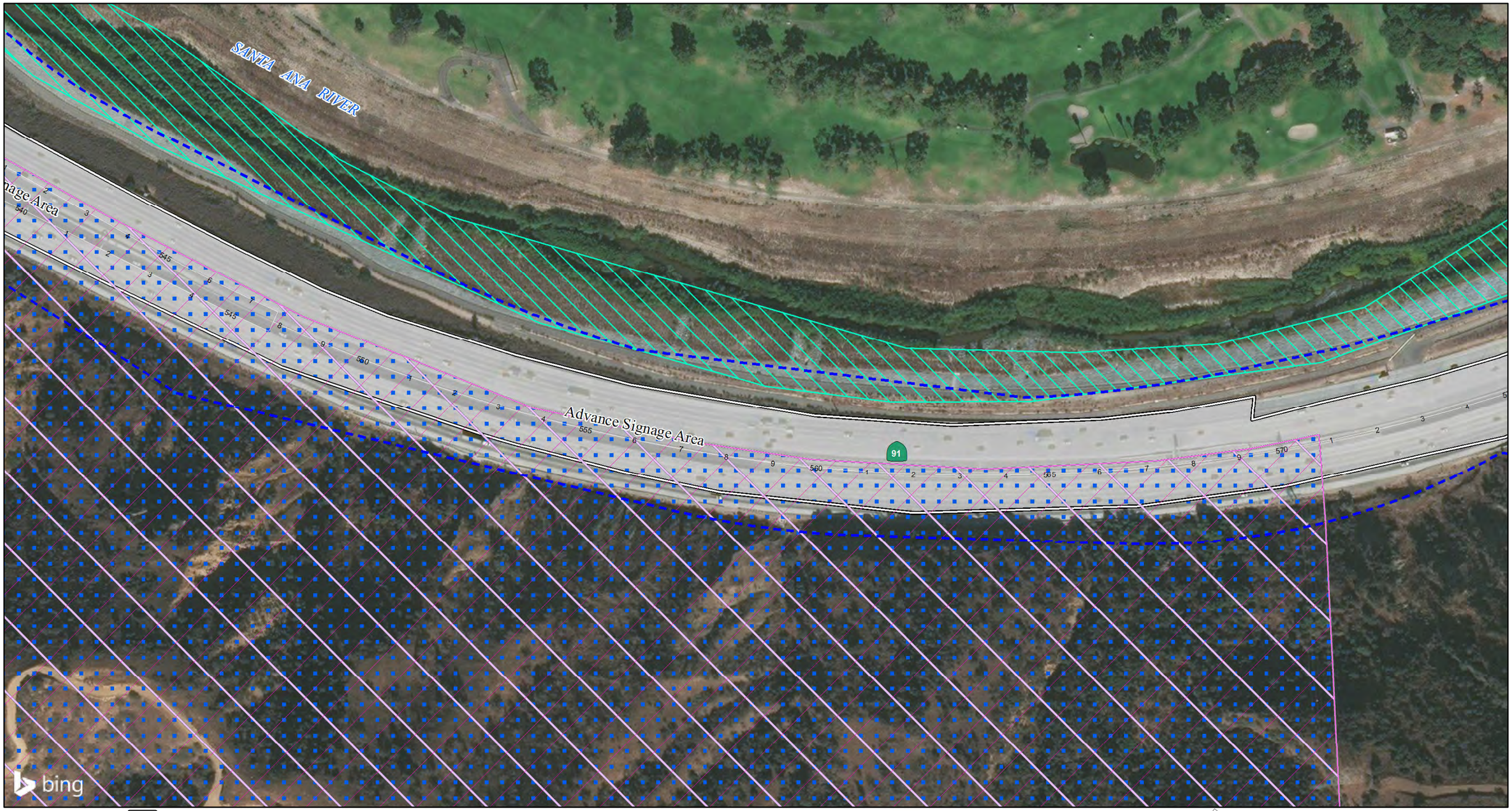


FIGURE 3.15.1
Sheet 9 of 13

SR-241/SR-91 Express Lanes Connector
Biological Resources

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Biological Study Area
Proposed Acquisition Area (approx. 5 acres)
Existing Caltrans Right-of-Way

Project Features
Proposed Bridge Structure
Proposed Roadway
Proposed Retaining Wall
Proposed Storm Drain Pipe
Proposed Storm Drain Swale
Proposed Storm Drain Structure
California Black Walnut Observed
Coast Live Oak Tree
Western Sycamore Tree
Coulter's Matilija Poppy Observed

Plant Communities
Bare Ground
Chaparral
Coastal Sage Scrub
Developed
Native Plant Restoration
Nonnative Grassland
Oak Woodland
Ruderal

Potential Bat Roosting Sites
CAGN Use Area Observed
Patch of tall (≥ 1 m tall) cactus suitable for coastal cactus wren nesting
Coastal Cactus Wren Nest Remnants
CAGN Designated Critical Habitat
Braunton's Milk-vetch Designated Critical Habitat
Santa Ana Sucker Designated Critical Habitat
NCCP Plan Area

NCCP Reserve
NCCP Existing Use Area
Drainage Feature (with ID#)
CDFW Jurisdiction

USACE Jurisdiction
Approved Jurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters

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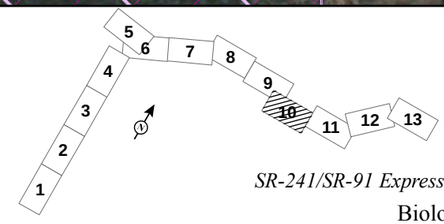


FIGURE 3.15.1
Sheet 10 of 13

SR-241/SR-91 Express Lanes Connector

Biological Resources

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Biological Study Area
Proposed Acquisition Area (approx. 5 acres)
Existing Caltrans Right-of-Way

Project Features
Proposed Bridge Structure
Proposed Roadway
Proposed Retaining Wall
Proposed Storm Drain Pipe
Proposed Storm Drain Swale
Proposed Storm Drain Structure
California Black Walnut Observed
Coast Live Oak Tree
Western Sycamore Tree
Coulter's Matilija Poppy Observed

Plant Communities
Bare Ground
Chaparral
Coastal Sage Scrub
Developed
Native Plant Restoration
Nonnative Grassland
Oak Woodland
Ruderal

Potential Bat Roosting Sites
CAGN Use Area Observed
Patch of tall (≥ 1 m tall) cactus suitable for coastal cactus wren nesting
Coastal Cactus Wren Nest Remnants
CAGN Designated Critical Habitat
Braunton's Milk-vetch Designated Critical Habitat
Santa Ana Sucker Designated Critical Habitat
NCCP Plan Area

NCCP Reserve
NCCP Existing Use Area
Drainage Feature (with ID#)
CDFW Jurisdiction

USACE Jurisdiction
Approved Jurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters

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SOURCE: Bing Maps (2012); USFWS (2011); RBF (12/2014)

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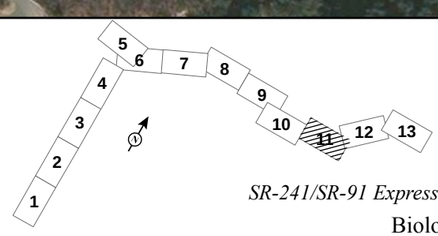
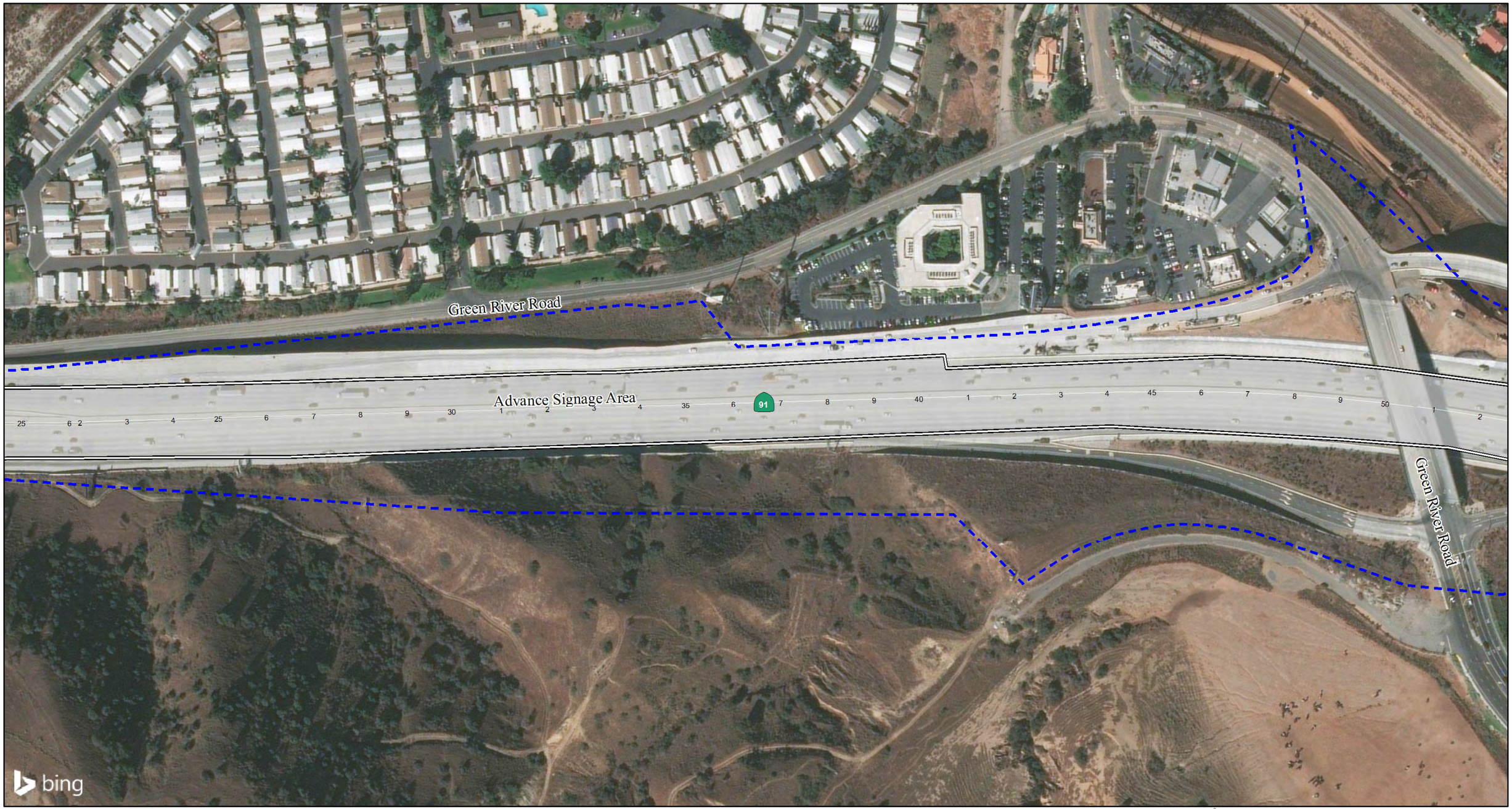


FIGURE 3.15.1
Sheet 11 of 13

SR-241/SR-91 Express Lanes Connector

Biological Resources

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Biological Study Area
Proposed Acquisition Area (approx. 5 acres)
Existing Caltrans Right-of-Way

Project Features
Proposed Bridge Structure
Proposed Roadway
Proposed Retaining Wall
Proposed Storm Drain Pipe
Proposed Storm Drain Swale
Proposed Storm Drain Structure
California Black Walnut Observed
Coast Live Oak Tree
Western Sycamore Tree
Coulter's Matilija Poppy Observed

Plant Communities
Bare Ground
Chaparral
Coastal Sage Scrub
Developed
Native Plant Restoration
Nonnative Grassland
Oak Woodland
Ruderal

Potential Bat Roosting Sites
CAGN Use Area Observed
Patch of tall (≥ 1 m tall) cactus suitable for coastal cactus wren nesting
Coastal Cactus Wren Nest Remnants
CAGN Designated Critical Habitat
Braunton's Milk-vetch Designated Critical Habitat
Santa Ana Sucker Designated Critical Habitat
NCCP Plan Area

NCCP Reserve
NCCP Existing Use Area
Drainage Feature (with ID#)
CDFW Jurisdiction

USACE Jurisdiction
Approved Jurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters

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SOURCE: Bing Maps (2012); USFWS (2011); RBF (12/2014)

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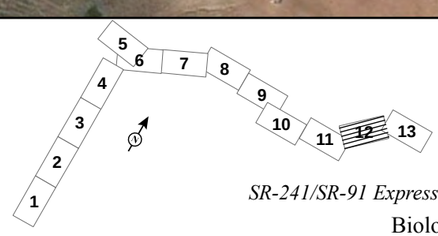


FIGURE 3.15.1
Sheet 12 of 13

SR-241/SR-91 Express Lanes Connector
Biological Resources

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Biological Study Area
Proposed Acquisition Area (approx. 5 acres)
Existing Caltrans Right-of-Way

Project Features
Proposed Bridge Structure
Proposed Roadway
Proposed Retaining Wall

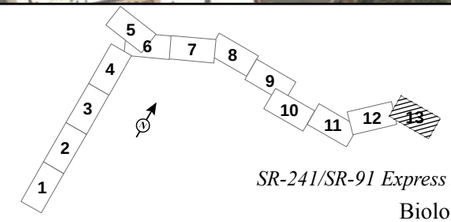
Proposed Storm Drain Pipe
Proposed Storm Drain Swale
Proposed Storm Drain Structure
California Black Walnut Observed
Coast Live Oak Tree
Western Sycamore Tree
Coulter's Matilija Poppy Observed

Plant Communities
Bare Ground
Chaparral
Coastal Sage Scrub
Developed
Native Plant Restoration
Nonnative Grassland
Oak Woodland
Ruderal

Potential Bat Roosting Sites
CAGN Use Area Observed
Patch of tall (≥ 1 m tall) cactus suitable for coastal cactus wren nesting
Coastal Cactus Wren Nest Remnants
CAGN Designated Critical Habitat
Braunton's Milk-vetch Designated Critical Habitat
Santa Ana Sucker Designated Critical Habitat
NCCP Plan Area

NCCP Reserve
NCCP Existing Use Area
Drainage Feature (with ID#)
CDFW Jurisdiction

USACE Jurisdiction
Approved Jurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters



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SOURCE: Bing Maps (2012); USFWS (2011); RBF (12/2014)

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FIGURE 3.15.1
Sheet 13 of 13

SR-241/SR-91 Express Lanes Connector
Biological Resources

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communities in the BSA are summarized in Table 3.15.1. These plant communities are described in the following sections.

Table 3.15.1 Plant Communities in the BSA

Plant Community	Total Acres in the BSA
Scrub and Chaparral Habitats	
Coastal Sage Scrub	53.99
Chaparral	14.38
Woodland Habitat	
Coast Live Oak Woodland	0.68
Disturbed Habitats	
Nonnative Grassland	21.18
Ruderal Vegetation (includes coast live oak [0.26 ac] and western sycamore [0.40 ac] trees)	34.13
Native Plant Restoration	3.20
Developed Areas (includes Bare Ground 1.29 ac)	161.26
Total	**287.54**

Sources: *Natural Environment Study* (December 2015); Caltrans' *Planting Plans for Coal Canyon Undercrossing* (2012).
ac = acre/acres
BSA = Biological Study Area

Coastal Sage Scrub

Coastal sage scrub is generally a patchy plant community found in diverse habitat mosaics and is dominated by a suite of shrub species found in southern California. Shrub cover is dense and generally continuous, with low moisture content. Steep, xeric slopes and quickly draining soils characterize the coastal sage scrub community. Annual herbs, including weedy grasses and forbs and native wildflowers, are common in openings and disturbed areas.

Coastal sage scrub in southern California has been and continues to be displaced by spreading urbanization. Many rare and endangered species occur in coastal sage scrub and associated plant communities. Consequently, degradation and displacement of coastal sage scrub has resulted in substantial habitat loss for a variety of animal species. Therefore, the California Department of Fish and Wildlife (CDFW) and the United States Fish and Wildlife Service (USFWS) have special concern for this habitat type.

As shown in Table 3.15.1 and shown on Figure 3.15.1 (Sheets 1 to 9), there are approximately 53.99 acres (ac) of coastal sage scrub in the BSA. Species in this plant community include California sagebrush (*Artemisia californica*), coastal deerweed (*Lotus scoparius* var. *scoparius*), California buckwheat (*Eriogonum fasciculatum*), chaparral yucca (*Hesperoyucca whipplei*; formerly *Yucca whipplei*), California encelia (*Encelia californica*), brittlebush (*Encelia farinosa*), and California poppy

(*Eschscholzia californica*). Although much of the coastal sage scrub in the BSA was planted or developed following the original construction of SR-241, and has been subject to some degree of disturbance due to either regular maintenance within the road right-of-way or other methods of human-induced disturbance, much of it is good quality habitat. Specifically, the coastal sage scrub in the median at the SR-241/SR-91 interchange (Figure 3.15.1, Sheets 4 and 6) and along the south side of SR-91 (Figure 3.15.1, Sheets 7 and 8) is good quality habitat. However, the coastal sage scrub in the median between the existing northbound and southbound SR-241 general purpose travel lanes, and the coastal sage scrub on the slope east of SR-241 (Figure 3.15.1, Sheets 1 to 4) has a high concentration of nonnative ruderal plant species and is poor quality habitat.

Chaparral

The chaparral plant community primarily occurs in the east part of the BSA along SR-91 and east of the SR-241/SR-91 interchange (Figure 3.15.1, Sheets 7 and 8). There are approximately 14.38 ac of chaparral in the BSA as shown on Table 3.15.1. In the BSA, chaparral is often interspersed with the coastal sage scrub and coast live oak woodland plant communities. This is because chaparral is typically a transitional habitat to higher-elevation plant communities in mountain ranges. Species in this plant community include laurel sumac (*Malosma laurina*), coast live oak (*Quercus agrifolia*), California sagebrush, California buckwheat, and chaparral yucca.

Coast Live Oak Woodland

The oak woodland habitat type is considered important to Caltrans and the CDFW because the structural diversity and food production of this habitat type provide relatively high wildlife habitat values. Oak trees and oak woodland can provide habitat for over 300 terrestrial species. In each type of oak habitat (e.g., woodland and riparian), there is a different set of co-occurring plant species that is often beneficial to wildlife. Animals are affected by these differences in terms of food supply, nesting sites, and predator cover, and respond according to their individual ecological requirements. Oak woodland habitat is especially valuable and of limited distribution. Caltrans and the CDFW recognize oak trees for their historical, aesthetic, and ecological qualities, and seek to preserve and propagate this unique plant community, especially trees classified as heritage oaks. Caltrans maintains all trees within the freeway rights-of-way for sight distance in relation to the roads, including oak trees.

There is a small area of oak woodland habitat (0.68 ac) south of SR-91 associated with Drainage Feature 6 as shown on Figure 3.15.1 (Sheet 8) and listed in

Table 3.15.1. During the computer imagery survey and ground truthing survey in the summer of 2014, approximately 14 coast live oak trees and 40 western sycamore trees were observed in the BSA. A formal inventory of coast live oaks, sycamores, or scrub oaks (*Quercus berberidifolia*) in the project disturbance limits will be conducted following the project staking. The driplines of the individual oak trees observed during the 2014 surveys are within the SR-241 and SR-91 rights-of-way but do not extend over those roads.

Nonnative Grassland

There are approximately 21.18 ac of nonnative grassland in the BSA as summarized in Table 3.15.1 and shown on Figure 3.15.1 (Sheets 1 to 4 and 6 to 9). This plant community consists predominantly of ruderal, nonnative grassland species with scattered native forbs. Plants in this community include common horseweed (*Conyza canadensis*), fascicled tarweed (*Deinandra fasciculata*), tocalote (*Centaurea melitensis*), telegraph weed (*Heterotheca grandiflora*), Bermuda grass (*Cynodon dactylon*), wild oat (*Avena* spp.), and foxtail chess (*Bromus madritensis* ssp. *rubens*).

Ruderal Vegetation

There are approximately 34.13 ac of ruderal vegetation in the BSA as summarized in Table 3.15.1 and shown on Figure 3.15.1 (Sheets 1 to 9). This plant community consists predominantly of ruderal and unmaintained or escaped ornamental vegetation. While most of the ruderal vegetation in the BSA consists of nonnative grasses, it is differentiated from nonnative grassland due to the loss of a native seed bank, although some native weedy species may be present. Plants in this community include Peruvian pepper tree (*Schinus molle*), tocalote, bull thistle (*Cirsium vulgare*), telegraph weed, perennial sow-thistle (*Sonchus arvensis*), field mustard (*Brassica rapa*), shortpod mustard (*Hirschfeldia incana*), Bermuda grass, wild oat, and foxtail chess. There are coast live oak trees and western sycamore trees of various sizes scattered in the ruderal vegetation plant community in the SR-241/SR-91 interchange area. These trees may be used as a resource by wildlife and, as noted earlier, are considered important to Caltrans and the CDFW.

Native Plant Restoration

Caltrans completed native plant restoration at Coal Canyon Undercrossing in 2014. The median, undercrossing, and areas between the SR-91 mainline and the ramps were restored with native plants. This area is approximately 3.20 ac and is shown on Figure 3.15.1, Sheet 9.

Developed Areas

There are approximately 161.26 ac of developed areas in the BSA as summarized in Table 3.15.1 and shown on Figure 3.15.1 (Sheets 1 to 13). Developed areas consist of nonporous surfaces such as existing paved roads and highways and, where vegetation is present, ornamental, and ruderal vegetation. Areas without nonporous surfaces or vegetation consist of bare ground such as regularly disturbed ground or pullouts.

Natural Communities of Special Concern

Habitats are considered to be of special concern based on (1) federal, State, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status plants or animals. Two primary plant communities considered important by State and/or local agencies were identified in the BSA: coastal sage scrub and oak woodland/tree species. These communities of special interest occur throughout (coastal sage scrub) and in isolation (oaks) in the BSA as shown on Figure 3.15.1. The coastal sage scrub habitat occurs throughout the BSA (Figure 3.15.1, Sheets 1 to 9) but the oak tree species/woodland is limited to the SR-241/SR-91 interchange area (Figure 3.15.1, Sheets 6 and 8). Because coastal sage scrub and oak woodland are habitats of special concern, they are discussed further in this section.

Chaparral, ruderal vegetation, nonnative grassland, and developed areas are not considered habitats of special concern. Therefore, they are not discussed further in this section.

3.15.2.3 Orange County Central and Coastal Subregion Natural Community Conservation Plan/Habitat Conservation Plan

The *Orange County Central and Coastal Subregion Natural Communities Conservation Plan and Habitat Conservation Plan* (NCCP/HCP) approved in 1996 serves as a comprehensive, multijurisdictional habitat based conservation program pursuant to Section 10(a)(1)(B) of the Federal Endangered Species Act (FESA) of 1973 and the Natural Communities Conservation Planning Act of 1991. The NCCP/HCP focuses on the conservation of multiple species and their associated habitats while allowing for economic uses that meet social and economic needs in Central and Coastal Orange County. The NCCP/HCP authorizes the take of plant and wildlife species in the NCCP/HCP Plan Area by Participating Jurisdictions. Regulation of the take of threatened, endangered, and rare species is authorized by the wildlife resource agencies (USFWS and CDFW), which allow Take Authorization for

otherwise lawful actions (e.g., public and private development) in exchange for the assembly and management of a coordinated NCCP/HCP Reserve System.

As a participant in the NCCP/HCP, the Transportation Corridor Agencies (TCA) is obligated to comply with specific conditions under the Take Authorization, which remains with the TCA regardless whether Caltrans or the TCA has ownership of a specific road. Because the 1994 Biological Opinion for the ETC was issued to the Federal Highway Administration (FHWA), Caltrans can request Section 7 consultation under FESA with the USFWS for the Proposed Project.

A majority of the BSA and much of the overall Project Area are in the NCCP/HCP Plan Area as shown on Figure 3.15.1. However, the areas north of SR-91 are outside the NCCP/HCP Plan Area and are, therefore, not covered under the NCCP/HCP Take Authorization. An NCCP/HCP Existing Use Area overlaps the eastbound SR-91 lanes east and west of Coal Canyon Undercrossing. The BSA is not in any part of the NCCP/HCP Reserve. However, as shown on Figure 3.15.1 (Sheet 1), SR-241 bisects part of the NCCP/HCP Reserve near Windy Ridge Wildlife Undercrossing. This wildlife crossing is designed to functionally link the NCCP/HCP Reserve with the Coal Canyon Reserve, Lomas de Santiago, and the Cleveland National Forest.

3.15.2.4 Western Riverside County Multiple Species Habitat Conservation Plan

The *Western Riverside County Multiple Species Habitat Conservation Plan* (WR-MSHCP) serves as an HCP pursuant to Section 10(a)(1)(B) of FESA and as an NCCP under the NCCP Act of 2001. The WR-MSHCP authorizes the take of plant and wildlife species in the WR-MSHCP Plan Area by Participating Jurisdictions, as granted by the USFWS and CDFW, for lawful actions such as public and private development in exchange for the assembly and management of a coordinated WR-MSHCP Conservation Area. As a result, lawful actions may incidentally take or harm individual species or their habitats outside the WR-MSHCP Conservation Area.

The WR-MSHCP provides for the assembly of Conservation Areas consisting of Core Areas and Linkages for the conservation of covered species. The Conservation Area is to be assembled from parts of the WR-MSHCP Criteria Area, which consist of approximately 160-acre Criteria Cells, each with specific criteria for the species conservation. The WR-MSHCP provides an incentive-based program, the Habitat Evaluation and Acquisition Negotiation Strategy for adding land to the WR-MSHCP Conservation Area. If it is determined that all or a part of a property is needed for

inclusion in the WR-MSHCP Conservation Area, then various incentives may be available to the property owner in exchange for the conveyance of a property interest.

The WR-MSHCP requires focused surveys for certain plant, bird, amphibian, mammal, and insect species for project sites in designated survey areas when suitable habitat is present (e.g., burrowing owl). Surveys for listed riparian birds are required when suitable riparian habitat is present and surveys for sensitive fairy shrimp species are required when vernal pools or similar habitat is present.

The part of the BSA in Riverside County is in the WR-MSHCP Conservation Area and includes Criteria Cells/Criteria Area and designated survey areas that overlap the BSA. This segment of SR-91 is planned for advance signage only as part of the Proposed Project and is not in any vegetated part of the WR-MSHCP Conservation Area because it consists only of the paved road and shoulder within the Caltrans right-of-way.

As a participant in the WR-MSHCP, Caltrans District 8, San Bernardino office, is obligated to comply with this document as it pertains to the Proposed Project. The SR-91 advance signage area is for roadway safety purposes and in the context of the WR-MSHCP, is a Covered Activity under Section 7.3.4, Existing Roads Within the Criteria Area – Covered Road Maintenance Activities Within the Criteria Area: Publicly Maintained Roads. Therefore, the objectives, policies, procedures, and guidelines from Section 7.5.3: Construction Guidelines, as well as best management practices (BMPs) outlined in Appendix C (Standard Best Management Practices of the WR-MSHCP, Volume 1) are applicable to the Proposed Project.

3.15.2.5 Wildlife Corridors

Wildlife movement and habitat fragmentation are greatly impacted by roads. In the BSA, wildlife movement areas include wildlife linkages in Gypsum Canyon, Coal Canyon, and B Canyon, and the Windy Ridge Wildlife Undercrossing, which is a wildlife corridor.

Gypsum Canyon and Coal Canyon are in the County of Orange (Figure 3.15.1, Sheets 6 and 9, respectively) and B Canyon is in the County of Riverside (in the Advance Signage area as shown on Figure 3.15.1, Sheet 11). Gypsum Canyon, Coal Canyon, and B Canyon all have drainages that pass under SR-91 through large box culvert structures that provide wildlife linkage under SR-91. Although not a designated wildlife corridor, Coal Canyon Undercrossing is used by wildlife to cross under SR-91.

Several wildlife undercrossings were constructed as part of SR-241 to allow for wildlife movement, including the Windy Ridge Wildlife Undercrossing (Figure 3.15.1, Sheet 1) in the south part of the BSA. The existing openness factor (height x width/length) of Windy Ridge Wildlife Undercrossing is 39.6 ft (12.7 meters [m]) (recommended minimum of approximately 2 ft [0.6 m]). The openness of a crossing is extremely important to assess the potential and size of wildlife likely to move through a given structure. Large mammals generally stand at least 1.5 ft at the shoulders and are at least 2 ft long (not including the tail); they include the mountain lion, mule deer, coyote, and bobcat, all of which are found in the Project Area. A crossing must be large enough to encourage these large stature creatures to enter an area in which they might otherwise feel vulnerable.

3.15.3 Environmental Consequences

3.15.3.1 Temporary Impacts

Build Alternative (*Two-Lane Express Lanes Connector*) (*Preferred Alternative*)

Coastal Sage Scrub

The Build Alternative would result in direct temporary impacts to coastal sage scrub as a result of disturbing existing vegetation during construction. The Build Alternative would also result in indirect construction-related impacts on coastal sage scrub such as dust, noise, potential fuel spills from construction equipment, possible night lighting, and activities of equipment or personnel outside designated construction areas. Temporary impacts would only occur during construction to allow for construction activities and equipment staging and access. Therefore, temporary impacts to coastal sage scrub would be limited to incidental encroachment and coastal sage scrub would be restored after completion of construction.

As shown in Table 3.15.2, the Build Alternative would temporarily impact a total of approximately 31.28 ac of coastal sage scrub. Within the 1994 Biological Opinion Study Area (i.e., the limits of the ETC Final EIR and EIS [Figure 2.1, Sheet 4, and Figure 3.15.2, Sheet 7]), the Build Alternatives would temporarily impact approximately 29.68 ac of coastal sage scrub within the NCCP/HCP Plan Area. Outside the 1994 Biological Opinion Study Area (i.e., outside the limits of the ETC Final EIR and EIS), the Build Alternative would temporarily impact approximately 4.63 ac of coastal sage scrub in the NCCP/HCP Plan Area and 0.02 ac outside the NCCP/HCP Plan Area. The locations of the temporary impacts to coastal sage scrub in the BSA are shown on Figure 3.15.2 (Sheets 1 to 9). Areas of temporary impacts

Table 3.15.2 Potential Impacts to Coastal Sage Scrub Vegetation Within and Outside the NCCP/HCP Plan Area

Coastal Sage Scrub	Within the NCCP/HCP Plan Area				Outside the NCCP/HCP Plan Area			
	Within Caltrans Right-of-Way		Outside Caltrans Right-of-Way		Within Caltrans Right-of-Way		Outside Caltrans Right-of-Way	
	Temporary Acres	Permanent Acres	Temporary Acres	Permanent Acres	Temporary Acres	Permanent Acres	Temporary Acres	Permanent Acres
Within 1994 Biological Opinion Study Area	26.63[1]	3.81	0.00	0.00	0.00	0.00	0.00	0.00
Outside 1994 Biological Opinion Study Area	3.05	6.60	1.58	3.25	0.02	0.00	0.00	0.00
Total	**29.68**[2]	**10.41**	**1.58**	**3.25**	**0.02**[3]	**0.00**	**0.00**	**0.00**

Sources: *Natural Environment Study* (December 2015).

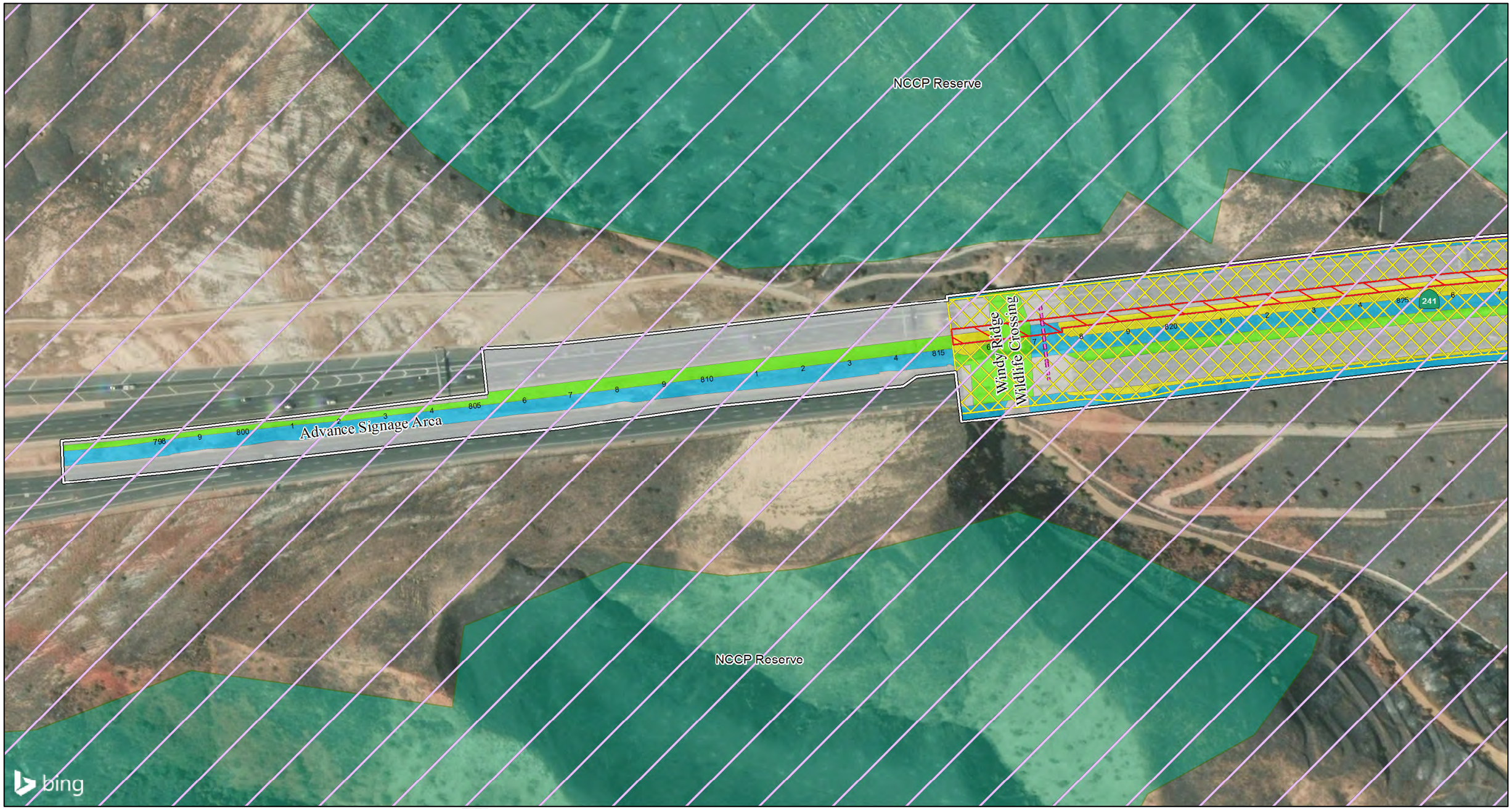
[1] A total of 0.07 acre of temporary impacts to the coastal sage scrub mitigation sites associated with the SR-241 initial construction is expected along SR-241 between Post Mile 36.7 and Post Mile 38.7. The areas are on each side of Windy Ridge Wildlife Undercrossing and are within both the NCCP/HCP Plan Area and the Caltrans right-of-way.

[2] Of the 29.68 acres of temporary impacts to coastal sage scrub within the NCCP/HCP Plan Area, 0.03 acre is within an NCCP/HCP Existing Use Area. There are no permanent impacts expected to coastal sage scrub in the NCCP/HCP Existing Use Area.

[3] The 0.02 acre of temporary impacts outside of the NCCP/HCP will be mitigated per the measures in the new Biological Opinion for the Proposed Project, but may likely consist of replacement. This 0.02-acre area is adjacent to the Gypsum Canyon Road westbound SR-91 on-ramp, is not in designated California gnatcatcher critical habitat, and is not known to be California gnatcatcher occupied.

NCCP/HCP = Natural Community Conservation Plan/Habitat Conservation Plan

SR-241 = State Route 241



Biological Study Area
Proposed Acquisition Area (approx. 5 acres)
Permanent Impacts
Temporary Impacts

0 100 200
FEET

SOURCE: Eagle Aerial (2011); USFWS (2011); RBF (12/2014)

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Plant Communities
- Bare Ground
- Chaparral
- Coastal Sage Scrub
- Developed
- Native Plant Restoration
- Nonnative Grassland
- Oak Woodland
- Ruderal

- Drainage Feature (with ID#)
- CDFW Jurisdiction

USACE Jurisdiction
- Approved Jurisdictional Nonwetland Waters
- Approved Nonjurisdictional Nonwetland Waters
- Approved Nonjurisdictional Nonwetland Waters
- Approved Jurisdictional Nonwetland Waters Drainage Impact Areas

- Potential Bat Roosting Sites
- California Black Walnut Observed
- Coast Live Oak Tree
- Western Sycamore Tree
- Coulter's Matilija Poppy Observed
- CAGN Use Area Observed
- Patch of tall (≥ 1 m tall) cactus suitable for coastal cactus wren nesting

- Coastal Cactus Wren Nest Remnants
- CAGN Designated Critical Habitat
- Braunton's Milk-vetch Designated Critical Habitat
- Santa Ana Sucker Designated Critical Habitat
- NCCP Plan Area
- NCCP Reserve
- NCCP Existing Use Area

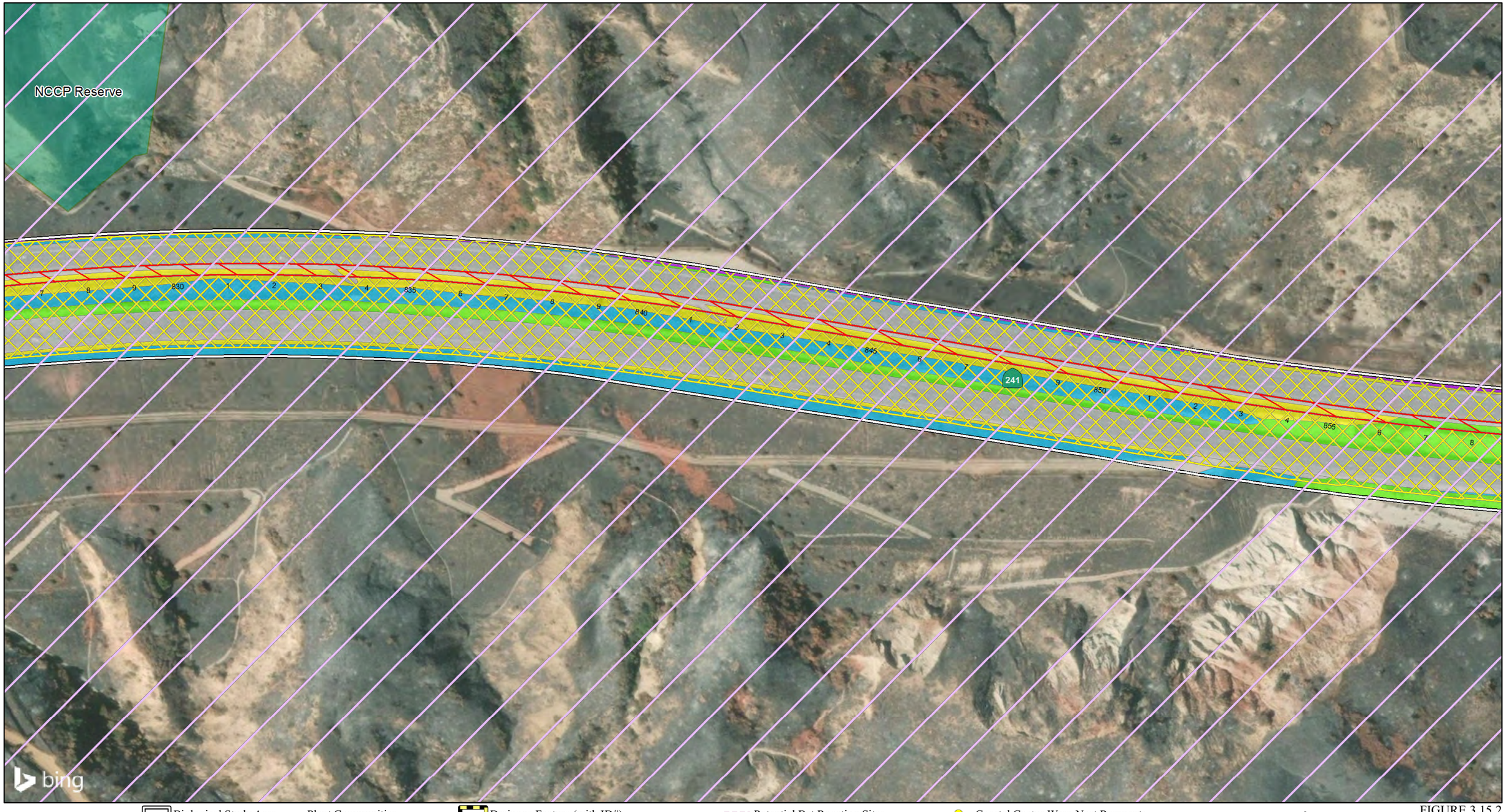
Note: There are no biological resource impacts in the Advance Signage area along SR-91.

FIGURE 3.15.2
Sheet 1 of 9

SR-241/SR-91 Express Lanes Connector

Project Impacts to Biological Resources

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Biological Study Area
Proposed Acquisition Area (approx. 5 acres)
Permanent Impacts
Temporary Impacts

Plant Communities
Bare Ground
Chaparral
Coastal Sage Scrub
Developed
Native Plant Restoration
Nonnative Grassland
Oak Woodland
Ruderal

Drainage Feature (with ID#)
CDFW Jurisdiction
USACE Jurisdiction
Approved Jurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Jurisdictional Nonwetland Waters Drainage Impact Areas

Potential Bat Roosting Sites
California Black Walnut Observed
Coast Live Oak Tree
Western Sycamore Tree
Coulter's Matilija Poppy Observed
CAGN Use Area Observed
Patch of tall (≥ 1 m tall) cactus suitable for coastal cactus wren nesting

Coastal Cactus Wren Nest Remnants
CAGN Designated Critical Habitat
Braunton's Milk-vetch Designated Critical Habitat
Santa Ana Sucker Designated Critical Habitat
NCCP Plan Area
NCCP Reserve
NCCP Existing Use Area

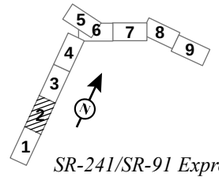
Note: There are no biological resource impacts in the Advance Signage area along SR-91.

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FEET

SOURCE: Eagle Aerial (2011); USFWS (2011); RBF (12/2014)

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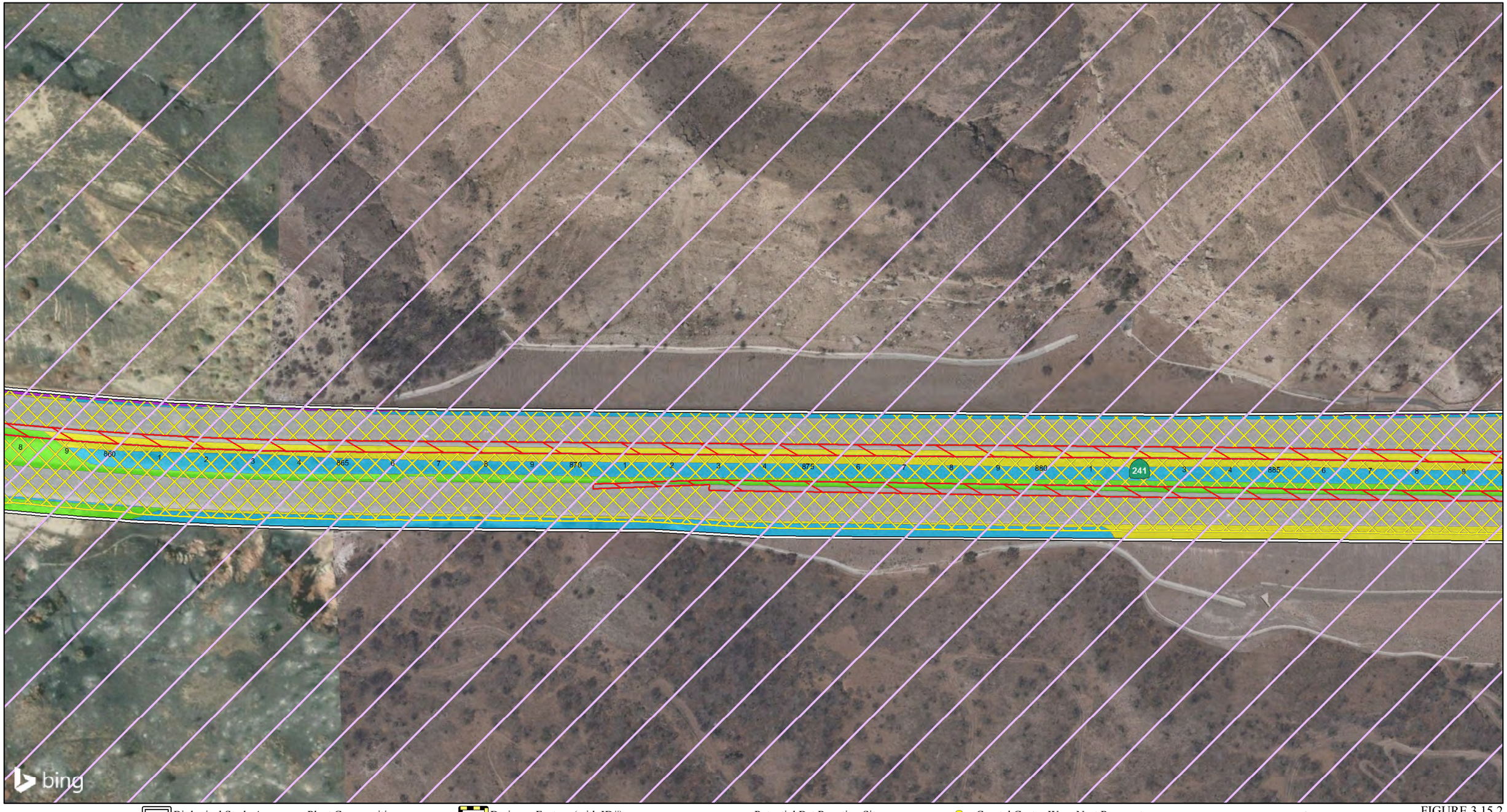
FIGURE 3.15.2
Sheet 2 of 9



SR-241/SR-91 Express Lanes Connector

Project Impacts to Biological Resources

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Biological Study Area
Proposed Acquisition Area (approx. 5 acres)
Permanent Impacts
Temporary Impacts

Plant Communities
Bare Ground
Chaparral
Coastal Sage Scrub
Developed
Native Plant Restoration
Nonnative Grassland
Oak Woodland
Ruderal

Drainage Feature (with ID#)
CDFW Jurisdiction
USACE Jurisdiction
Approved Jurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Jurisdictional Nonwetland Waters Drainage Impact Areas

Potential Bat Roosting Sites
California Black Walnut Observed
Coast Live Oak Tree
Western Sycamore Tree
Coulter's Matilija Poppy Observed
CAGN Use Area Observed
Patch of tall (≥ 1 m tall) cactus suitable for coastal cactus wren nesting

Coastal Cactus Wren Nest Remnants
CAGN Designated Critical Habitat
Braunton's Milk-vetch Designated Critical Habitat
Santa Ana Sucker Designated Critical Habitat
NCCP Plan Area
NCCP Reserve
NCCP Existing Use Area
Note: There are no biological resource impacts in the Advance Signage area along SR-91.

0 100 200
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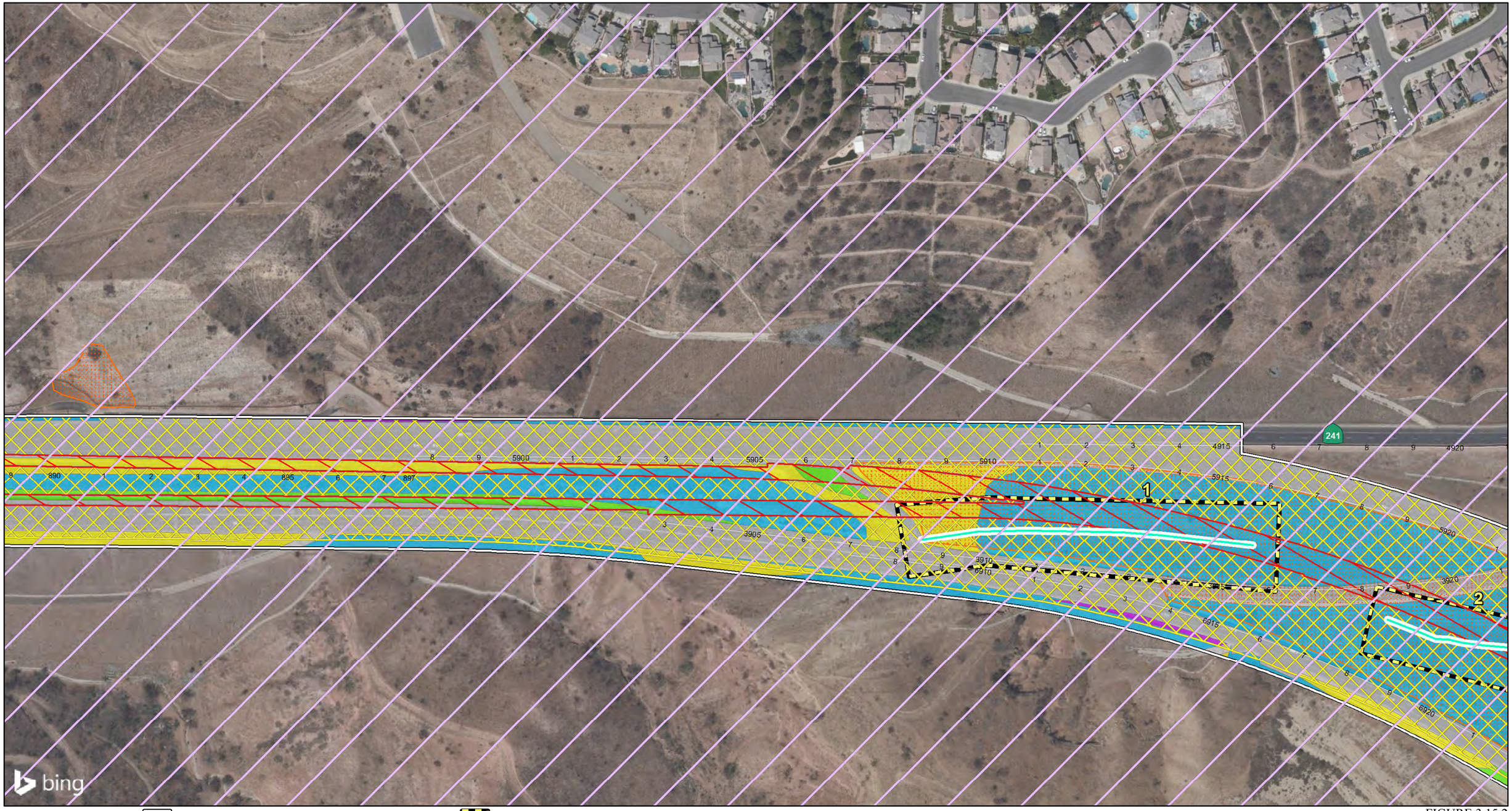
SOURCE: Eagle Aerial (2011); USFWS (2011); RBF (12/2014)
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FIGURE 3.15.2
Sheet 3 of 9

SR-241/SR-91 Express Lanes Connector

Project Impacts to Biological Resources

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Biological Study Area
Proposed Acquisition Area (approx. 5 acres)
Permanent Impacts
Temporary Impacts

Plant Communities
Bare Ground
Chaparral
Coastal Sage Scrub
Developed
Native Plant Restoration
Nonnative Grassland
Oak Woodland
Ruderal

Drainage Feature (with ID#)
CDFW Jurisdiction
USACE Jurisdiction
Approved Jurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Jurisdictional Nonwetland Waters Drainage Impact Areas

Potential Bat Roosting Sites
California Black Walnut Observed
Coast Live Oak Tree
Western Sycamore Tree
Coulter's Matilija Poppy Observed
CAGN Use Area Observed
Patch of tall (≥ 1 m tall) cactus suitable for coastal cactus wren nesting

Coastal Cactus Wren Nest Remnants
CAGN Designated Critical Habitat
Braunton's Milk-vetch Designated Critical Habitat
Santa Ana Sucker Designated Critical Habitat
NCCP Plan Area
NCCP Reserve
NCCP Existing Use Area

Note: There are no biological resource impacts in the Advance Signage area along SR-91.

0 100 200
FEET

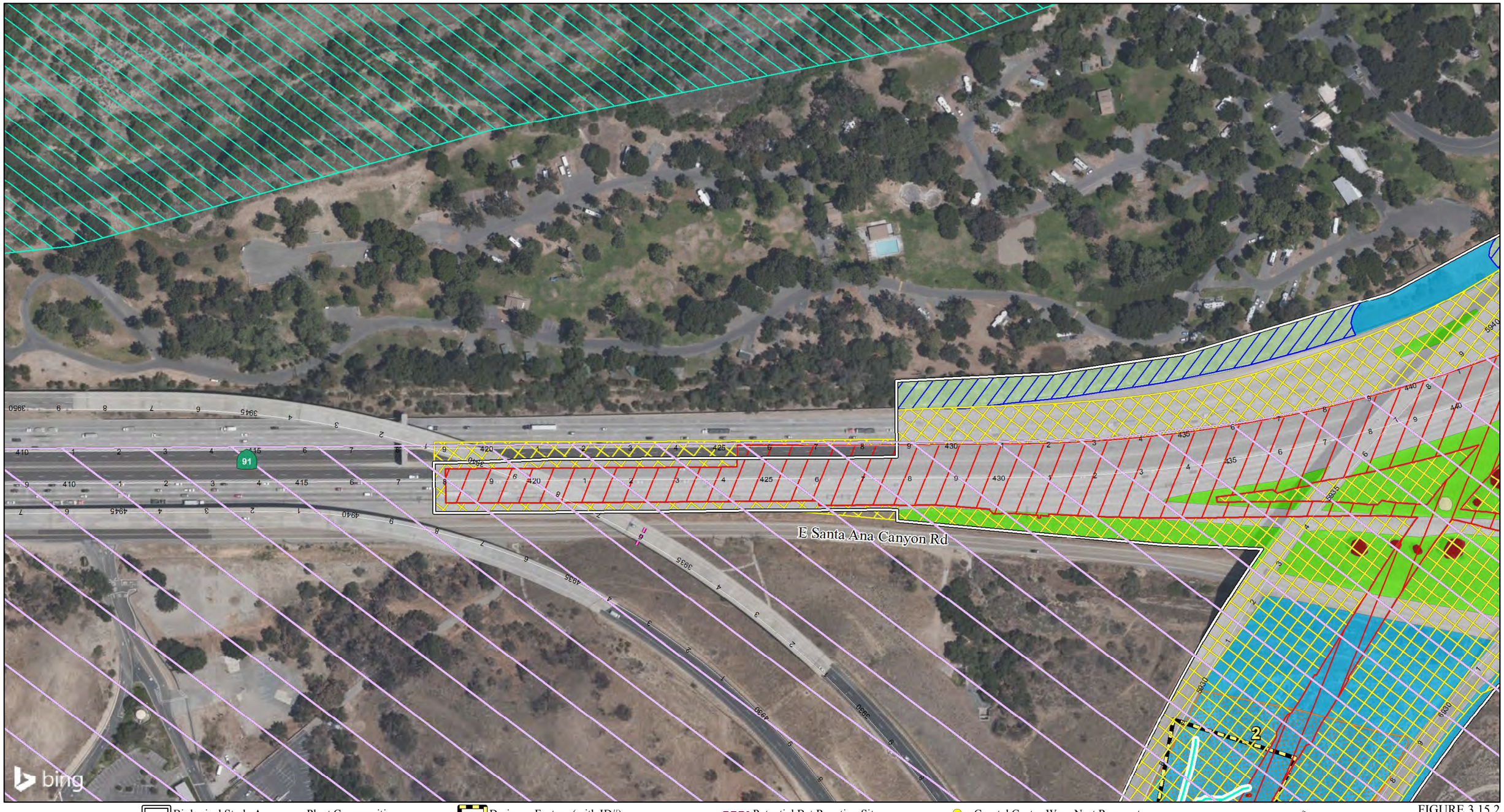
SOURCE: Eagle Aerial (2011); USFWS (2011); RBF (12/2014)
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FIGURE 3.15.2
Sheet 4 of 9

SR-241/SR-91 Express Lanes Connector

Project Impacts to Biological Resources

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Biological Study Area
Proposed Acquisition Area (approx. 5 acres)
Permanent Impacts
Temporary Impacts

Plant Communities
Bare Ground
Chaparral
Coastal Sage Scrub
Developed
Native Plant Restoration
Nonnative Grassland
Oak Woodland
Ruderal

Drainage Feature (with ID#)
CDFW Jurisdiction
USACE Jurisdiction
Approved Jurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Jurisdictional Nonwetland Waters Drainage Impact Areas

Potential Bat Roosting Sites
California Black Walnut Observed
Coast Live Oak Tree
Western Sycamore Tree
Coulter's Matilija Poppy Observed
CAGN Use Area Observed
Patch of tall (≥ 1 m tall) cactus suitable for coastal cactus wren nesting

Coastal Cactus Wren Nest Remnants
CAGN Designated Critical Habitat
Braunton's Milk-vetch Designated Critical Habitat
Santa Ana Sucker Designated Critical Habitat
NCCP Plan Area
NCCP Reserve
NCCP Existing Use Area

Note: There are no biological resource impacts in the Advance Signage area along SR-91.

0 100 200
FEET

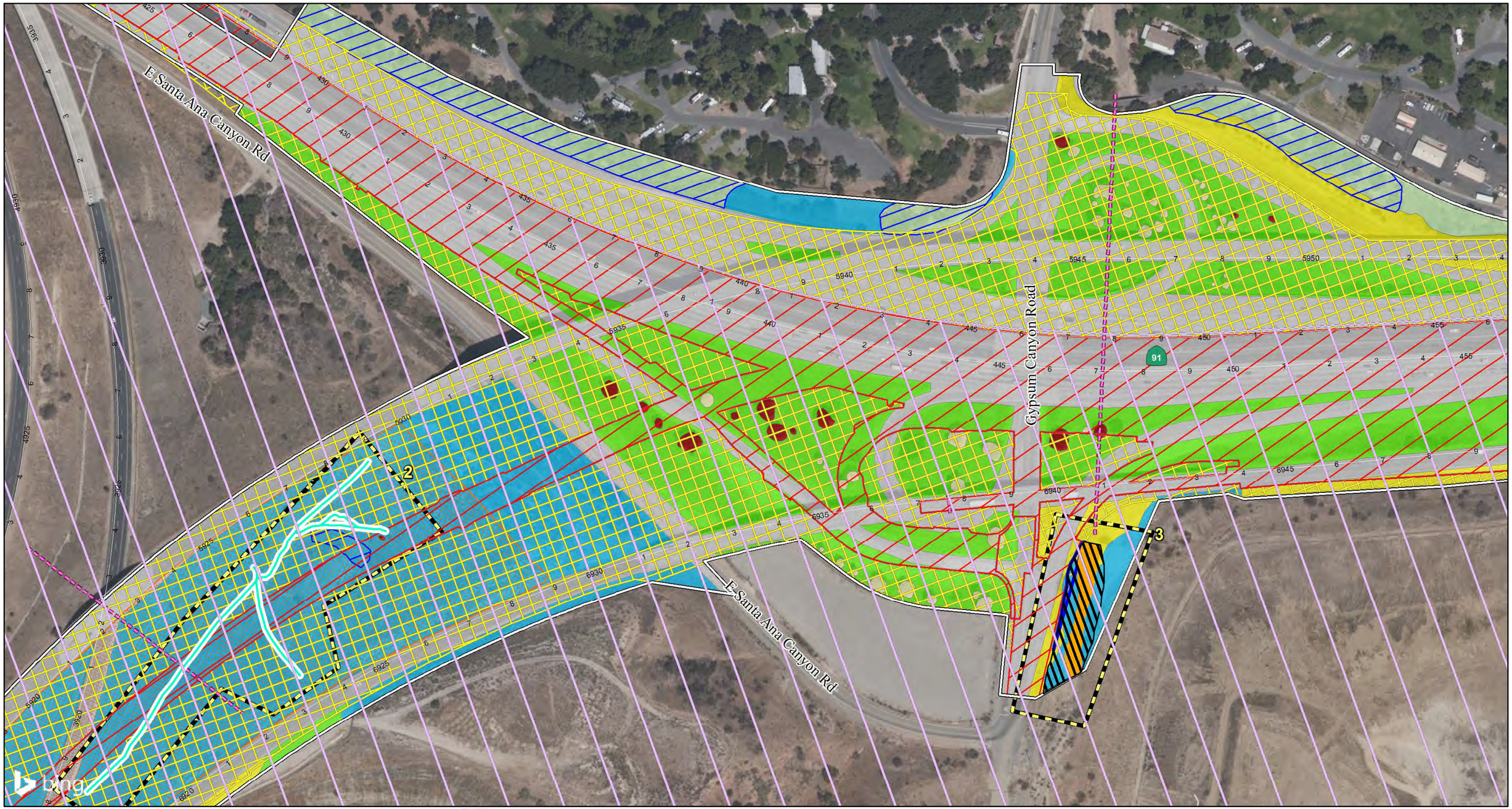
SOURCE: Eagle Aerial (2011); USFWS (2011); RBF (12/2014)
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FIGURE 3.15.2
Sheet 5 of 9

SR-241/SR-91 Express Lanes Connector

Project Impacts to Biological Resources

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Biological Study Area
Proposed Acquisition Area (approx. 5 acres)
Permanent Impacts
Temporary Impacts

Plant Communities
Bare Ground
Chaparral
Coastal Sage Scrub
Developed
Native Plant Restoration
Nonnative Grassland
Oak Woodland
Ruderal

Drainage Feature (with ID#)
CDFW Jurisdiction
USACE Jurisdiction
Approved Jurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Jurisdictional Nonwetland Waters Drainage Impact Areas

Potential Bat Roosting Sites
California Black Walnut Observed
Coast Live Oak Tree
Western Sycamore Tree
Coulter's Matilija Poppy Observed
CAGN Use Area Observed
Patch of tall (≥ 1 m tall) cactus suitable for coastal cactus wren nesting

Coastal Cactus Wren Nest Remnants
CAGN Designated Critical Habitat
Braunton's Milk-vetch Designated Critical Habitat
Santa Ana Sucker Designated Critical Habitat
NCCP Plan Area
NCCP Reserve
NCCP Existing Use Area

Note: There are no biological resource impacts in the Advance Signage area along SR-91.

0 100 200
FEET

SOURCE: Eagle Aerial (2011); USFWS (2011); RBF (12/2014)

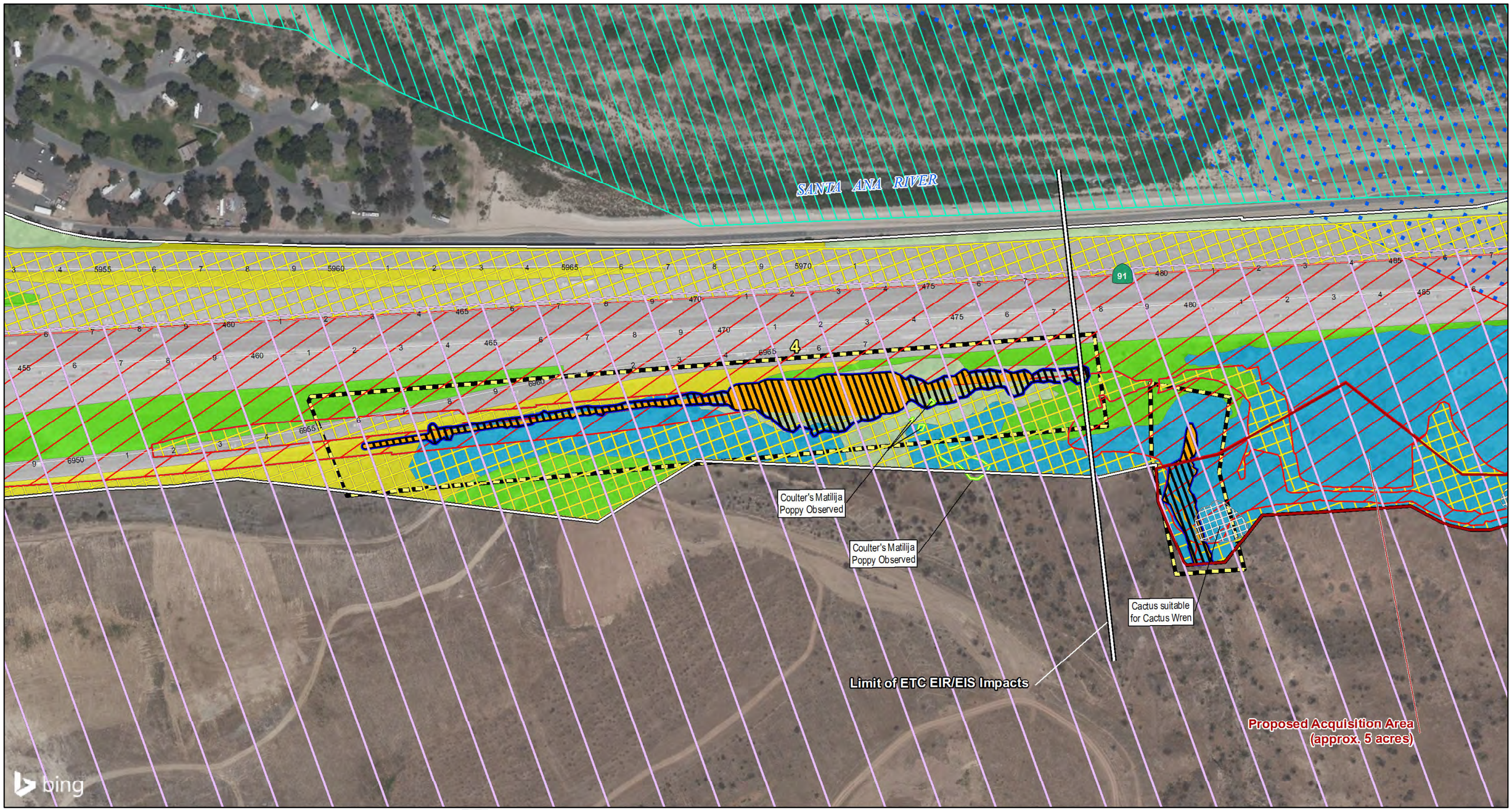
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FIGURE 3.15.2
Sheet 6 of 9

SR-241/SR-91 Express Lanes Connector

Project Impacts to Biological Resources

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Biological Study Area
Proposed Acquisition Area (approx. 5 acres)
Permanent Impacts
Temporary Impacts

Plant Communities
Bare Ground
Chaparral
Coastal Sage Scrub
Developed
Native Plant Restoration
Nonnative Grassland
Oak Woodland
Ruderal

Drainage Feature (with ID#)
CDFW Jurisdiction
USACE Jurisdiction
Approved Jurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Jurisdictional Nonwetland Waters Drainage Impact Areas

Potential Bat Roosting Sites
California Black Walnut Observed
Coast Live Oak Tree
Western Sycamore Tree
Coulter's Matilija Poppy Observed
CAGN Use Area Observed
Patch of tall (≥ 1 m tall) cactus suitable for coastal cactus wren nesting

Coastal Cactus Wren Nest Remnants
CAGN Designated Critical Habitat
Braunton's Milk-vetch Designated Critical Habitat
Santa Ana Sucker Designated Critical Habitat
NCCP Plan Area
NCCP Reserve
NCCP Existing Use Area

Note: There are no biological resource impacts in the Advance Signage area along SR-91.

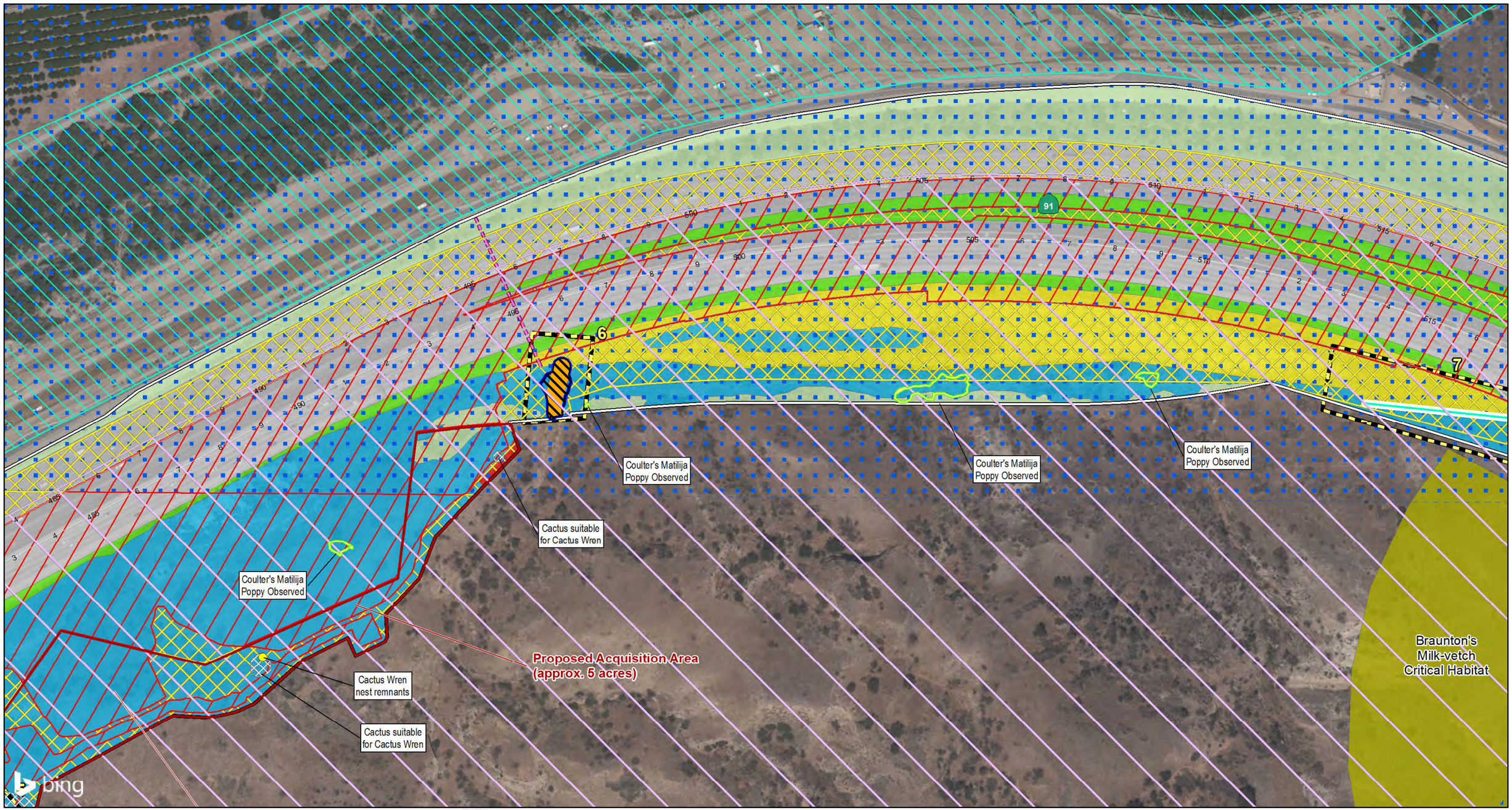
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FEET

SOURCE: Eagle Aerial (2011); USFWS (2011); RBF (12/2014)
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FIGURE 3.15.2
Sheet 7 of 9

SR-241/SR-91 Express Lanes Connector
Project Impacts to Biological Resources

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Biological Study Area
Proposed Acquisition Area (approx. 5 acres)
Permanent Impacts
Temporary Impacts

Plant Communities
Bare Ground
Chaparral
Coastal Sage Scrub
Developed
Native Plant Restoration
Nonnative Grassland
Oak Woodland
Ruderal

Drainage Feature (with ID#)
CDFW Jurisdiction
USACE Jurisdiction
Approved Jurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Jurisdictional Nonwetland Waters Drainage Impact Areas

Potential Bat Roosting Sites
California Black Walnut Observed
Coast Live Oak Tree
Western Sycamore Tree
Coulter's Matilija Poppy Observed
CAGN Use Area Observed
Patch of tall (≥ 1 m tall) cactus suitable for coastal cactus wren nesting

Coastal Cactus Wren Nest Remnants
CAGN Designated Critical Habitat
Braunton's Milk-vetch Designated Critical Habitat
Santa Ana Sucker Designated Critical Habitat
NCCP Plan Area
NCCP Reserve
NCCP Existing Use Area

Note: There are no biological resource impacts in the Advance Signage area along SR-91.

0 100 200
FEET

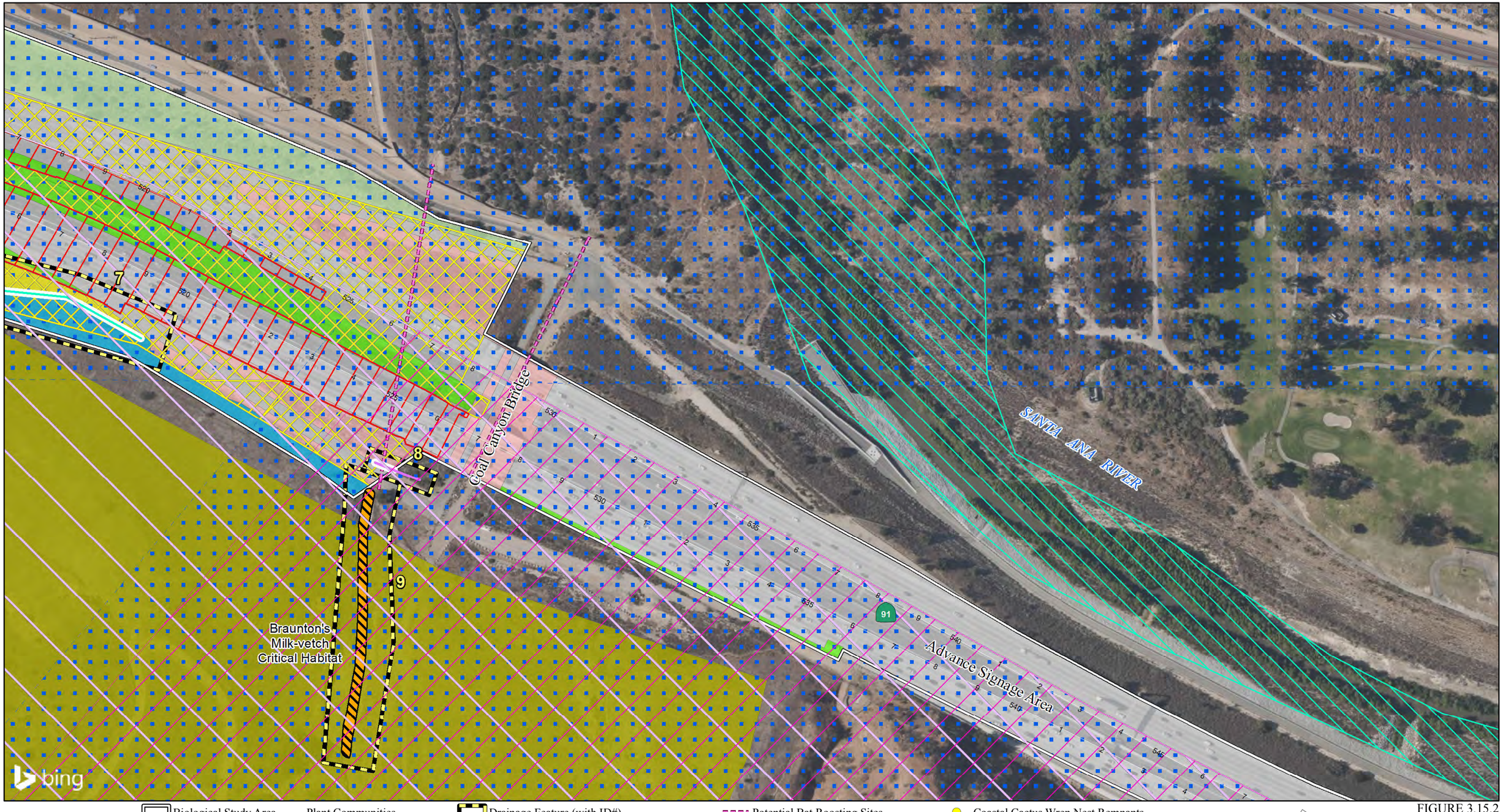
SOURCE: Eagle Aerial (2011); USFWS (2011); RBF (12/2014)
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FIGURE 3.15.2
Sheet 8 of 9

SR-241/SR-91 Express Lanes Connector

Project Impacts to Biological Resources

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Biological Study Area
Proposed Acquisition Area (approx. 5 acres)
Permanent Impacts
Temporary Impacts

Plant Communities
Bare Ground
Chaparral
Coastal Sage Scrub
Developed
Native Plant Restoration
Nonnative Grassland
Oak Woodland
Ruderal

Drainage Feature (with ID#)
CDFW Jurisdiction
USACE Jurisdiction
Approved Jurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Nonjurisdictional Nonwetland Waters
Approved Jurisdictional Nonwetland Waters Drainage Impact Areas

Potential Bat Roosting Sites
California Black Walnut Observed
Coast Live Oak Tree
Western Sycamore Tree
Coulter's Matilija Poppy Observed
CAGN Use Area Observed
Patch of tall (≥ 1 m tall) cactus suitable for coastal cactus wren nesting

Coastal Cactus Wren Nest Remnants
CAGN Designated Critical Habitat
Braunton's Milk-vetch Designated Critical Habitat
Santa Ana Sucker Designated Critical Habitat
NCCP Plan Area
NCCP Reserve
NCCP Existing Use Area

Note: There are no biological resource impacts in the Advance Signage area along SR-91.

0 100 200
FEET

SOURCE: Eagle Aerial (2011); USFWS (2011); RBF (12/2014)

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FIGURE 3.15.2
Sheet 9 of 9

SR-241/SR-91 Express Lanes Connector

Project Impacts to Biological Resources

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within existing and proposed Caltrans right-of-way would be replaced with native grasses.

As described in Parts I and II of the NCCP/HCP documents, all development activities addressed by the NCCP/HCP are considered fully mitigated under the NCCP Act, the California Endangered Species Act (CESA), and FESA for impacts to habitat occupied by listed and other species identified by the NCCP/HCP documents. Therefore, compensatory mitigation for Project impacts within the NCCP/HCP Plan Areas has already been completed pursuant to the NCCP Implementation Agreement; however, USFWS verification and acceptance of the mitigation components for impacts to coastal sage scrub (CSS) shall occur during Section 7 consultation. Coastal sage scrub outside the NCCP/HCP Plan Area is not protected by any federal, State, or local regulations, with the exception of California gnatcatcher designated critical habitat and/or occupied areas. The Build Alternative would result in 0.02 ac of temporary impacts to coastal sage scrub outside the NCCP/HCP Plan Area.

With the implementation of Measures NC-1 through NC-6, provided later, which address construction activities in and adjacent to coastal sage scrub, the Build Alternative would not result in substantial temporary impacts to coastal sage scrub habitat during construction.

The Advance Signage Area on SR-91 in Riverside County is a Covered Activity under Section 7.3.4, Existing Roads within the Criteria Area – Covered Road Maintenance Activities within the Criteria Area: Publicly Maintained Roads, in the WR-MSHCP. As specified later in Measure NC-16 in this section, construction activities in the Advance Signage Area are required to comply with the objectives, policies, procedures, and guidelines in the WR-MSHCP to minimize and avoid impacts to sensitive habitats, including coastal sage scrub, adjacent to existing SR-91.

Coast Live Oak Woodland

The Build Alternative would temporarily impact 8 coast live oak and 15 sycamore trees in the SR-241/SR-91 interchange area. Those temporary impacts may include minor trimming, foot traffic within driplines, and dust. These temporary impacts would not impact the long-term viability of these trees and would be limited to the duration of construction. Figure 3.15.2 (Sheet 6) shows the locations of impacts to coast live oak and sycamore trees in the BSA. With the implementation of Measure NC-7, provided later in this section, which would require the installation of visible barriers around the protected zones of oak trees and/or habitat, and Measure AS-1,

provided later in Section 3.18, Animal Species, which would prohibit trimming of oak trees during the nesting bird season, construction would not result in substantial temporary impacts to coast live oak trees and oak woodland habitat.

Wildlife Corridors

The Build Alternative would not result in temporary impacts to the wildlife linkages in Gypsum Canyon, Coal Canyon, and B Canyon because construction work in those areas would only occur in the median or along the existing paved roadways.

The Build Alternative would widen the existing southbound bridge structure at the Windy Ridge Wildlife Undercrossing. Although the undercrossing would remain open during construction, the disturbance in this area to install falsework and widen the bridge structure may cause animals to avoid this wildlife corridor. Construction access to the SR-91 median would be provided via Coal Canyon Road as shown on Figure 2.1, Sheet 4, in Chapter 2. The existing dirt area at that undercrossing provided for wildlife is separated from the road by a fence and would not be impacted. Based on implementation of Measures NC-9, NC-11, NC-12, NC-13, and NC-14, provided later in this section, which would limit construction equipment and activities in the immediate vicinity of the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing, no substantial temporary impacts to wildlife corridors would occur during construction in that area.

No Build Alternative

The No Build Alternative does not include any improvements to SR-241 or SR-91 in the Project Area. Therefore, no temporary impacts to natural communities would occur as a result of the No Build Alternative.

3.15.3.2 Permanent Impacts

Build Alternative (*Two-Lane Express Lanes Connector*) (*Preferred Alternative*)

Coastal Sage Scrub

The Build Alternative would result in direct permanent impacts to coastal sage scrub through disturbance and/or removal of existing vegetation. Permanent impacts include complete removal, grading and revegetation, and heavy encroachment. In addition to physical disturbance, the Build Alternative has the potential to result in indirect permanent impacts during the facility operation, such as future impacts on adjacent habitats caused by increased storm water runoff, traffic, litter, or through enhancing germination and proliferation of nonnative invasive plant species.

Figure 3.15.2 (Sheets 1 and 4 to 8) shows the locations of permanent impacts to coastal sage scrub in the BSA.

As shown in Table 3.15.2, the Build Alternative would permanently impact approximately 13.7 ac of coastal sage scrub within the NCCP/HCP Plan Area but would not result in any permanent impacts to coastal sage scrub outside the NCCP/HCP Plan Area.

As mentioned above, compensatory mitigation for project impacts in the NCCP/HCP Plan Area has already been completed pursuant to the NCCP Implementation Agreement. Furthermore, substantial additional open space has been conserved, beyond the requirements of the NCCP/HCP. Therefore, coastal sage scrub has been adequately conserved in the subregion, and permanent direct impacts associated with the Build Alternative are not considered substantial in this context. Measures WQ-2, WQ-3, WQ-4, provided earlier in Section 3.8, Water Quality and Storm Water Runoff, and IS-1, provided later in Section 3.20, Invasive Species, require the Proposed Project to comply with the Caltrans Water Quality Permit, implement Caltrans-approved Design Pollution Prevention and Treatment stormwater BMPs, and develop a Weed Abatement Program/Non-Standard Special Provisions, which would reduce potential indirect permanent impacts to coastal sage scrub during operation of the Build Alternative.

Coast Live Oak Woodland

The Build Alternative would permanently impact 6 coast live oak trees in the SR-241/ SR-91 interchange area. Permanent impacts may include complete removal, substantial encroachment, or extensive branch removal that may have detrimental impacts to the long-term viability of the trees. Figure 3.15.2 (Sheets 5 and 6) shows the locations of coast live oak and sycamore trees that would be permanently impacted by the Build Alternative.

Permanent impacts to individual trees due to substantial encroachment or extensive branch removal must be estimated to determine the extent of the effects. Some individual trees may thrive with extensive trimming, while others may die out completely. Measure NC-8, which requires implementation of a revegetation program including replacement of permanently impacted trees at approved ratios, would reduce permanent impacts of the Build Alternative to oak trees and oak woodland habitat.

Wildlife Corridors

The Build Alternative would not result in permanent impacts to the wildlife linkages in Gypsum Canyon, Coal Canyon, or B Canyon because work in these areas would only occur within the existing median or along the existing paved roads.

The Build Alternative would widen the southbound bridge structure at Windy Ridge Wildlife Undercrossing. The existing design of Windy Ridge Wildlife Undercrossing bridge structure allows for widening in the median of SR-241 without substantially impacting the openness of the crossing. The bridge widening under the Build Alternative would decrease the existing openness factor from 39.6 to 30.5 ft (recommended minimum is 1.97 ft). Although the Build Alternative would decrease the openness of the existing Windy Ridge Wildlife Undercrossing, the crossing would not be reduced enough to discourage wildlife use or have a long-term impact on larger wildlife use of the crossing.

Measures NC-9 and NC-10, provided later in this section, would reduce permanent effects of the bridge widening on Windy Ridge Wildlife Undercrossing such that wildlife in the area would still be able to use that existing wildlife crossings and, therefore, no substantial permanent impacts to wildlife corridors would occur as a result of the Build Alternative.

No Build Alternative

The No Build Alternative does not include any improvements to the SR-241 or SR-91 in the Project Area. Therefore, no permanent impacts to natural communities would occur as a result of the No Build Alternative.

3.15.4 Avoidance, Minimization, and/or Mitigation Measures

In addition to Measures WQ-2, WQ-3, and WQ-4, provided earlier in Section 3.8, Water Quality and Storm Water Runoff, and Measure IS-1, provided later in Section 3.20, Invasive Species, NC-1 through NC-6 listed below are required NCCP/HCP Construction-Related Minimization Measures and will be implemented to avoid and minimize impacts to coastal sage scrub habitat in the NCCP/HCP Plan Area. Applicable, previously adopted measures from the ETC Final EIR and Final EIS, as amended, are also included.

3.15.4.1 ETC Final EIR and Final EIS

Measure NC-1 ***Coastal California Gnatcatcher Environmentally Sensitive Areas.*** *Prior to the commencement of grading operations or other activities involving substantial soil disturbance, all areas*

of CSS habitat to be avoided under the provisions of the NCCP/HCP shall be identified with temporary fencing or other markers clearly visible to construction personnel. Additionally, prior to the commencement of grading operations or other activities involving disturbance of CSS, a survey will be conducted to locate CAGN and cactus wrens within 100 ft of the outer extent of projected soil disturbance activities. The locations of any such species shall be clearly marked and identified on the construction/grading plans.

Measure NC-2 ***Nesting Coastal California Gnatcatcher.*** *During clearing or construction, to the maximum extent practicable, no grading of CSS habitat that is occupied by nesting CAGN will occur during the breeding season (February 15 through July 15). It is expressly understood that this provision and the remaining provisions of these "construction-related minimization measures" are subject to public health and safety considerations. These considerations include unexpected slope stabilization, erosion control measures, and emergency facility repairs. In the event of such public health and safety circumstances, landowners or public agencies/utilities will provide USFWS/CDFW with the maximum practicable notice (or such notice as is specified in the NCCP/HCP) to allow for capture of CAGN, cactus wrens (Campylorhynchus brunneicapillus), and any other CSS Identified Species that are not otherwise flushed and will carry out the following measures only to the extent practicable in the context of the public health and safety considerations.* (Note: While this text is taken directly from NCCP/HCP Construction Minimization Measures to preserve their integrity, the capture and relocation of birds is not encouraged or authorized by the USFWS.)

The breeding season is now considered to be from February 15 through August 31; therefore, these dates are applicable to this measure.

Measure NC-3 ***Biological Monitor.*** *A monitoring biologist acceptable to USFWS/CDFW will be on site during any clearing of CSS. The*

landowner or relevant public agency/utility will advise USFWS/CDFW at least 7 calendar days (preferably 14 calendar days) prior to the clearing of any habitat occupied by Identified Species to allow USFWS/CDFW to work with the monitoring biologist in connection with bird flushing/capture activities. The monitoring biologist will flush Identified Species (avian or other mobile Identified Species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities. If birds cannot be flushed, they will be captured in mist nets, if feasible, and relocated to areas of the site to be protected or to the NCCP/HCP Reserve System. (Note: While this text is taken directly from NCCP/HCP Construction Minimization Measures to preserve their integrity, the capture and relocation of birds is not encouraged or authorized by the USFWS.) *It will be the responsibility of the monitoring biologist to ensure that Identified Species will not be directly impacted by brush-clearing and earth-moving equipment in a manner that also allows for construction activities on a timely basis.*

Measure NC-4 ***Coastal Sage Scrub Environmentally Sensitive Area.*** *Following the completion of initial grading/earth movement activities, all areas of CSS habitat to be avoided by construction equipment and personnel will be marked with temporary fencing or other appropriate markers clearly visible to construction personnel. No construction access, parking, or storage of equipment or materials will be permitted within such marked areas.*

Measure NC-5 ***Coastal Sage Scrub Access Restrictions.*** *In areas bordering the NCCP/HCP Reserve System or Special Linkage/Special Management areas containing substantial CSS identified in the NCCP/HCP for protection, vehicle transportation routes between cut-and-fill locations will be restricted to a minimum number during construction consistent with project construction requirements. Waste dirt or rubble will not be deposited on adjacent CSS identified in the NCCP/HCP for protection. Preconstruction meetings involving the monitoring*

biologist, construction supervisors, and equipment operators will be conducted and documented to ensure maximum practicable adherence to these measures.

Measure NC-6 ***Coastal Sage Scrub Dust Control.*** *CSS identified in the NCCP/HCP for protection and located within the likely dust drift radius of construction areas shall be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist.*

In addition to Measure AS-1, provided later in Section 3.18, Animal Species, the following measures would avoid and minimize impacts to oak trees, oak woodlands, and sycamore trees:

Measure NC-7 **Coast Live Oak Tree Environmentally Sensitive Areas.** Prior to clearing or construction, highly visible barriers and, as needed, silt fencing will be installed around the protected zone of any oak tree or oak habitat. Such areas will be designated on the project specifications as Environmentally Sensitive Areas (ESAs) to be preserved. The ESAs will extend 5 ft outside the dripline or 15 ft from the trunk of each tree, whichever is greater, unless the area includes a road shoulder or existing asphalt. In those instances, safety requires the road shoulder or existing asphalt not be included in the ESA and the boundary of the ESA will be modified accordingly. These modified ESAs are included because impacts to oaks may occur within these road shoulder and asphalt areas if roots become exposed, soil surrounding roots is excessively compacted, material is deposited over roots, or branches or roots are broken or damaged.

In addition, to avoid breaking overhanging branches, branch trimming may be required. Proper tree pruning procedures will be followed.

No grading or fill activity of any type will be permitted within the ESAs for trees that are expected to be preserved. In addition, heavy equipment, including motor vehicles, will not be allowed to operate in the ESAs. All construction equipment

will be operated in such a manner as to prevent accidental damage to nearby oaks. No structure of any kind, or incidental storage of equipment or supplies, will be allowed in the ESAs. Silt fence barriers will be installed at the ESA boundaries to prevent accidental deposition of fill material in areas where trees are immediately adjacent to planned construction activities.

Measure NC-8 **Coast Live Oak Tree Replacement.** During Final Design, the TCA will develop a revegetation program to help compensate for lost oak trees with spacing criteria to be determined by the Project Biologist. Senate Concurrent Resolution No. 17 (filed with the Secretary of State on September 1, 1989) requests all State agencies to preserve and protect native oak woodlands to the maximum extent feasible or to provide for replacement plantings. Impacts to any oak trees (excluding California scrub oaks) with trunk sizes greater than 8 inches diameter at breast height (dbh), but less than 36 inches dbh, will be replaced at a minimum mitigation-to-impact ratio of 1:1. Heritage oaks (oaks greater than 36 inches dbh) will be replaced at a minimum mitigation-to-impact ratio of 3:1. Replacement resources will include a combination of plantings such as acorns, 5-gallon, and 15-gallon trees and/or transplantation where feasible. Replacement plantings may take place in TCA or Caltrans right-of-way or suitable areas in proximity to the project limits.

The following measures would avoid and minimize impacts to Windy Ridge Wildlife Undercrossing:

Measure NC-9 **Existing Wildlife Fencing.** If necessary for construction access, the existing wildlife fencing will be removed only after installation of temporary fencing to protect against wildlife-vehicle incidents during construction. Temporary fencing will be the same or greater height than the existing wildlife fencing and must be maintained and functional throughout project construction. After construction, any temporary fencing will be

replaced with new permanent fencing consistent with the existing wildlife fencing.

Measure NC-10 **Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing Revegetation.** Following the completion of the project construction, all disturbed habitat adjacent to the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing will be restored with native vegetation consistent with the 1994 Biological Opinion and the 2019 Biological Opinion, as applicable.

Measure NC-11 **Construction Lighting and Staging.** Construction equipment maintenance, lighting, and staging must be in designated areas, away from Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing.

Measure NC-12 **Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing Avoidance.** During construction, Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing will be avoided as much as is feasible. Activity that must take place at the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing will be done as quickly as possible and only during daylight hours.

Noise levels generated from construction activities at Coal Canyon Undercrossing shall not exceed 5 A-weighted decibels (dBA) above the ambient noise level within 100 ft from the edge of roadway**.**

Measure NC-13 **Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing Access.** Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing will be kept clear of all equipment or structures that could potentially serve as barriers to wildlife passage.

Measure NC-14 **Windy Ridge Wildlife Undercrossing Construction Staging.** Within Windy Ridge Wildlife Undercrossing, structures required for bridgework will be erected as to not block the main underpass. Scaffolding and false work will be restricted

to the sides of the underpass to maintain the functionality of the crossing for wildlife movement.

Construction activities in the SR-91 Advance Signage Area will comply with the following WR-MSHCP guidelines:

Measure NC-15 **Western Riverside County Multiple Species Habitat Conservation Plan Construction Guidelines.** Construction activities in the SR-91 Advanced Signage Area in Riverside County will comply with the objectives, policies, procedures, and guidelines from Section 7.5.3: Construction Guidelines as well as BMPs outlined in Appendix C (WR-MSHCP Volume 1) of the Western Riverside County Multiple Species Habitat Conservation Plan (WR-MSHCP).

The applicable guidelines from Section 7.5.3: Construction Guidelines are:

- When work is conducted during the fire season (as identified by the Riverside County Fire Department) adjacent to coastal sage scrub or chaparral vegetation, appropriate fire-fighting equipment (e.g., extinguishers, shovels, and water tankers) shall be available on the site during all phases of project construction to help minimize the chance of human-caused wildfires. Shields, protective mats, and/or additional fire preventative methods shall be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventative actions, and responses to fires shall advise contractors regarding fire risk from all construction-related activities.
- Waste, dirt, rubble, or trash shall not be deposited in the Conservation Area or on native habitat.

The applicable practices from the 15 practices listed in Appendix C: Standard Best Management Practices are:

- The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via pre-existing access routes to the greatest extent possible.

- To avoid attracting predators of the species of concern, the project site shall be kept clean of debris. All food-related trash items shall be enclosed in sealed containers and regularly removed from the project site.
- Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project construction activities and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.
- The Permittee shall have the right to access and inspect any sites of approved projects including any restoration/ enhancement area for compliance with project approval conditions including these BMPs.

Measures NC-16 and NC-17 are required to protect sensitive species and habitats:

Measure NC-16 **Sensitive Species and Habitats.** In conjunction with the Final Design and prior to site preparation, all sensitive species and special habitats within 300 ft of the Project Area shall be mapped on the grading plans by a qualified biologist. Sensitive and candidate species and special habitats shall be defined as:

- Coastal California gnatcatcher
- Cactus wren
- Designated critical habitat for Coastal California gnatcatcher
- Thread-leaved brodiaea
- Designated critical habitat for Braunton's milk-vetch
- Least Bell's vireo
- Southwestern willow flycatcher
- Drainages and streambeds
- Coastal sage scrub

- Coast live oak woodland

Measure NC-17 **Cactus.** Prior to clearing and grubbing and construction, cactus will be saved where feasible, for use in revegetation efforts.

3.15.4.2 ETC Final EIR and Final EIS

The following measures are included in the ETC Final EIR and Final EIS and are applicable to the Build Alternative.

Measure B-2 *Prior to grading and site preparation, all native oak, sycamore, and willow trees of 4 inches in diameter at breast height (DBH-4 ½ ft from mean ground level) within the Project limits and within 20 ft of grading and construction operations shall be tagged and numbered with permanent tags. The tag numbers of the trees to be protected and those to be removed shall be noted. Records of these numbers shall be kept by TCA, the Resource Management Coordinator/Monitor and the Orange County Environmental Management Agency/ Environmental Planning Division for use in mitigation/ replacement and monitoring of tree resources before, during and after grading and construction activities.*

Measure B-3 *Prior to grading and site preparation, all trees subject to removal shall be marked with a red "X" on the trunk. Trees to be preserved shall be marked with yellow flagging visible from all direction.*

Measure B-4 *In conjunction with grading, site preparation and construction, short term soil stabilization using accepted soil protection techniques and native species shall be conducted under the direction of a qualified biologist, where determined to be appropriate to protect sage scrub communities.*

Measure B-8 *For the period covering all site preparation, grading and construction, a resource management coordinator shall monitor wildlife* [and plant] *habitat preservation to ensure that the ESAs and areas outside the Caltrans right-of-way are not adversely impacted. The monitor shall be on site before,*

during, and after the completion of site preparation, grading and construction.

Measure B-11 *Prior to site preparation, grading and construction, the TCA shall implement procedures for protecting sensitive and candidate species and special habitats* [particularly Braunton's milk-vetch critical habitat] *identified and mapped on grading plans during site preparation, grading, construction and maintenance activities by following Caltrans Environmentally Sensitive Area procedures.*

Measure B-25 *During site preparation and grading, the TCA shall phase operations around important habitat areas to allow for completion of nesting and breeding activities for the CAGN and raptor species occurring in oak woodland ~~as well as willow and sycamore forested woodlands~~. This measure will be conducted and overseen by a qualified biologist.*

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3.16 Wetlands and Other Waters

3.16.1 Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the CWA, 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 CWA.

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

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

Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE's Standard permits. There are two types of Standard permits: Individual permits and Letters of Permission. For Standard permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (U.S. EPA 40 Code of Federal Regulations [CFR] Part 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less

adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practical 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.

The California Department of Transportation (Caltrans), the Federal Highway Administration (FHWA), the USACE, the U.S. EPA, and the U.S. Fish and Wildlife Service (USFWS) entered into a Memorandum of Understanding (MOU) to integrate the National Environmental Policy Act (NEPA) and the CWA for Environmental Impact Statement (EIS) projects that have five or more acres of permanent impact to waters of the United States (U.S.). Under this MOU, the signatory agencies agree to coordinate at three checkpoints: (1) purpose and need, (2) identification of range of alternatives, and (3) preliminary determination of the LEDPA and conceptual mitigation plan. The goal of the MOU process is to allow the USACE to more efficiently adopt Caltrans' EIS for their Section 404 permit action.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, EO 11990 states that a federal agency, such as the FHWA 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 primarily by the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards (RWQCB) and the California Department of Fish and Wildlife (CDFW). 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 CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFW 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 USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

The RWQCBs 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 (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. Please see Water Quality and Storm Water Runoff, Section 3.8, for more details.

3.16.2 Affected Environment

The information in this section is based on the *Natural Environment Study* (NES; December 2015), the *Supplemental Natural Environment Study* (Supplemental NES; April 2016); and the *Jurisdictional Delineation Report* (May 2015) for the Proposed Project. The *Jurisdictional Delineation Report,* which was prepared in accordance with current USACE and CDFW criteria, is provided in Appendix G of the NES.

The Study Area that is assessed for biological resources is referred to as the Biological Study Area (BSA). The description of the BSA was discussed in Section 3.15, Natural Communities, and shown on Figure 3.15.1.

On December 3, 2013, a field investigation of the drainage features in the BSA along SR-241 and SR-91 was conducted. Features along SR-241 were delineated according to the USACE three-parameter (vegetation, soils, and hydrology) method of wetlands delineation (1987 Corps of Engineers *Wetland Delineation Manual*; 2008 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*), as well as CDFW guidelines. At the same time, the features along SR-91 were checked for comparison with results for the part of the BSA that overlaps with the 2009 jurisdictional delineation that was part of the SR-91 Corridor Improvement Project. Nine drainages were identified within the BSA and are referred to by location (Locations 1 through 9). The nine locations are depicted on Figure 3.15.1 (Sheets 4, 5, 6, 7, 8, and 9), provided earlier in Section 3.15, Natural Communities.

All channelized storm water from the BSA eventually discharges into the Santa Ana River. The Santa Ana River is within the 1,840-square mile Santa Ana River Hydrologic Unit, in the counties of Orange, San Bernardino, and Riverside. The Santa Ana River extends approximately 96 miles from its headwaters in the San Bernardino Mountains, to where it drains into the Pacific Ocean between the south end of Huntington State Beach and the north end of the City of Newport Beach. In the

vicinity of the BSA, the Santa Ana River parallels SR-91 and then State Route 55 (SR-55) through the cities of Yorba Linda, Anaheim, Orange, Fountain Valley, Costa Mesa, and Huntington Beach. The Santa Ana River, a traditional navigable water, meets the Pacific Ocean approximately 25 miles downstream from the BSA.

3.16.2.1 USACE Jurisdiction

Approved Jurisdictional Delineation Forms for Locations 1 through 7 were submitted to the USACE for review on August 25, 2016. Comments requesting additional field information were received on September 12, 2016. Additional fieldwork was conducted and a memorandum discussing the results was provided to the USACE on December 20, 2016. A new transmittal form was submitted on January 31, 2017. An Approved Jurisdictional Determination was made by the USACE on July 14, 2017 (refer to Appendix L).

Non-Jurisdictional Areas

The drainage features in the BSA are a mix of natural earthen bottom and concrete or riprap-lined channels. All of these drainages have been altered in some form or are wholly human-made. According to USACE guidance, drainages may be excluded from CWA jurisdiction if they are excavated wholly in and drain only upland areas, do not carry Relatively Permanent Water, or are low-volume swales.

Three drainage systems (Locations 1, 2, and 7) within the project limits are non-jurisdictional under USACE because they are ditches that are excavated on dry land.[1] Locations 1 (asphalt-lined swale, Sheet 4 of Figure 3.15.1), 2 (riprap-lined treatment pond/basin including two concrete v-ditches and two erosion rills, Sheets 4 and 5), and 7 (concrete v-ditch, Sheets 4 and 5) appear to have been created on dry land as part of the original permitted construction of SR-241 to drain the road surface and adjacent upland areas; however, these drainage systems do not convey relatively permanent flow. Therefore, the USACE will not assert jurisdiction over these three drainage systems. Furthermore, per 33 CFR Section 328.3, waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m), which also meet the criteria of this definition) are not waters of the United States. Additionally, none of these non-jurisdictional waters in the BSA would satisfy USACE wetland criteria.

[1] USACE. Approved Jurisdictional Determination for the State Route 241/State Route 91 Express Lanes Connector Project Site. July 14, 2017 (Appendix L).

The non-jurisdictional drainage systems (Locations 1, 2, and 7) total approximately 2,733 linear feet (0.52 mile) in the BSA.

One drainage system (Location 8, Sheets 6 and 7 of Figure 3.15.1) is part of a previously approved determination by the USACE in which Location 8 was determined to be a non-jurisdictional drainage system. Location 8 is approximately 44.6 linear feet.

Non-Wetland Waters of the United States

There are five drainages (Locations 3, 4, 5, 6, and 9; Sheets 6, 7, 8 and 9 of Figure 3.15.1) where USACE jurisdictional non-wetland waters occur because they fit the criteria of being waters of the United States but do not meet the USACE three-parameter criteria for wetland determination (hydrophytic vegetation, hydric soils, and wetland hydrology requirements). Therefore, no wetland waters were observed in the BSA. As shown below in Table 3.16.1, Location 9 is outside of but adjacent to the BSA; therefore, the area at Location 9 is not included in the calculations; a total of 1.33 acres (ac) (Locations 3, 4, 5, and 6) meet the USACE requirements of jurisdictional non-wetland waters of the United States in the BSA.

Table 3.16.1 USACE Jurisdictional Non-Wetland Waters

Drainage Location Number	Area (acres)
3	0.20
4	0.84
5	0.07
6	0.09
9	N/A
Total	**1.20**

Source: *Natural Environment Study* (December 2015).
[1] Location 9 is outside, but adjacent to, the BSA. The area is not included in the calculations.
BSA = biological study area
N/A = not applicable
USACE = United States Army Corps of Engineers

These drainages connect directly or indirectly to the Santa Ana River. The Santa Ana River has a relatively permanent (at least 3-month) flow during the year that eventually flows into the Pacific Ocean, a traditional navigable water. These drainages appear natural or appear to function in a capacity of more than just a storm drain and are believed to be potentially jurisdictional. However, because these drainages do not carry a relatively permanent flow, a significant nexus determination

by the USACE was required. The locations of these drainages are shown on Figure 3.15.1 (Sheets 6, 7, and 8).

3.16.2.2 CDFW Jurisdiction

All the areas satisfying the USACE jurisdictional criteria for waters of the United States (Locations 3, 4, 5, 6, and 9[1]) are also subject to CDFW jurisdiction pursuant to Section 1602 of the California Fish and Game Code. Drainages believed not to be jurisdictional by the USACE but which have an earthen bottom and some vegetation are believed to have some minimal value to wildlife may be subject to CDFW jurisdiction, but there are no such drainages in this instance. In addition, streambed banks extending beyond the limits of USACE jurisdiction are considered subject to CDFW jurisdiction. Locations 1, 2, 7, and 8 do not meet the requirements for CDFW jurisdiction.

Location 9 is outside of but adjacent to the BSA; therefore, the area at Location 9 is not included in the calculations. The total acreage of CDFW jurisdiction within the BSA is 2.37 ac (Locations 3, 4, 5, and 6), which exceeds the total area delineated as USACE jurisdiction (i.e., 1.20 ac) by 1.46 ac. As shown in Table 3.16.2, a total of 2.37 ac meet the CDFW requirements of jurisdictional waters within the BSA. CDFW non-jurisdictional areas are the same as those for the USACE. The locations of these drainages are also shown on Figure 3.15.1.

Table 3.16.2 Potential CDFW Jurisdictional Areas

Drainage Location Number	Total CDFW Jurisdiction (acres)
3	0.51
4	1.46
5	0.28
6	0.12
9[1]	N/A
Total	**2.37**

Source: *Natural Environment Study* (December 2015).
[1] Location 9 is outside, but adjacent to, the BSA. The area is not included in the calculations.
BSA = biological study area
CDFW = California Department of Fish and Wildlife
N/A = not applicable

[1] Location 9 is outside, but adjacent to, the BSA.

3.16.2.3 RWQCB Jurisdiction

Since there is no public guidance on determining RWQCB jurisdictional areas, jurisdiction was determined based on the federal definition of wetlands (three-parameter) and other waters of the United States. (i.e., ordinary high water mark). Whether or not they are determined to be jurisdictional by the USACE, the RWQCB can assert jurisdiction of these areas under the State Porter-Cologne Water Quality Control Act (Porter-Cologne Act), and they are consequently included in the total RWQCB jurisdiction.

The total acreage of RWQCB jurisdiction within the BSA is the same as USACE (1.20 ac) (refer to Table 3.16.1). Similar to the USACE, the RWQCB asserts jurisdiction over roadside drainage ditches on a case-by-case basis.

3.16.2.4 Functions and Values

The following is a qualitative assessment of the functions and values attributable to the nine drainages in the BSA. All wetlands and other waters have some degree of functionality, and no single wetland can perform all of the functions considered below. The following functions are analyzed at low, moderate, or high value levels. Each drainage is analyzed based on the criteria described below.

Hydrologic Regime

This function is the ability of a wetland or stream to absorb and store water belowground. The degree of this saturation is dependent on the soil composition and is affected by prior flooding events. For example, clay soils possess more pore space than sandy soils. However, the smaller pore size slows the rate at which water is absorbed and released; therefore, clay soil has a lower capacity to store water than sandy soils. The storage of water below ground allows for the fluctuation between anaerobic and aerobic conditions that benefit environmental conditions necessary for microbial cycling.

Flood Storage and Flood Flow Modification

This function is determined based on the ability of a wetland or stream at which the peak flow in a watershed can be attenuated during major storm events and during peak domestic flows to take in surface water that may otherwise cause flooding. This is dependent on the size of the wetland or stream, the amount of water it can hold, and the location in the watershed. For instance, larger wetlands or streams that have a greater capacity to receive waters have a greater ability to reduce flooding. In addition, areas high in the watershed may have more ability to reduce flooding in

downstream areas, but areas lower in the watershed may have greater benefits to a specific area. Vegetation, shape, and the configuration of the wetland or stream may also affect flood storage by dissipating the energy of flows during flood events.

Sediment Retention

Removal of sediment is the process that keeps sediments from migrating downstream. This is accomplished through the natural process of sediment retention and entrapment. This function is dependent on the sediment load being delivered by runoff into the watershed. Similar to above, the vegetation, shape, and configuration of a wetland will also affect sediment retention if water is detained for long durations, as would be the case with dense vegetation, a bowl-shaped watershed, or slow-moving water. This function would be demonstrated (i.e., high) if the turbidity of the incoming water is greater than that of the outgoing water.

Nutrient Retention and Transformation

Nutrient cycling consists of two variables: uptake of nutrients by plants and detritus turnover, in which nutrients are released for uptake by plants downstream. Wetland systems in general are much more productive with regard to nutrients than upland habitats. The regular availability of water associated with the wetland or stream may cause the growth of plants (nutrient uptake) and associated detritivores and generate nutrients that may be utilized by a variety of aquatic and terrestrial wildlife downstream.

Toxicant Trapping

The major processes by which wetlands and streams remove nutrients and toxicants are as follows: (1) by trapping sediments rich in nutrients and toxicants, (2) by absorption to soils high in clay content or organic matter, and (3) through nitrification and denitrification in alternating oxic and anoxic conditions. Removal of nutrients and toxicants is closely tied to the processes that provide for sediment removal.

Social Significance

This is a measure of the probability that a wetland or stream will be utilized by the public because of its natural features, economic value, official status, and/or location. This includes being utilized by the public for recreational uses, such as boating, fishing, birding, walking, and other passive recreational activities. In addition, a wetland or stream that is utilized as an outdoor classroom, is a location for scientific study, or is near a nature center would have a higher social significance standing.

Wildlife Habitat

General habitat suitability is the ability of a wetland or stream to provide habitat for a wide range of wildlife. Vegetation is a large component of wildlife habitat. As plant community diversity increases along with connectivity with other habitats, so does potential wildlife diversity. In addition, a variety of open water, intermittent ponding, and perennial ponding are also important habitat elements for wildlife.

Aquatic Habitat

The ability of a wetland or stream to support aquatic species requires that there be ample food supply, pool and riffle complexes, and sufficient soil substrate. Food supply is typically in the form of aquatic invertebrates and detrital matter from nearby vegetation. Pool and riffle complexes provide a variety of habitats for species diversity as well as habitat for breeding and rearing activities. Species diversity is directly related to the complexity of the habitat structure.

Existing Functions and Values

The functions and values of the nine drainages in the BSA are analyzed in Table 3.16.3 based on the criteria outlined above. As shown in Table 3.16.3, the majority of these drainages evaluated were determined to have low values for all functions.

3.16.3 Environmental Consequences

The discussions regarding the potential temporary and permanent project impacts on jurisdictional and non-jurisdictional waters in the following sections should be considered preliminary until verified by the USACE, the CDFW, and the RWQCB.

3.16.3.1 Temporary Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

USACE Jurisdictional and Non-Jurisdictional Areas

The Build Alternative would affect waters of the United States as a result of relocating, upgrading, constructing, or otherwise improving drainages and culverts to accommodate the Proposed Project. These impacts are shown on Figure 3.15.2, provided earlier in Section 3.15, Natural Communities.

Table 3.16.4 shows the temporary direct effects of the Build Alternative to USACE jurisdictional non-wetland waters and USACE non-jurisdictional areas inside and outside Caltrans right-of-way. The Build Alternative would result in less than 0.53 ac

Table 3.16.3 Functions and Values of Drainages in the BSA

Drainage Number[1]	Hydrologic Regime	Flood Storage and Flood Flow Modification	Sediment Retention	Nutrient Retention and Transformation	Toxicant Trapping	Social Significance	Wildlife Habitat	Aquatic Habitat
1	Low	Low	Low	Low	Low	Low	Low	Low
2	Low	Moderate	Low	Low	Low	Low	Low	Low
3	Low	Low	Low	Low	Low	Low	Low	Low
4	Low	Low	Low	Low	Low	Low	Low	Low
5	Low	High	Low	Low	Low	Low	Low	Low
6	Low	Low	Low	Low	Low	Low	Low	Low
7	Low	Low	Low	Low	Low	Low	Low	Low
8	Low	High	Low	Low	Low	Low	Low	Low
9	Low	Low	Low	Low	Low	Low	Low	Low

Source: *Jurisdictional Delineation Report* (May 2015) in Appendix F of the *Natural Environmental Study* (December 2015).
[1] Refer to Figure 3.15.1 in Section 3.15, Natural Communities, for the locations of these drainages in the BSA.
BSA = biological study area

Table 3.16.4 Temporary Impacts to USACE Jurisdictional Non-Wetland Waters

Drainage Location Number	Jurisdictional Status	Potential Temporary Jurisdictional Impacts	
		Inside Caltrans Right-of-Way	Outside Caltrans Right-of-Way
1	Non-jurisdictional[1]	--	--
2	Non-jurisdictional[1]	--	--
3	Jurisdictional	<0.01	0.00
4	Jurisdictional	0.43	0.00
5	Jurisdictional	0.00	<0.01
6	Jurisdictional	0.09	0.00
7	Non-jurisdictional[1]	--	--
8	Approved Non-jurisdictional[1]	--	--
9[2]	N/A	--	
Total		**<0.53**	**<0.01**

Sources: *Natural Environment Study* (December 2015).

[1] These features are non-jurisdictional since they are concrete channels, v-ditches, or swales for carrying freeway runoff. Therefore, specific impact acres were not shown (—) for these features.

[2] Feature 9 is outside of/adjacent to the BSA and is therefore not shown.

BSA = biological study area

N/A = not applicable

USACE = United States Army Corps of Engineers

of temporary impacts to non-wetland USACE waters at Locations 3, 4, 5, and 6 inside Caltrans right-of-way and less than 0.01 ac of temporary impacts at Location 5 outside Caltrans right-of-way.

Temporary impacts are expected to occur at USACE non-jurisdictional Locations 1, 2, 7, and 8, totaling approximately 2,282 total linear feet (0.43 mile) inside Caltrans right-of-way.

In addition to the direct impacts to jurisdictional waters listed in Table 3.16.4, there is some potential for associated indirect impacts to functions and values to the adjacent portions of these drainages, as well as downstream areas. However, the current functions of these drainages are quite low (refer to Table 3.16.3), and the impacts would be minimal. While only direct impacts are specifically regulated by the USACE, the indirect impacts of any fill in jurisdictional drainages will be considered by the USACE pursuant to their standard procedure for determining mitigation ratios. Other indirect effects to jurisdictional waters from construction activities in adjacent upland areas are expected to be minimal, based on the erosion control measures required during construction.

Impacts to USACE jurisdictional areas would require authorization from the USACE prior to construction as specified in Measure WET-1. Because the functions and values of the jurisdictional drainages are low, with the exception of Location 5 for flood storage and flood flow modification (Table 3.16.4), compensatory mitigation is not likely to be required. Avoidance and minimization conditions would be determined during the permit process. With implementation of Measure WET-1, which requires a permit from the USACE in accordance with Section 404 of the Clean Water Act, temporary impacts to USACE jurisdictional non-wetland waters would require restoration of the temporary impact areas and would not be adverse.

CDFW Jurisdictional Areas

The Build Alternative would affect CDFW jurisdictional areas as a result of relocating, upgrading, constructing, or otherwise improving drainages and culverts to accommodate the Proposed Project.

Table 3.16.5 shows the direct temporary impacts to CDFW jurisdictional areas inside and outside Caltrans right-of-way. The Build Alternative would result in approximately 1.01 ac of temporary impacts to CDFW jurisdictional areas at Locations 3, 4, 5, and 6 inside Caltrans right-of-way and approximately 0.03 ac of temporary impacts at Location 5 outside Caltrans right-of-way. These impacts are also shown on Figure 3.15.2. As with the impacts to USACE jurisdictional areas, indirect impacts are expected to be minimal, and will be considered by the CDFW in developing any mitigation requirements.

Table 3.16.5 Temporary Impacts to CDFW Jurisdictional Areas

Drainage Location Number	Jurisdictional Status	Temporary Jurisdictional Impacts	
		Inside Caltrans Right-of-Way	Outside Caltrans Right-of-Way
1	Non-jurisdictional[1]	--	--
2	Non-jurisdictional[1]	--	--
3	Jurisdictional	0.05	0.00
4	Jurisdictional	0.84	0.00
5	Jurisdictional	0.00	0.03
6	Jurisdictional	0.12	0.00
7	Non-jurisdictional[1]	--	--
8	Approved Non-jurisdictional[1]	--	--
9[2]	N/A	--	--
Total		**1.01**	**0.03**

Source: *Natural Environment Study* (December 2015).

[1] These features are likely non-jurisdictional since they are concrete channels, v-ditches, or swales for carrying freeway runoff. Therefore, specific impact acres were not shown (—) for these features.

[2] Feature 9 is outside of/adjacent to the BSA and is, therefore, not shown.

BSA = biological study area

CDFW = California Department of Fish and Wildlife

N/A = not applicable

Impacts to CDFW jurisdictional areas would require authorization from the CDFW prior to construction as specified in Measure WET-2. Because the functions and values of the jurisdictional drainages are low, with the exception of Location 5 for flood storage and flood flow modification (Table 3.16.4), compensatory mitigation is not likely to be required. Avoidance and minimization conditions would be determined during the permit process. With implementation of Measure WET-2, which requires a Streambed Alteration Agreement from CDFW, temporary impacts to CDFW jurisdictional areas would not be adverse.

RWQCB Jurisdictional Areas

The temporary impacts to RWQCB jurisdictional areas would be the same as the impacts to USACE jurisdictional areas shown in Table 3.16.4. As such, the Build Alternative would result in less than 0.53 ac of temporary impacts to RWQCB jurisdictional areas at Locations 3, 4, 5, and 6 inside Caltrans right-of-way and less than 0.01 ac of temporary impacts at Location 5 outside Caltrans right-of-way.

Impacts to RWQCB jurisdictional areas would require authorization from the Santa Ana RWQCB prior to construction as specified in Measure WET-3. Specific requirements or conditions would be determined during the permit process. Because the functions and values of the jurisdictional drainages are low, with the exception of Location 5 for flood storage and flood flow modification (Table 3.16.4), compensatory mitigation is not likely to be required. With implementation of Measure WET-3, which requires a Section 401 Water Quality Certification from the RWQCB, temporary impacts to RWQCB jurisdictional areas would not be adverse.

No Build Alternative

The No Build Alternative does not include any improvements to SR-241 or SR-91 in the BSA; therefore, no temporary impacts to wetlands or other waters would occur.

3.16.3.2 Permanent Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

USACE Jurisdictional and Non-Jurisdictional Areas

The Build Alternative would result in approximately 0.45 ac of permanent impacts to USACE jurisdictional non-wetland waters at Locations 4 and 5 inside Caltrans right-of-way and approximately 0.02 ac of permanent impacts at Location 5 outside Caltrans right-of-way. See Table 3.16.6, below. Permanent impacts to USACE jurisdictional areas are shown on Figure 3.15.2.

Table 3.16.6 Permanent Impacts to USACE Jurisdictional Non-Wetland Waters

Drainage Location Number	Jurisdictional Status	Permanent Jurisdictional Impacts	
		Inside Caltrans Right-of-Way	Outside Caltrans Right-of-Way
1	Non-jurisdictional[1]	--	--
2	Non-jurisdictional[1]	--	--
3	Jurisdictional	0.00	0.00
4	Jurisdictional	0.41	0.00
5	Jurisdictional	0.04	0.02
6	Jurisdictional	0.00	0.00
7	Non-jurisdictional[1]	--	--
8	Approved Non-jurisdictional[1]	--	--
9[2]	N/A	--	--
Total		**0.45**	**0.02**

Source: *Natural Environment Study* (December 2015).

[1] These features are non-jurisdictional since they are concrete channels, v-ditches, or swales for carrying freeway runoff. Therefore, specific impact acres were not shown (—) for these features.

[2] Feature 9 is outside of/adjacent to the BSA and is, therefore, not shown.

BSA = biological study area
N/A = not applicable
USACE = United States Army Corps of Engineers

Impacts to USACE jurisdictional areas would require authorization from the USACE prior to construction as specified in Measure WET-1. Because the functions and values of the jurisdictional drainages are low, with the exception of Location 5 for flood storage and flood flow modification (Table 3.16.4), compensatory mitigation is not likely to be required. If required, a compensation mitigation of ratio 1:1 would be expected, which could be accommodated on site or through purchase of land in an approved mitigation bank or in-lieu fee program. Avoidance and minimization conditions would be determined during the permit process. With implementation of Measure WET-1, which requires a nationwide permit from the USACE in accordance with Section 404 of the Clean Water Act, permanent impacts to USACE jurisdictional non-wetland waters would not be adverse.

CDFW Jurisdictional Areas

The Build Alternative would result in approximately 0.66 ac of permanent impacts to CDFW jurisdictional areas at Locations 4 and 5 inside Caltrans right-of-way and approximately 0.20 ac of permanent impacts at Location 5 outside Caltrans right-of-way. See Table 3.16.7, below. Permanent impacts to CDFW jurisdiction are shown on Figure 3.15.2.

Table 3.16.7 Permanent Impacts to CDFW Jurisdictional Areas

Drainage Location Number	Jurisdictional Status	Permanent Jurisdictional Impacts	
		Inside Caltrans Right-of-Way	Outside Caltrans Right-of-Way
1	Non-jurisdictional[1]	--	--
2	Non-jurisdictional[1]	--	--
3	Jurisdictional	0.00	0.00
4	Jurisdictional	0.62	0.00
5	Jurisdictional	0.04	0.20
6	Jurisdictional	0.00	0.00
7	Non-jurisdictional[1]	--	--
8	Approved Non-jurisdictional[1]	--	--
9[2]	N/A	--	--
Total		**0.66**	**0.20**

Source: *Natural Environment Study* (December 2015).

[1] These features are likely non-jurisdictional since they are concrete channels, v-ditches, or swales for carrying freeway runoff. Therefore, specific impact acres were not shown (—) for these features.

[2] Feature 9 is outside of/adjacent to the BSA and is, therefore, not shown.

BSA = biological study area

CDFW = California Department of Fish and Wildlife

N/A = not applicable

Impacts to CDFW jurisdictional areas would require authorization from CDFW prior to construction as specified in Measure WET-2. Because the functions and values of the jurisdictional drainages are low, with the exception of Location 5 for flood storage and flood flow modification (Table 3.16.4), compensatory mitigation is not likely to be required. If required, a compensation mitigation of ratio 1:1 would be expected, which could be accommodated on site or through purchase of land in an approved mitigation bank or in-lieu fee program. Avoidance and minimization conditions would be determined during the permit process. With implementation of Measure WET-2, which requires a Streambed Alternation Agreement from CDFW, permanent impacts to CDFW jurisdictional areas would not be adverse.

RWQCB Jurisdictional Areas

The permanent impacts to RWQCB jurisdictional areas would be the same as the impacts to USACE jurisdictional areas shown in Table 3.16.6. As such, the Build Alternative would result in approximately 0.45 ac of permanent impacts to RWQCB jurisdictional areas at Locations 4 and 5 inside Caltrans right-of-way and approximately 0.02 ac of permanent impacts at Location 5 outside Caltrans right-of-way.

Impacts to RWQCB jurisdictional areas would require authorization from the Santa Ana RWQCB prior to construction as specified in Measure WET-3. Because the functions and values of the jurisdictional drainages are low, with the exception of Location 5 for flood storage and flood flow modification (Table 3.16.4), compensatory mitigation is not likely to be required. If required, a compensation mitigation of ratio 1:1 would be expected, which could be accommodated on site or through purchase of land in an approved mitigation bank or in-lieu fee program. Avoidance and minimization conditions would be determined during the permit process. With implementation of Measure WET-3, which requires a Section 401 Water Quality Certification from the RWQCB, permanent impacts to RWQCB jurisdictional areas would not be substantial.

No Build Alternative

The No Build Alternative does not include any improvements to SR-241 or SR-91 in the BSA; therefore, no permanent impacts to wetlands or other waters would occur.

3.16.4 Avoidance, Minimization, and/or Mitigation Measures

The measures below would avoid, minimize, and/or mitigate impacts to wetlands and other waters.

Measure WET-1 **Nationwide Permit.** Prior to initiation of construction, a permit will be obtained through the United States Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act. As part of coordination with the USACE, a Nationwide Permit will be pursued, if appropriate.

Measure WET-2 **Streambed Alteration Agreement.** Prior to initiation of construction, a Streambed Alteration Agreement (SAA) with the California Department of Fish and Wildlife will be obtained and any specifications in the SAA will be implemented.

Measure WET-3 **Water Quality Certification.** Prior to initiation of construction, a Section 401 Water Quality Certification from the Santa Ana Regional Water Quality Control Board will be obtained and any specifications in the Certification will be implemented.

3.16.4.1 ETC Final EIR and Final EIS

Measure B-13 *In conjunction with final design, the TCA shall, to the extent feasible, construct stream bank reinforcements of ungrouted riprap gabions or other appropriate material at the shallowest possible slope (2:1 or less), allowing for the replacement of soil and the subsequent revegetation of these areas with riparian plant species.*

Other measures that would also avoid or minimize impacts to jurisdictional waters include: NC-16 (Sensitive Species and Habitats mapping), TE-4 (Barrier Installation for ESAs), TE-5 (Construction Activities Monitoring), TE-7 (Section 7 Consultation and Biological Opinion [CM-3c: streambank slopes to be as shallow as possible and revegetated with native riparian plant species; CM-5: equipment staging at least100 feet away from sensitive habitats or drainages; CM-13: fencing of ESAs outside the construction area; CM-14: biological monitor], and ETC Final EIR and EIS Measures W-12, W-14, and W-15 (drainage avoidance during construction) and E-6 and E-10 (design for erosion reduction in drainages).

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3.17 Plant Species

3.17.1 Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) 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). Please see the Threatened and Endangered Species, Section 3.19, in this document for detailed information about these species.

This section of the document discusses all the other special-status plant species, including CDFW species of special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at 16 United States Code (USC), Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Department projects are also subject to the Native Plant Protection Act, found at Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act (CEQA), CA Public Resources Code, Sections 2100–21177.

3.17.2 Affected Environment

This section is based on the *Natural Environment Study* (NES; December 2015), the *Supplemental Natural Environment Study* (Supplemental NES; April 2016), and the *Biological Assessment* (BA; April 2016) prepared for the Proposed Project.

A literature review and a records search were conducted to identify the existence or potential occurrence of special-status plant species located within or in the vicinity of the Biological Study Area (BSA). The most recent records of the California Natural Diversity Data Base (CNDDB) (Commercial Version) and the California Rare Plant Rank (CRPR; formerly the CNPS Electronic Inventory of Rare and Endangered Vascular Plants of California) (2011, 2013, and 2014) were reviewed for the quadrangles containing and surrounding the BSA (i.e., the *Orange, Yorba Linda,*

Black Star Canyon, and *Prado Dam, California,* United States Geological Survey [USGS] 7.5-minute quadrangles). These databases contain records of reported occurrences of federal- or State-listed endangered, threatened, proposed endangered or threatened species; California Species of Special Concern (SSC); or otherwise special-status species or habitat that may occur within or in the immediate vicinity of the BSA. In addition, a list of species occurring in the County of Orange was obtained from the USFWS Information, Planning, and Conservation (IPaC) System online database on May 19 and June 15, 2011, September 9, 2013, and December 1, 2014. Official species lists were obtained from the USFWS on January 22, 2014, February 2, 2015, February 11, 2016, and September 16, 2016.

Reconnaissance-level surveys and plant community mapping were conducted on May 10, 2011, March 17, 2015, and March 19, 2015. A full season of focused botanical surveys within the BSA were conducted on May 10 and June 28, 2011. A late season botanical survey was conducted on August 22, 2013, and early season focused botanical surveys were conducted on May 15, 16, 20, and 27, 2014, which completed a full season plant survey. In addition, botanical surveys of the recently added slope area south of SR-91 were conducted on March 17 and 19, 2015.

The results of the literature review indicated that a total of 39 special-status plant species have the potential to occur within or in the vicinity of the BSA. Seven are Federal- and/or State-listed as threatened or endangered species and are discussed in Section 3.19, Threatened and Endangered Species.

Of the remaining 32 special-status plant species identified through the literature review as potentially occurring in the BSA, it was determined that the BSA does not contain suitable habitat for the following 16 species:

- Coulter's saltbush (*Atriplex coulteri*)
- South Coast saltscale (*Atriplex pacifica*)
- Davidson's saltscale (*Atriplex serenana* var. *davidsonii*)
- Malibu baccharis (*Baccharis malibuensis*)
- Lucky morning-glory (*Calystegia felix*)
- Smooth tarplant (*Centromadia pungens* ssp. *laevis*)
- Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*)
- White-bracted spineflower (*Chorizanthe xanti* var. *leucotheca*)
- Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)
- Heart-leaved pitcher sage (*Lepechinia cardiophylla*)

- Jokerst's monardella (*Monardella australis* ssp. *jokerstii*)
- Hall's monardella (*Monardella macrantha* ssp. *hallii*)
- Mud nama (*Nama stenocarpum*)
- California beardtongue (*Penstemon californicus*)
- Santiago Peak phacelia (*Phacelia keckii*)
- Salt Spring checkerbloom (*Sidalcea neomexicana*)

None of these 16 special-status plant species were observed or otherwise detected in the BSA at the time of the surveys. Therefore, these species are considered absent from the BSA and are not discussed further in this section.

Suitable habitat for the remaining 16 special-status plant species occurs or potentially occurs in the BSA. These special-status plant species are:

- Chaparral sand-verbena (*Abronia villosa* var. *aurita*)
- Intermediate mariposa lily (*Calochortus weedii* var. *intermedius*)
- Lewis' evening-primrose (*Camissoniopsis lewisii*)
- Southern tarplant (*Centromadia parryi* ssp. *australis*)
- Many-stemmed dudleya (*Dudleya multicaulis*)
- Tecate cypress (*Hesperocyparis forbesii*)
- Vernal barley (*Hordeum intercedens*)
- Southern California black walnut (*Juglans californica*)
- Intermediate mondardella (*Monardella hypoleuca* ssp. *intermedia*)
- Felt-leaved monardella (*Monardella macrantha* ssp. *hallii*)
- Chaparral nolina (*Nolina cismontane*)
- Allen's pentachaeta (*Pentachaeta aurea* ssp. *allenii*)
- White rabbit-tobacco (*Pseudognaphalium leucocephalum*)
- Coulter's matilija poppy (*Romneya coulteri*)
- Chaparral ragwort (*Senecio aphanactis*)
- San Bernardino aster (*Symphyotrichum defoliatum*)

However, with the exception of California black walnut and Coulter's matilija poppy, none of these species was found in the BSA during botanical surveys conducted in 2011, 2013, and 2014, which were performed during the appropriate blooming period for these species when they would have been observed. Therefore, those 14 species are also considered absent from the BSA. California black walnut and Coulter's matilija poppy are the only special status species present in the BSA and are discussed further below.

3.17.2.1 California Black Walnut

Southern California black walnut (California walnut or California black walnut) is not federally and/or State-listed. However, California walnut merits consideration under CEQA because of the relatively limited distribution of California walnut woodland, and it is a CNPS CRPR 4 species (plants of limited distribution). California walnut is only found in Southern California. Recent construction has removed this habitat in many areas, and its future is uncertain. California walnut prefers very loose, moist soil on steep hillsides with northern and eastern exposures at elevations below 900 feet (ft), although it is not confined to these areas. California walnut occurs within many other plant communities and is often a component of grassland, coastal sage scrub (CSS), chaparral, riparian woodland, oak woodland, and mixed canyon woodland.

California walnut trees were observed in the BSA during botanical surveys conducted in 2011, 2013, and 2014. Figure 3.15.1, provided earlier, shows the locations where California walnut trees were observed.

- Approximately 3 individual California black walnut trees were observed in the median of the SR-241/SR-91 junction, specifically the median in the north end of SR-241 (Sheet 6 of Figure 3.15.1). All of these individuals were saplings less than 5 ft tall, with trunk diameters less than 5 inches.
- Approximately 10 individual trees were observed north of SR-91, adjacent to the SR-91 westbound off-ramp at Gypsum Canyon Road (Sheet 6 of Figure 3.15.1).
- Approximately 10 to 20 scattered mature individual trees were observed on the north side of a sound wall northwest of the SR-91 /Gypsum Canyon Road interchange adjacent to the Canyon RV Park, which is located within the boundaries of Featherly Regional Park(Sheets 5 and 6 of Figure 3.15.1).

3.17.2.2 Coulter's Matilija Poppy

Coulter's Matilija poppy is not federally and/or State listed. However, Coulter's Matilija poppy merits consideration because of its relatively limited distribution in California. Coulter's Matilija poppy is a perennial shrub that grows to up to 8 ft tall. It has large crepe-paper-like flowers, thin but crisp in substance and wrinkly/pleated in texture that are white with a yellow center. It occurs in CSS and chaparral habitats up to 4,000 ft in elevation. This species is a California Special Plant and a CNPS 4 species (plants of limited distribution).

Suitable habitat exists for this species in the BSA and it was observed in the BSA during the August 2013 and May 2014 botanical surveys. Figure 3.15.1 (Sheets 7 and 8) shows the locations where Coulter's Matilija poppies were observed in the BSA. During the focused surveys in 2013, approximately 100 individuals were observed south of SR-91, east of SR-241. Two additional individuals were observed approximately 0.25 mile farther east. In spring 2014, poppies were found at these 2013 locations, with 45 additional individuals found in the vicinity. In 2013 and 2014, a total of 147 plants were identified in the BSA.

3.17.3 Environmental Consequences

3.17.3.1 Temporary Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

California Black Walnut

The California black walnut trees at the Gypsum Canyon off-ramp and those at the adjacent Canyon RV Park would not be directly impacted by the Proposed Project because they are outside the proposed temporary impact area and some are protected by an existing sound wall. There may be temporary indirect impacts to the Gypsum Canyon off-ramp trees due to potential fuel spills from construction equipment and activities of equipment or personnel outside designated construction areas and Environmentally Sensitive Areas (ESAs) in the vicinity of the trees. The Canyon RV Park walnut trees are outside of the proposed temporary impact area and are protected by an existing sound wall.

Measure PS-1, provided later in this section, which requires barriers to be installed around the protected zone of any California black walnut tree, would avoid and/or minimize temporary impacts to California black walnut trees.

Coulter's Matilija Poppy

There may be direct temporary impacts to Coulter's Matilija poppy. Potential temporary indirect impacts to this plant include potential fuel spills from construction equipment and activities of equipment or personnel outside designated construction areas and ESAs. This plant may be partially and/or fully removed during soil disturbance. To the extent feasible, this plant would be protected in place, once the full extent of the soil disturbance is known. Temporary impacts to this species are relatively limited and compensatory mitigation is not required. Measure PS-3, provided later in this section, which requires barriers to be installed around the

protected zone of any Coulter's Matilija poppies, would avoid and/or minimize temporary impacts to Coulter's Matilija poppy.

No Build Alternative

The No Build Alternative does not include any improvements to SR 241 or SR-91 in the Project Area. Therefore, no temporary impacts to special-status plant species would occur as a result of the No Build Alternative.

3.17.3.2 Permanent Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

California Black Walnut

As shown in Figure 3.15.2 (Sheets 5 and 6 of Figure 3.15.2), the Proposed Project may result in permanent direct impacts to three California black walnut saplings in the median of the SR-241/SR-91 interchange (at the north end of SR-241). Permanent impacts may include complete removal, heavy encroachment, or extensive branch removal that may have substantial detrimental impacts to the long-term viability of the trees due to the placement of the overhead connector. These three saplings would be protected in place, to the extent feasible. While these three saplings may be permanently impacted by the Proposed Project, the complete removal of these three saplings is not expected to substantially affect the long-term viability of this species because they are young trees, and they occur outside a native woodland habitat.

The California black walnut trees at the Gypsum Canyon off-ramp and the adjacent Canyon RV Park are not expected to be directly impacted by the Proposed Project. Permanent indirect impacts due to increased storm water runoff, traffic, litter, or through enhancing the germination and proliferation of nonnative invasive plant species is highly unlikely due to the location of these walnut trees adjacent to the Gypsum Canyon off-ramp. The Gypsum Canyon off-ramp and Canyon RV Park walnut trees are outside the Project Area, and some of the trees are protected by an existing sound wall.

Furthermore, the California black walnut trees that may be permanently impacted by the Proposed Project consist of a few individual saplings located within a median. These three saplings are not in a natural walnut woodland setting. Therefore, potential removal of these few individuals by the Proposed Project does not require any compensatory mitigation. Measure PS-1, provided later in this section, which requires barriers to be installed around the protected zone of any California black walnut tree,

and Measure PS-2, which requires the relocation of the California black walnut saplings located in the median of the SR-241/SR-91 interchange (if feasible), would avoid and/or minimize permanent impacts to California black walnut.

Coulter's Matilija Poppy

The Coulter's Matilija poppies within the slope area south of SR-91 would be removed to accommodate drainage improvements and an access road. Figure 3.15.2 illustrates where the Proposed Project would impact Coulter's Matilija poppies. While some or all of these individuals may be permanently impacted by the Proposed Project, even the complete removal of these populations is not expected to substantially affect the long-term viability of this species as it is growing in marginal quality habitat adjacent to SR-91.

Permanent impacts to this species are relatively limited and no compensatory mitigation is required. Measure PS-3, which requires barriers to be installed around the protected zone of any Coulter's Matilija poppies, would minimize permanent impacts to Coulter's Matilija poppy.

No Build Alternative

The No Build Alternative does not include any improvements to the SR-241 or SR-91 in the Project Area. Therefore, no permanent impacts to special-status plant species would occur as a result of the No Build Alternative.

3.17.4 Avoidance, Minimization, and/or Mitigation Measures

The following measure would avoid and/or minimize impacts to California black walnut trees:

Measure PS-1 **California Black Walnut Environmentally Sensitive Areas.** Prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed around the protected zone of any southern California black walnut tree and designated as an Environmentally Sensitive Area (ESA) to be preserved for those trees not within the footprint of project structures or areas of ground disturbance. The protected zone will extend 5 feet (ft) outside of the drip line or 15 ft from the trunk of the tree, whichever is greater. No grading or fill activity of any type will be permitted within the ESA. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment

will be operated in a manner so as to prevent accidental damage to nearby California black walnut trees. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESA. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where trees are immediately adjacent to planned grading activities.

Measure PS-2 **California Black Walnut Sapling Relocations.** The California black walnut saplings in the median of the SR-241/ SR-91 interchange will be assessed at the time of construction and relocated within Caltrans right-of-way, if feasible. If not feasible, replacement planting of California black walnut saplings will be done at a minimum 2:1 ratio.

The following measure would avoid and/or minimize impacts to Coulter's Matilija poppies:

Measure PS-3 **Coulter's Matilija Poppies Environmentally Sensitive Areas.** Prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed around the protected zone of any Coulter's Matilija poppies and designated as an ESA to be preserved to the extent feasible. The protected zone will extend 5 ft outside of the vegetation edge. No grading or fill activity of any type will be permitted within the ESA. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby Coulter's Matilija poppies. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESA. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where Coulter's Matilija poppies are adjacent to planned grading activities.

3.18 Animal Species

3.18.1 Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service), and the California Department of Fish and Wildlife (CDFW) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 3.19 below. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

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

State laws and regulations relevant to wildlife include the following:

- California Environmental Quality Act
- Sections 1600 – 1603 of the California Fish and Game Code
- Section 4150 and 4152 of the California Fish and Game Code
- California Wildlife Protection Act of 1990

The Project Area is also subject to the requirements of the Orange County Central and Coastal Subregion Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP). The entire footprint of the ETC was assumed "take" through its construction, and per the NCCP/HCP documents, all development activities and uses addressed by the NCCP/HCP by participating landowners within the NCCP/HCP Plan Areas are considered fully mitigated by the NCCP/HCP. No additional mitigation is required for impacts to identified species and their habitat or for species residing in non-coastal sage scrub (covered habitats).

3.18.2 Affected Environment

This section is based on the *Natural Environment Study* (NES; December 2015), the *Supplemental Natural Environment Study* (Supplemental NES; April 2016), and the *Biological Assessment* (BA; April 2016) prepared for the Proposed Project.

A literature review and records search were conducted to identify the existence or potential occurrence of special-status animal species located within or in the vicinity of the Biological Study Area (BSA), shown previously on Figure 3.15.1 in Section 3.15, Natural Communities. The most recent records of the California Natural Diversity Data Base (CNDDB) (Commercial Version) were reviewed for the quadrangles containing and surrounding the BSA (i.e., the *Orange, Yorba Linda, Black Star Canyon,* and *Prado Dam, California,* United States Geological Survey [USGS] 7.5-minute quadrangles). This database contains records of reported occurrences of federal- or State-listed endangered, threatened, proposed endangered, or threatened species; California Species of Special Concern (SSC); or otherwise special-status animal species or habitat that may occur within or in the immediate vicinity of the BSA. In addition, a list of animal species occurring in the County of Orange was obtained from the USFWS Information, Planning, and Conservation (IPaC) System online database on May 19 and June 15, 2011, September 9, 2013, and December 1, 2014. Official species lists were obtained from the USFWS on January 22, 2014, February 2, 2015, February 11, 2016, September 16, 2016, and December 4, 2018.

Reconnaissance-level biological resource surveys were conducted on May 10, 2011, March 17, 2015, and March 19, 2015. In addition, a bat habitat suitability assessment was conducted on November 30, 2011.

The results of the literature review indicated that a total of 75 special-status animal species have the potential to occur on or within the vicinity of the BSA. Fourteen are federal- and/or State-listed threatened or endangered species and are discussed later in Section 3.19, Threatened and Endangered Species.

Of the remaining 61 special-status animal species identified through the literature review as potentially occurring in the BSA, it was determined that the BSA does not contain suitable habitat for the following 21 species:

- Black-crowned night-heron (nesting) (*Nycticorax nycticorax*)
- Coast Range newt (*Taricha torosa torosa*)
- Double-crested cormorant (nesting) (*Phalacrocorax auritus*)
- Great blue heron (nesting) (*Ardea herodias*)

- Great egret (nesting) (*Ardea alba*)
- Long-eared owl (nesting) (*Asio otus*)
- Mexican long-tongued bat (*Choeronycteris mexicana*)
- Northern harrier (nesting) (*Circus cyaneus*)
- Northern leopard frog (*Lithobates pipiens*)
- Nuttall's woodpecker (nesting) (*Picoides nuttallii*)
- Oak titmouse (nesting) (*Baeolophus inoratus*)
- Ringtail (*Bassariscus astutus*)
- San Diego cactus wren (*Campylorhynchus brunneicapillus sandiegensis*)
- Santa Ana speckled dace (*Rhinichthys osculus*)
- Snowy egret (nesting) (*Egretta thula*)
- Southwestern pond turtle (*Actinemys marmorata pallida*)
- Two-striped garter snake (*Thamnophis hammondii*)
- White-tailed kite (*Elanus leucurus*)
- Yellow warbler (nesting) (*Dendroica petechia*)
- Yellow-breasted chat (nesting) (Icteria virens)
- Tricolored blackbird (nesting) (*Agelaius tricolor*)

In addition, with the exception of the great egret, great blue heron, and double-crested cormorant, which were observed flying over the BSA, these special-status animal species were not observed or otherwise detected in the BSA at the time of the surveys. Therefore, these species are considered absent from the BSA and are not discussed further in this section.

Suitable habitat for the remaining 40 special-status animal species occurs or potentially occurs in the BSA. These special-status animal species are:

- Allen's hummingbird (nesting) (*Selasphorus sasin*)
- American badger (*Taxidea taxus*)
- Bell's sparrow (nesting) (*Amphispizabelli*)
- Big free-tailed bat (*Nyctinomops macrotis*)
- Black-chinned sparrow (nesting) (*Spizella atrogularis*)
- Burrowing owl (burrow sites) (*Athene cunicularia*)
- California horned lark (*Eremophila alpestris actia*)
- Coast horned lizard (*Phrynosoma blainvillii*)
- Coast patch-nosed snake (*Salvadora hexalepis virgultea*)
- Coastal whiptail (*Aspidoscelis tigris stejnegeri*)

- Cooper's hawk (nesting) (*Accipiter cooperii*)
- Costa's hummingbird (nesting) (*Calypte costae*)
- Ferruginous hawk (*Buteo regalis*)
- Golden eagle (*Aquila chrysaetos*)
- Grasshopper sparrow (nesting) (*Ammodramus savannarum*)
- Hoary bat (*Lasiurus cinereus*)
- Lark sparrow (nesting) (*Chondestes grammacus*)
- Lawrence's goldfinch (nesting) (*Carduelis lawrencei*)
- Loggerhead shrike (nesting) (*Lanius ludovicianus*)
- Long-eared myotis (*Myotis evotis*)
- Long-legged myotis (*Myotis volans*)
- Merlin (wintering) (*Falco columbarius*)
- Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*),
- Orange-throated whiptail (*Aspidoscelis hyperythra*)
- Pallid bat (*Antrozous pallidus*)
- Pocketed free-tailed bat (*Nyctinomops femorosaccus*)
- Red-diamond rattlesnake (*Crotalus ruber*)
- Rosy boa (*Charina trivirgata*)
- San Diego banded gecko (*Coleonyx variegates abbotti*)
- San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)
- San Diego desert woodrat (*Neotoma lepida intermedia*)
- Silvery legless lizard (*Anniella pulchra pulchra*)
- Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)
- Southern grasshopper mouse (*Onychomys torridus ramona*)
- Southwestern yellow bat (*Lasiurus xanthinus*)
- Townsend's big-eared bat (*Corynorhinus townsendii*)
- Western mastiff bat (*Eumops perotis californicus*)
- Western red bat (*Lasiurus blossevillii*)
- Western small-footed myotis (*Myotis ciliolabrum*)
- Western spadefoot (*Spea hammondii*)
- Yuma myotis (*Myotis yumanensis*)

Of the 40 species listed above with suitable or potentially suitable habitat present in the BSA, only 4 species, Cooper's hawk, Allen's hummingbird, western small-footed myotis, and Yuma myotis, were observed during field surveys.

3.18.2.1 Golden Eagle

The golden eagle is considered Fully Protected by the State of California. Golden eagles typically occur in rolling foothills, mountain areas, sage-juniper flats, and desert habitats. The golden eagle is known to have formerly nested in Gypsum Canyon south of the SR-241/SR-91 junction. However, because no golden eagles were observed in the BSA during the surveys conducted in 2011, 2013, and 2014, no suitable nesting habitat was identified in the BSA; and as there is limited foraging opportunity in the BSA, there is a low probability of the golden eagle occurring in the BSA.

3.18.2.2 Special-Status Coastal Sage Scrub and Chaparral Animal Species

Special-status coastal sage scrub and chaparral species with the potential to occur in the BSA include San Diego banded gecko, coast horned lizard, orange-throated whiptail, coastal whiptail, silvery legless lizard, rosy boa, red-diamond rattlesnake, coast patch-nosed snake, Cooper's hawk, Allen's hummingbird, southern California rufous-crowned sparrow, Bell's sparrow, burrowing owl, Costa's hummingbird, Lawrence's goldfinch, lark sparrow, loggerhead shrike, black-chinned sparrow, northwestern San Diego pocket mouse, San Diego black-tailed jackrabbit, San Diego desert woodrat, and southern grasshopper mouse. Of these, only Cooper's hawk and Allen's hummingbird were observed during 2011 surveys. None of the other special-status coastal sage scrub and chaparral animal species was observed during surveys conducted in 2011, 2013, and 2014.

3.18.2.3 Bridge, Crevice, and Cavity-Dwelling Animal Species

Bats

Special-status bats known to occur or with the potential to occur in the BSA include pallid bat, Townsend's big-eared bat, western mastiff bat, southwestern yellow bat, long-eared myotis, long-legged myotis, western small-footed myotis, Yuma myotis, pocketed free-tailed bat, and big free-tailed bat. Suitable foraging habitat exists within the BSA for special-status bat species.

None of these species was observed during surveys conducted in 2011, 2013, and 2014. However, bat-specific studies were not conducted for the Proposed Project because bat-specific studies have been conducted in the BSA for other projects as described below.

There are several areas where there is suitable bat-roosting habitat in the BSA, including five areas in the BSA that were found to contain suitable bat-roosting habitat during a bat habitat assessment conducted in 2006 for the SR-91 Eastbound Widening Project. Evening acoustic and emergence surveys were subsequently conducted in these areas in 2008 for the same project. In addition, in 2006, 2008, and 2013 bat surveys were conducted as part of the SR-91 Capital Improvement Project. The following are findings from these projects for areas that overlap with the Proposed Project:

- The first area at the Windy Ridge Wildlife Crossing had approximately 30 Brazilian (Mexican) free-tailed bats day roosting in crevices during the 2008 surveys. Brazilian free-tailed bats are not a special-status species, but their presence indicates the area is suitable for roosting bats. Evening emergence surveys would determine the probability of this bridge structure being used by special-status bat species. Barring additional studies conducted at the Windy Ridge Wildlife Crossing, the use of this structure by night-roosting bats is presumed.
- The second area includes at least three separate expansion joints in the overhead connectors between SR-241 and SR-91. Due to the height of these overhead structures, roosting at these locations was not confirmed.
- The third and fourth areas consist of crevices at box culverts between Gypsum Canyon Creek and Coal Canyon Creek and at the Coal Canyon Creek box culverts beneath SR-91. During surveys conducted at these locations in 2006, 2008, and 2013, a myotis species, Yuma myotis, and/or big brown bats were confirmed to be day roosting in both culverts, while four additional species including pallid bat, small-footed myotis, long-eared myotis, and California myotis (not special-status) were detected at Coal Canyon that were likely night roosting within that structure.
- The fifth area, the Coal Canyon Bridge, does not contain crevices suitable for day-roosting bats but, during the 2008 surveys, bats (likely Yuma myotis) were observed using this structure as a night roost and pallid, California myotis (not special-status), Yuma myotis, big brown, and Brazilian free-tailed bats were observed night roosting in 2013.

Birds

In addition to various bat species, swallows are known to nest and inhabit Coal Canyon Undercrossing and could be present at Windy Ridge Wildlife Undercrossing and at culverts within the BSA.

3.18.2.4 Special-Status Grassland and Open Habitat Animal Species

Special-status grassland and open habitat species with the potential to occur in the BSA include western spadefoot, coast horned lizard, silvery legless lizard, red-diamond rattlesnake, coast patch-nosed snake, grasshopper sparrow, burrowing owl, ferruginous hawk, California horned lark, merlin, northwestern San Diego pocket mouse, and American badger. None of these special-status grassland and open habitat animal species was observed during surveys conducted in 2011, 2013, and 2014.

3.18.3 Environmental Consequences

3.18.3.1 Temporary Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Golden Eagles

Due to the presence of existing highways within the BSA, and the fact that there is higher quality foraging habitat outside of and near the BSA, it is unlikely that golden eagles are currently foraging in the BSA or would be during construction. There is an incremental probability that construction of the Build Alternative may temporarily redirect foraging golden eagles away from the borders of the BSA during construction; however, those temporary impacts would be short-term and would occur only during construction activities. Therefore, temporary impacts to golden eagles would not be adverse and no avoidance, minimization, or mitigation measures are warranted.

Special-Status Coastal Sage Scrub and Chaparral Animal Species

Construction of the Build Alternative is expected to have indirect temporary impacts to species that occupy the coastal sage scrub and chaparral natural communities through the disturbance of potentially suitable habitat. Even though none of the special-status coastal sage scrub and chaparral animal species besides Allen's hummingbird and Cooper's hawk was observed during the surveys conducted in 2011, 2013, and 2014, there is a possibility for them to move into the project limits and the BSA prior to construction. Table 3.18.1 presents temporary impacts for these plant communities within and outside the Natural Communities Conservation Plan (NCCP) Plan Area. Impacts to plant communities are depicted previously in Figure 3.15.2, in Section 3.15, Natural Communities.

Table 3.18.1 Potential Temporary Impacts to Coastal Sage Scrub and Chaparral Habitat Inside and Outside the NCCP Plan Area

Plant Community	Inside the NCCP Plan Area		Outside the NCCP Plan Area	
	Inside the Caltrans Right-of-Way	Outside the Caltrans Right-of-Way	Inside the Caltrans Right-of-Way	Outside the Caltrans Right-of-Way
Coastal Sage Scrub	29.68 ac	1.58 ac	0.02 ac	0.00 ac
Chaparral	1.37 ac	0.00 ac	0.21 ac	0.00 ac
Total	**31.05 ac**	**1.58 ac**	**0.23 ac**	**0.00 ac**

Source: *Supplemental Natural Environment Study* (April 2016).
ac = acre/acres
NCCP = Natural Community Conservation Plan

Measures NC-1 through NC-6, discussed earlier in Section 3.15, Natural Communities, and Measures TE-2 and TE-3, discussed later in Section 3.19, Threatened and Endangered Species, prohibit construction activities in and adjacent to coastal sage scrub habitat. Implementation of Measures NC-1 through NC-6 and Measures TE-2 and TE-3 would reduce temporary impacts to special-status animal species that occupy coastal sage scrub habitat.

Bridge, Crevice, and Cavity-Dwelling Animal Species

Temporary impacts to special-status bat species and bridge-nesting birds could include temporary disturbance during construction (such as noise, dust, night lighting, and human encroachment). In addition, construction could temporarily impede access to roost sites (existing and future) in the crevices of bridges and overhead structures. Implementation of Measures AS-1 and AS-2 through AS-5, provided later in this section, which would require construction activity restrictions with regards to nesting birds, and preconstruction and construction bat surveys, and limit construction work in the vicinity of bridges and overhead structures, would reduce potential temporary impacts to special-status bat species and bridge-nesting birds.

Special-Status Grassland and Open Habitat Animal Species

None of the special-status grassland and open habitat animal species with the potential to occur in the BSA were observed during surveys conducted in 2011, 2013, and 2014. However, it is possible for them to move into the project limits and the BSA prior to construction. With the exception of nesting/burrowing birds, should any of these species be present within the grassland or open habitats in the project limits, they are expected to move out of the area during construction. Because of this, the Build Alternative is not expected to directly impact these species. However, the Build Alternative is expected to result in indirect temporary impacts to these species

through the temporary loss of approximately 14.1 ac of potential habitat (grasslands and open space) during construction. Measure AS-1, which would require vegetation removal or tree-trimming activities to occur outside of the nesting season, to the extent feasible and preconstruction surveys for nesting birds if vegetation removal or tree-trimming activities were to occur during the nesting season, would reduce potential temporary impacts to special-status grassland and open habitat animal species during construction. In addition, as discussed in detail earlier in Section 3.15, Natural Communities, mitigation for the loss of coastal sage scrub and chaparral species habitat for part of the Build Alternative in the NCCP Plan Area has already been conducted as part of the NCCP Implementation Agreement.

Limited suitable wintering habitat for burrowing owl is present along the roadsides, but suitably sized breeding habitat is lacking in the BSA. Burrowing owls were not observed during field surveys; however, the burrowing owl is a mobile species and may colonize potentially suitable habitat in the BSA prior to the start of construction. As specified in Measure AS-7, preconstruction surveys would be required to ensure that burrowing owls are not occupying potentially suitable habitat within the project disturbance limits. Implementation of Measure AS-7 would ensure that no temporary impacts to burrowing owl would occur.

Migratory Birds

Vegetation clearing, grading, and tree removal associated with the Build Alternative also has the potential to directly impact nesting birds by disturbing habitat occupied by nesting birds protected under the Migratory Bird Treaty Act and the California Fish and Game Code. Construction activities could indirectly impact nesting birds as a result of disturbances near trees occupied by nesting birds. Measure AS-1 requires vegetation removal or tree-trimming activities to occur outside of the nesting season, to the extent feasible, as well as preconstruction surveys for nesting birds if vegetation removal or tree-trimming activities were to occur during the nesting season. Therefore, with the implementation of Measure AS-1, potential temporary impacts to migratory birds would not be substantial.

No Build Alternative

The No Build Alternative does not include any improvements to SR-241 or SR-91 in the BSA. Therefore, no temporary impacts to special-status animal species would occur as a result of the No Build Alternative.

3.18.3.2 Permanent Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Golden Eagles

The Build Alternative is not expected to permanently impact any golden eagles due to the low probability of occurrence and the lack of suitable nesting habitat in the BSA. Because no golden eagles were observed in the BSA, there is no suitable nesting habitat in the BSA; and there is limited foraging opportunity in the BSA, there is a low probability of golden eagles to occur in the BSA. Therefore, no permanent impacts to golden eagles would occur, and no avoidance, minimization, or mitigation measures are required.

Special-Status Coastal Sage Scrub and Chaparral Animal Species

The Build Alternative is not anticipated to result in permanent direct impacts to special-status coastal sage scrub species. However, the Build Alternative is expected to have indirect permanent impacts to species that occupy coastal sage scrub and chaparral through the removal of potential suitable habitat. Table 3.18.2 presents permanent impacts to coastal sage scrub and chaparral habitat, which would occur in the NCCP Plan Area.

Table 3.18.2 Potential Permanent Impacts to Coastal Sage Scrub and Chaparral Habitat Inside and Outside the NCCP Plan Area

Plant Community	Inside the NCCP Plan Area		Outside the NCCP Plan Area	
	Inside the Caltrans Right-of-Way	Outside the Caltrans Right-of-Way	Inside the Caltrans Right-of-Way	Outside the Caltrans Right-of-Way
Coastal Sage Scrub	10.41 ac	3.25 ac	0.00 ac	0.00 ac
Chaparral	0.72 ac	0.17 ac	0.00 ac	0.00 ac
Total	**11.13 ac**	**3.42 ac**	**0.00 ac**	**0.00 ac**

Source: *Natural Environment Study* (April 2016).
ac = acre/acres
NCCP = Natural Community Conservation Plan

Impacts to plant communities are depicted previously in Figure 3.15.2, in Section 3.15, Natural Communities. Operation of the Build Alternative may permanently redirect foraging or nesting birds away from the BSA. However, as discussed in detail earlier in Section 3.15, Natural Communities, the Build Alternative is not expected to result in long-term impacts to coastal sage scrub and chaparral species because mitigation for part of the Build Alternative in the NCCP Plan Area has already been

conducted as part of the NCCP Implementation Agreement. Therefore, no substantial permanent impacts would occur.

Bridge, Crevice, and Cavity-Dwelling Animal Species

The Build Alternative is not expected to permanently impact any special-status bat species or bridge-nesting birds because the bridge structures and roosting areas would not be directly impacted (e.g., no roosting/nesting sites would be removed). Permanent impacts to special-status bat species would be avoided and/or minimized through implementation of Measure AS-6, which would require existing unfilled expansion joints to remain unfilled and newly created expansion joints to not be rubberized if possible in order to be available to bats for day roosting. With the implementation of Measures AS-2, AS-3, AS-4, and AS-6, no adverse impacts to special-status bat species would occur.

Special-Status Grassland and Open Habitat Animal Species

The Build Alternative is not anticipated to result in permanent direct impacts to special-status grassland and open habitat animal species. However, the Build Alternative would result in permanent impacts to approximately 5.2 ac of grassland habitat which may indirectly impact special-status grassland animal species through potential habitat loss. Because no special-status animal species were observed during the field surveys, no direct impacts to these species are anticipated. However, limited suitable wintering habitat for burrowing owl is present along the roadsides, but suitably sized breeding habitat is lacking within the BSA. Burrowing owls were not observed during field surveys; however, the burrowing owl is a mobile species and may colonize potentially suitable habitat in the BSA or the project disturbance limits prior to the start of construction. As specified in Measure AS-7, preconstruction surveys would be required prior to construction to ensure that burrowing owls are not occupying potentially suitable habitat. Implementation of Measure AS-7 would ensure that no permanent impacts to burrowing owl would occur.

Migratory Birds

The Build Alternative may result in permanent indirect impacts to migratory birds; the permanent impacts may include loss of foraging and nesting habitat due to permanent loss of vegetation or changes in habitat types. However, because permanent loss of habitat resulting from the Build Alternative would be minimal and migratory birds are mobile, they are anticipated to find nearby habitat for foraging and nesting. It is not anticipated that the Build Alternative would result in permanent direct impacts to migratory birds through loss of individual birds. To prevent loss of

individual birds, Measure AS-1 requires vegetation removal or tree-trimming activities to occur outside of the nesting season, to the extent feasible, as well as preconstruction surveys for nesting birds if vegetation removal or tree trimming activities were to occur during the nesting season. Therefore, with the implementation of Measure AS-1, potential direct impacts to migratory birds are not anticipated.

No Build Alternative

The No Build Alternative does not include any improvements to SR-241 or SR-91 in the BSA. Therefore, no permanent impacts to special-status animal species would occur as a result of the No Build Alternative.

3.18.4 Avoidance, Minimization, and/or Mitigation Measures

In addition to the measures listed below, Measures NC-1 through NC-6 discussed in Section 3.15, Natural Communities, and Measures TE-3 through TE-7, discussed in Section 3.19, Threatened and Endangered Species, would avoid and/or minimize impacts to special-status coastal sage scrub and chaparral animal species.

The following measure would avoid and/or minimize potential impacts to nesting birds during construction of the Build Alternative:

Measure AS-1 **Nesting Birds.** Prior to clearing or construction, to avoid impacts to nesting birds, any native vegetation removal or tree-(native or exotic) trimming activities will occur outside of the bird nesting season (February 15 through August 31). In the event that vegetation clearing is necessary during the nesting season or if construction activities or access have the potential to impact nesting birds, a qualified biologist will conduct a preconstruction survey to identify the locations of nests. Should nesting birds be found, an exclusionary buffer will be established by the qualified biologist. This buffer will be clearly marked in the field by construction personnel under guidance of the qualified biologist, and construction or clearing will not be conducted within this zone until the qualified biologist determines that the young have fledged or the nest is no longer active.

Construction of the Coal Canyon Undercrossing access ramp and widening of Windy Ridge Wildlife Undercrossing will be

conducted outside the bird nesting season (February 15 through August 31).

Periodic monitoring by the project biologist will be conducted as needed to ensure that construction activities do not impact bridge-nesting birds at Coal Canyon Undercrossing and Windy Ridge Wildlife Undercrossing.

For work on bridge structures, the following measures would avoid and/or minimize impacts to special-status bat species:

Measure AS-2 **Bat Maternity Roosting Survey.** A qualified bat biologist will survey the Project Area during the maternity roosting period, typically in June, to assess the potential for its use as a maternity roost because maternity roosts are generally formed in late spring. The qualified bat biologist will also perform preconstruction surveys because bat roosts can change seasonally. The surveys will include a combination of structure inspection, sampling, exit counts, and acoustic surveys.

Measure AS-3 **Bridgework Schedule.** To prevent impacts to bridge and crevice-roosting bats, all bridgework will be scheduled between September 1 and November 30 to avoid hibernating bats and the maternity season. If this is not feasible, temporary bat eviction and exclusion devices will be installed between September 1 and November 20 prior to the initiation of construction activities and under the supervision of a qualified bat biologist. Exclusion devices will be installed during the fall, or as otherwise directed by a qualified biologist, to avoid trapping flightless young inside during the summer months or hibernating individuals during the winter. Such exclusion efforts will be continued to keep the structures free of bats until the completion of construction on those structures, at which time the devices will be removed to allow the bats to resume roosting in the structure and prevent any permanent loss of bat-roosting habitat. All bat exclusion techniques will be coordinated between the District Biologist and the resource agencies.

Measure AS-4 **Construction Work Activities.** To avoid or minimize impacts to bats at a night roost, work activities are not to occur within 100 feet of the structure between sunset and sunrise. If construction work must be performed at night in the vicinity of the bridge structure containing a night roost, noise and direct lighting will be directed away from the structure or lighting will be specifically focused on the section of the bridge actively under construction to minimize impacts to night-roosting bats.

Measure AS-5 **Bird Exclusion Netting.** Airspace access to and from a bridge structure containing a night roost will not be restricted. Bird exclusion netting will not be used unless made from thick plastic and installed with no exposed overlap joints. Clearing of vegetation in the vicinity of the structure will also be minimized to the greatest extent practicable.

Measure AS-6 **Unfilled Expansion.** Subject to public health and safety considerations, existing unfilled expansion joints will remain unfilled and unobstructed to prevent permanent loss of existing day- and/or night-roosting habitat. Habitat for bats may be enhanced in the project limits by leaving newly created expansion joints unrubberized so that they are available to bats for day roosting after construction is complete.

Measure AS-7 **Burrowing Owl Survey.** In accordance with the California Department of Fish and Wildlife survey guidelines for burrowing owl, a take avoidance survey shall be conducted no less than 14 days prior to initiating ground-disturbance activities and, if time lapses between project activities, a final survey may be conducted within 24 hours prior to ground disturbance.

3.18.4.1 Applicable ETC Final EIR and Final EIS Avoidance, Minimization, and/or Mitigation Measures

ETC Measures B-2, B-3, B-4, B-8, B-10, B-11, and B-25 discussed in Section 3.15, Natural Communities, and ETC Measure B-27, discussed in Section 3.19, Threatened and Endangered Species, would be applicable to the Proposed Project, to minimize impacts to special-status species that occupy coastal sage scrub habitat.

3.19 Threatened and Endangered Species

3.19.1 Regulatory Setting

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

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code, Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife (CDFW) is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFW. For species listed under both the FESA and CESA requiring a Biological Opinion under Section 7 of the FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the 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.

The Project Area is also subject to the requirements of the Orange County Central and Coastal Subregion Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP). The entire footprint of the ETC Corridor was assumed "take" through its construction, and per the NCCP/HCP documents, all development activities and uses addressed by the NCCP/HCP by participating landowners within the NCCP/HCP Plan Areas are considered fully mitigated by the NCCP/HCP. No additional mitigation is required for impacts to identified species and their habitat or for species residing in covered habitats.

As noted in the NCCP/HCP Implementation Agreement and the Final Environmental Impact Report (EIR) and Final Environmental Impact Statement (EIS) for the NCCP/HCP, mitigation for all of the Transportation Corridor Agencies (TCA) Transportation Corridors in the Central and Coastal Subregional Plan area was comprehensive and included $6.615 million in funds and 651 acres (ac) of coastal sage scrub (CSS) revegetation, restoration, and preservation for three transportation corridors, including SR-241. The following components were specifically for the ETC, including the connection with SR-91.

- Contribution of $2,015,000 to the NCCP/HCP Conservation Fund
- Revegetation and restoration of 384 ac
- Maintenance of 25 cowbird traps
- Construction of 5 wildlife undercrossings and 26 wildlife culverts

3.19.2 Affected Environment

This section is based on the *Natural Environment Study* (NES; December 2015), the *Natural Environment Study Errata* (August 2016), the *Supplemental Natural Environment Study* (Supplemental NES; April 2016), the *Supplemental Natural Environment Study Errata* (August 2016), the *Biological Assessment* (BA; April

2016); and the Biological Opinions (July 1994 and April 2019; Appendix K of this Final Supplemental EIR/EIS) prepared for the Proposed Project.

The Study Area that was assessed for biological resources is referred to as the Biological Study Area (BSA). The description of the BSA was provided earlier in Section 3.15, Natural Communities, and was shown on Figure 3.15.1.

A literature review and records search were conducted to identify the existence or potential occurrence of sensitive or special-interest plant and animal species within or in the vicinity of the BSA. The most recent records of the California Natural Diversity Data Base (CNDDB) (Commercial Version) and the California Rare Plant Rank (CRPR; formerly the California Native Plant Society's [CNPS] Electronic Inventory of Rare and Endangered Vascular Plants of California) (2011, 2013, and 2014) were reviewed for the quadrangles containing and surrounding the BSA (i.e., the *Orange, Yorba Linda, Black Star Canyon,* and *Prado Dam, California,* United States Geological Survey 7.5-minute quadrangles). These databases contain records of reported occurrences of federal- and State-listed as threatened, endangered, and proposed threatened or endangered plant species; California Species of Special Concern (SSC); and otherwise special-status plant species or habitat that may occur within or in the immediate vicinity of the BSA. A list of species occurring in the County of Orange was obtained from the USFWS Information, Planning, and Conservation (IPaC) System online database on May 19 and June 15, 2011, September 9, 2013, and December 1, 2014. Official species lists were obtained from the USFWS on January 22, 2014, February 2, 2015, February 11, 2016, September 16, 2016, August 28, 2017, December 4, 2018, and July 17, 2019. An official species list was obtained from the National Marine Fisheries Service (NMFS) on March 16, 2017, December 4, 2018, and July 17, 2019. The official species lists provide a list of proposed, threatened, or endangered species and sensitive habitats potentially occurring in the vicinity of the Proposed Project. Copies of the latest USFWS and NMFS lists are provided in Appendix H of this document.

Reconnaissance-level survey and plant community mapping were conducted on May 10, 2011; March 17, 2015; and March 19, 2015. A full season of focused botanical surveys in the BSA was conducted on May 10 and June 28, 2011. A late season botanical survey was conducted on August 22, 2013, and early season focused botanical surveys were conducted on May 15, 16, 20, and 27, 2014, which completed a full season plant survey. In addition, a botanical survey of the slope area south of SR-91 was conducted on March 17 and 19, 2015. Wildlife surveys included USFWS

protocol surveys for coastal California gnatcatcher conducted between April 14 and June 9, 2011.

3.19.2.1 Plant Species

The results of the literature review indicated that a total of 41 special-status plant species have the potential to occur within or in the vicinity of the BSA. Nine of the 41 special-status plant species are federal- and/or State-listed as threatened or endangered species and are discussed in this section. The remaining 32 special-status plant species were discussed earlier in Section 3.17, Plant Species. The federal- and/or State-listed as threatened or endangered plant species within or in the vicinity of the BSA are:

- Braunton's milk-vetch (*Astragalus brauntonii*; federally endangered)
- Gowen cypress (*Hesperocyparis goveniana;* federally endangered)
- Munz's onion (*Allium munzii*; federally endangered/State threatened)
- San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*; State endangered)
- Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*; federally endangered/State endangered)
- Slender-horned spineflower (*Dodecahema leptoceras*; federally endangered/State endangered)
- Thread-leaved brodiaea (*Brodiaea filifolia*; federally threatened/State endangered)
- Santa Monica Mountains dudleya (*Dudleya cymosa* ssp. *Ovatifolia;* federally threatened)
- San Diego ambrosia (*Ambrosia pumila;* federally endangered)

None of these threatened or endangered plant species were observed within or in the vicinity of the BSA during the botanical surveys. The Project Area is not in the elevation range for Santa Monica Mountains dudleya and is not in the geographic range for San Diego ambrosia, and there is no suitable habitat in the BSA for these species. These species are not discussed further in this section. There is little or no suitable habitat within the BSA for Braunton's milk-vetch (designated critical habitat and known occurrences are adjacent to the BSA), slender-horned spineflower, Santa Ana River woollystar, and Gowen cypress. However, there is Braunton's milk-vetch designated critical habitat adjacent to the BSA, and therefore, it is discussed further below.

Limited or marginally suitable habitat for Munz's onion, thread-leaved brodiaea, and San Fernando Valley spineflower occurs in the BSA. However, botanical surveys conducted during the appropriate blooming periods for these species were negative. There is no designated critical habitat for Munz's onion, thread-leaved brodiaea, or San Fernando Valley spineflower in the BSA. In addition, there are no recent recorded populations of these species in or near the BSA. Therefore, Munz's onion and San Fernando Valley spineflower are considered absent (Biological Assessment findings: No effect) from the BSA and are not discussed further in this section, while thread-leaved brodiaea has at best an unlikely potential within the BSA and is discussed in this section.

Braunton's Milk-vetch Designated Critical Habitat

Braunton's milk-vetch is a perennial herb that occurs in CSS, chaparral, closed-cone coniferous forest, and valley and foothill grassland. It is usually found on granite, limestone, or gravelly clay soils in disturbed areas that range from 13 to 2,100 feet (ft) in elevation. This species is federally listed as endangered.

In December 2006, the USFWS designated critical habitat for Braunton's milk-vetch. There are six critical habitat units totaling approximately 3,300 ac found to be essential to the conservation of this species. The closest critical habitat unit to the project BSA is Unit 6, which is just outside the BSA and outside the direct disturbance limits for the Proposed Project. Unit 6 is south of the City of Yorba Linda in Gypsum and Coal Canyons. It consists of 832 ac, 589 ac of which are in Chino Hills State Park and the Coal Canyon Ecological Reserve, with the remaining acreage on private land. This unit includes several plant locations that are part of a larger population complex. Unit 6 is in a relatively large area that is isolated from urban development and provides genetic connectivity among plants found at several of the locations. It is believed that this unit supports a large seed bank based on a post-fire germination that occurred in 2003. Figure 3.15.2 (Sheets 8 and 9), provided earlier in Section 3.15, Natural Communities, shows the location of this designated critical habitat relative to the BSA.

Thread-leaved Brodiaea

Thread-leaved brodiaea is a perennial, bulbiferous herb, which occurs in chaparral openings, CSS, valley and foothill grassland, cismontane woodland, and vernal pools, from approximately 80 to 2,850 ft in elevation. Populations of thread-leaved brodiaea are typically found on flat or gently sloping grassland areas with clay soils,

surrounded by shrubland. This species is federally listed as threatened and State-listed as endangered.

Botanical surveys conducted for this species in 2011 during the appropriate blooming period (May–June) and in August 2013 and May 2014 were negative. Critical habitat was designated for thread-leaved brodiaea on February 8, 2011, but there is no designated critical habitat for thread-leaved brodiaea within the BSA. There are no recorded populations of thread-leaved brodiaea in the Project Vicinity. Furthermore, based on focused special-status species survey results conducted for the Mountain Park Project in 2001 and 2003, results were negative for this special-status plant species in the recently added proposed slope grading area outside of the original BSA. Therefore, this species is considered absent or unlikely within the BSA.

3.19.2.2 Animal Species

The results of the literature review indicated that a total of 75 special-status animal species have the potential to occur within or in the vicinity of the BSA. Fourteen are federal- and/or State-listed as threatened or endangered species and are discussed in this section. The remaining 61 special-status animal species were discussed earlier in Section 3.18, Animal Species. The federal- and/or State-listed as threatened or endangered animal species are:

- Arroyo toad (*Anaxyrus californicus*; federally endangered)
- Bald eagle (*Haliaeetus leucocephalus*; State endangered)
- Coastal California gnatcatcher (*Polioptila californica californica*; federally threatened)
- Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*; federally endangered)
- Least Bell's vireo (nesting) (*Vireo bellii pusillus*; federally endangered/State endangered)
- Quino checkerspot butterfly (*Euphydryas editha quino*; federally endangered)
- Riverside fairy shrimp (*Streptocephalus woottoni*; federally endangered)
- San Diego fairy shrimp (*Branchinecta sandiegonensis*; federally endangered)
- Santa Ana sucker (*Catostomus santaanae*; federally threatened)
- Southwestern willow flycatcher (nesting) (*Empidonax traillii extimus*; federally endangered/State endangered)
- Swainson's hawk (*Buteo swainsoni*; State threatened)
- Tricolored blackbird (nesting colony) (*Agelaius tricolor*; State emergency endangered)

- Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*; federally threatened/State endangered)
- Southern California Steelhead Distinct Population Segment (*Oncorhynchus mykiss*; federally endangered/State endangered)

Of these threatened or endangered animal species, only the coastal California gnatcatcher was observed during the field surveys. Marginally suitable foraging habitat for bald eagle and western yellow-billed cuckoo and suitable habitat for coastal California gnatcatcher occur in the BSA. In addition, Santa Ana sucker and coastal California gnatcatcher designated critical habitat were identified in or near the BSA. Suitable nesting habitat for least Bell's vireo and southwestern willow flycatcher is present outside the BSA, in the Project Vicinity. In addition, there is a limited amount of suitable foraging habitat present for least Bell's vireo and southwestern willow flycatcher in the BSA. These species and designated critical habitat are discussed in more detail below.

Suitable habitat for the San Diego fairy shrimp, Quino checkerspot butterfly, Delhi Sands flower-loving fly, Riverside fairy shrimp, arroyo toad, tricolored blackbird, and Swainson's hawk does not occur in the BSA. Therefore, these species are considered absent from the BSA and are not discussed further in this section.

The BSA is approximately 21 miles inland. In addition, there are too many blockages on the Santa Ana River for steelhead to be present in the Project Vicinity. Therefore, this species is considered absent from the BSA and is not discussed further in this section.

Santa Ana Sucker

The Santa Ana sucker is federally listed as threatened. It is endemic to the Los Angeles, San Gabriel, and Santa Ana Rivers. A population on the Santa Clara River may be introduced. It is found in cool, flowing water of small to medium-size permanent streams. The Santa Ana sucker was federally listed in 2000. Critical habitat was first designated by the USFWS in 2005 and revised in 2010. There is no designated critical habitat for the sucker within the BSA, but critical habitat is present along the Santa Ana River to the north of the BSA.

Santa Ana sucker was not observed in the BSA during the 2011, 2013, or 2014 various field surveys, and there is no suitable habitat present for this species in the BSA. However, it was formerly present outside of the BSA in the Santa Ana River to the north and the Prado Basin to the northeast.

Bald Eagle

The bald eagle is State-listed as endangered. It was federally delisted on July 9, 2007. The bald eagle nests in large trees and on platforms. Nests are commonly within 1 mile (mi) of water, and it roosts communally in winter.

The bald eagle was not observed in the BSA during the 2011, 2013, or 2014 surveys, and there is a limited amount of suitable foraging habitat present for this species in the BSA. There is no suitable nesting habitat for the bald eagle in the BSA, but there may be suitable nesting habitat outside the BSA.

Coastal California Gnatcatcher

The coastal California gnatcatcher is a nonmigratory songbird that typically nests and forages in moderately dense stands of CSS below 2,500 ft in elevation in southern California. Gnatcatchers usually defend breeding territories ranging in size from 2 to 14 ac and occupy home ranges that vary in size from 13 to 39 ac. The breeding season of the coastal California gnatcatcher generally extends from February 15 through August 30. After the chicks have fledged, juveniles may remain closely associated with their parents for up to several months and may disperse up to 6.2 mi from their natal territory.

The coastal California gnatcatcher was listed as threatened by the USFWS in March 1993. On February 7, 2000, approximately 513,650 ac in the Counties of Los Angeles, Orange, Riverside, San Bernardino, and San Diego were designated as critical habitat for the coastal California gnatcatcher. New boundaries of critical habitat totaling 495,795 ac were proposed in April 2003. On December 19, 2007, the USFWS designated 197,303 ac as revised final critical habitat. This revised final rule excludes lands within approved HCP areas, relieving additional regulatory burden on property owners who might be imposed upon by the critical habitat designation. Figure 3.15.1 (Sheets 7 to 10), provided earlier in Section 3.15, Natural Communities, shows the location of that designated critical habitat relative to the BSA.

As stated previously, focused surveys were conducted between April 14 and June 9, 2011, to determine the presence of coastal California gnatcatcher in the BSA. Coastal California gnatcatchers were observed during the surveys in two locations. One location consisted of a lone male adjacent to the BSA on the west side of SR-241, approximately 2,000 ft south of the connector on-ramp to SR-91 (shown on Sheet 3 of Figure 3.15.1). The other location, in the median of the SR-241/SR-91 interchange (shown on Sheets 4 and 6 of Figure 3.15.1), consisted of a pair of adults who

successfully hatched six young from two nests. Although surveys were concluded before the second nest had fledged, all the young in the first nest fledged successfully. At least one coastal California gnatcatcher was observed in this location during surveys conducted in 2013. Although the age and sex of the coastal California gnatcatchers were not determined at that time, this observation demonstrates the area is an established territory that continues to be used. No coastal California gnatcatchers were detected along SR-91 within or in the vicinity of the BSA.

Coastal California Gnatcatcher Designated Critical Habitat

There is designated coastal California gnatcatcher critical habitat along SR-91 at the east end of the BSA on the north and south sides of SR-91 as shown on Figure 3.15.1 (Sheets 7 to 10). There are two critical habitat areas in the BSA. One area begins approximately 1 mi east of the SR-241/SR-91 interchange and continues east of the BSA with the north part outside the Natural Communities Conservation Plan (NCCP)/HCP Plan Area. The second area overlaps the south side near the east edge of the BSA. A majority of this area is within the NCCP/HCP Plan Area but a small part of the area is within the NCCP/HCP Existing Use Area (less than 1.5 ac).

The CSS in the coastal California gnatcatcher designated critical habitat contains constituent elements and is, therefore, subject to consultation provisions under FESA. In addition to CSS, the chaparral and nonnative grassland vegetation communities also contain constituent elements of coastal California gnatcatcher critical habitat. Although chaparral and nonnative grassland are typically not suitable for nesting coastal California gnatcatcher, they may be used for foraging and dispersal and are, therefore, also subject to consultation provisions under FESA.

Least Bell's Vireo

Least Bell's vireo was listed as an endangered species by State and federal agencies in 1980 and 1986, respectively, and critical habitat was designated in 1994. Least Bell's vireo is a small migratory songbird that nests in Southern California. This species is a summer resident of Southern California and breeds in willow thickets and other dense, low riparian growths in lowlands and lower portions of canyons. Approximately 38,000 ac of critical habitat were designated for least Bell's vireo in 1994. The critical habitat occurs in 10 areas throughout Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside, and San Diego Counties.

Least Bell's vireo was not observed in the BSA during the various field surveys in 2011, 2013, or 2014, and there is a limited amount of suitable foraging habitat present

for this species in the BSA. No suitable nesting habitat is located in the BSA, but is present outside of the BSA in the Santa Ana River to the north and the Prado Basin to the northeast.

Southwestern Willow Flycatcher

Southwestern willow flycatcher is listed as an endangered species by State and federal agencies. This flycatcher is a migratory songbird that typically nests and forages in dense riparian habitats with a patchy understory near surface water or saturated soil. Willow flycatchers usually defend breeding territories ranging in size from 2.7 to 5.7 ac. In Southern California, the breeding season of the southwestern willow flycatcher generally extends from early-May with departures from the territory in mid-August to early-September.

Southwestern willow flycatcher was listed as endangered by the USFWS in 1995. In 1997, southwestern willow flycatcher was USFWS designated critical habitat and re-designated critical habitat in 2005.

Southwestern willow flycatcher was not observed in the BSA during the various field surveys in 2011, 2013, or 2014, and there is a limited amount of suitable foraging habitat present for this species in the BSA. No suitable nesting habitat is located in the BSA, but is present outside of the BSA in the Santa Ana River to the north and the Prado Basin to the northeast.

Western Yellow-billed Cuckoo

The western yellow-billed cuckoo is listed as endangered by the State and as a threatened species by the USFWS. This cuckoo is a migratory songbird that nests and forages in large, dense riparian habitats in shallow water habitats with cottonwood trees particularly important for foraging. Western yellow-billed cuckoo usually defend very large breeding territories ranging in size from 25 to 99 ac. In Southern California, the breeding season of the western yellow-billed cuckoo generally extends from May through September. The western yellow-billed cuckoo was listed as threatened by the USFWS in October 2014 (Federal Register [FR] 79(192):59992–60038; USFWS 2014b).

Western yellow-billed cuckoo was not observed in the BSA during the various field surveys in 2011, 2013, or 2014, and there is no suitable foraging habitat present for this species in the BSA. No suitable nesting habitat is located in the BSA, but is present outside of the BSA in the Santa Ana River to the north and the Prado Basin to the northeast.

3.19.3 Environmental Consequences

3.19.3.1 Temporary Impacts

Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Braunton's Milk-vetch Designated Critical Habitat

The disturbance limits of the Build Alternative are adjacent to Braunton's milk-vetch designated critical habitat as shown earlier on Figure 3.15.2 (Sheets 8 and 9). Although the Build Alternative will not directly impact Braunton's milk-vetch designated critical habitat, it may result in temporary indirect impacts during construction through the accumulation of dust on the leaves of any Braunton's milk-vetch plants in the critical habitat. With the implementation of Measure TE-1, described later in this section, which would limit construction activities in proximity to the critical habitat, those potential temporary impacts would not be substantial. This is a determination of "May affect, not likely to adversely affect" on Braunton's milk-vetch and on its designated critical habitat.

Thread-leaved Brodiaea

During construction, chaparral openings, CSS, and grassland vegetation would be disturbed and, therefore, there is a potential to impact thread-leaved brodiaea. In order to minimize impacts to this species, preconstruction surveys would be conducted and an ESA would be established to protect any thread-leaved brodiaea individuals within the construction limits to the extent feasible. Because the presence of the thread-leaved brodiaea within the Project Area is unlikely, and minimization measures would be implemented, the Build Alternative would not substantially impact this species during construction. This is a determination of "May affect, not likely to adversely affect."

Santa Ana Sucker

There is some potential for the aquatic Santa Ana sucker to be indirectly impacted as a result of runoff from the Proposed Project. During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion compared to existing conditions. Furthermore, chemicals, liquid products, and petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked during construction and thereby have the potential to be transported via storm runoff into the Santa Ana River. During operation, the Proposed Project would result in an increase in impervious surface area and potentially an increase in total stormwater runoff to the Santa Ana River. This is a determination of

"May affect, not likely to adversely affect" on the Santa Ana sucker and its designated critical habitat.

Bald Eagle

The Build Alternative is not expected to directly impact any bald eagles due to the low probability of occurrence in the BSA and the lack of suitable nesting habitat in the BSA for the bald eagle. The Build Alternative may temporarily redirect foraging bald eagles away from the BSA during construction; however, construction activities would be temporary in nature. Furthermore, because of the existing freeways and the presence of higher quality foraging habitat nearby, it is unlikely bald eagles are currently foraging in the BSA or would be during construction. Therefore, the Build Alternative is not anticipated to result in adverse temporary impacts to bald eagles, and no avoidance, minimization, or mitigation measures are required.

Coastal California Gnatcatcher

Direct and indirect temporary impacts to coastal California gnatcatcher and critical habitat are anticipated to occur during construction of the Build Alternative. The gnatcatcher is likely to occur within or near the disturbance limits at the time of construction because there is a known territory in Coal Canyon approximately 65 ft south of SR-91. Vibratory pile driving at Coal Canyon Undercrossing would occur approximately 300 ft from this location and would generate a maximum noise level of approximately 79 A-weighted decibels (dBA), which would be above the background traffic noise level on SR-91. With implementation of a barrier (temporary construction barrier or a noise curtain surrounding the pile driver) and assuming continuous pile driving for 30 minutes in an hour, noise levels from pile driving would be lower than traffic noise on SR-91. Coastal California gnatcatcher would experience indirect temporary impacts due to construction activities, including increased exposure to noise, vibration, dust, nighttime lighting, and human presence. In addition, direct impacts to coastal California gnatcatcher would occur through habitat disturbance and removal during construction.

Table 3.19.1 shows the direct temporary impacts to California gnatcatcher occupied habitat and designated critical habitat that would occur during construction of the Build Alternative within and outside the NCCP/HCP Plan Area. During construction, take of coastal California gnatcatcher in the NCCP/HCP Plan Area and within the 1994 Biological Opinion Impact Area would occur as the result of the temporary loss of 11.85 ac (11.47 ac of CSS and 0.38 ac of nonnative grassland) of occupied habitat in the median of the SR-241/SR-91 interchange as shown in Table 3.19.1.

Table 3.19.1 Potential Effects on Coastal California Gnatcatcher Occupied Habitat and Designated Critical Habitat Within and Outside the NCCP/HCP Plan Area[1]

Coastal California Gnatcatcher Habitat[1]		Within the NCCP/HCP Plan Area				Outside the NCCP/HCP Plan Area			
		Within Caltrans Right-of-Way		Outside Caltrans Right-of-Way		Within Caltrans Right-of-Way		Outside Caltrans Right-of-Way	
		Temporary Acres	Permanent Acres	Temporary Acres	Permanent Acres	Temporary Acres	Permanent Acres	Temporary Acres	Permanent Acres
Within 1994 Biological Opinion Study Area	**Occupied Habitat**								
	Coastal Sage Scrub	11.47	2.61	0.00	0.00	0.00	0.00	0.00	0.00
	Chaparral	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Nonnative Grassland	0.38	0.37	0.00	0.00	0.00	0.00	0.00	0.00
	Total Occupied Habitat	**11.85**	**2.98**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Outside 1994 Biological Opinion Study Area	**Designated Critical Habitat**								
	Coastal Sage Scrub	2.60	1.34	0.04	0.39	0.00	0.00	0.00	0.00
	Chaparral	0.076[5]	0.11	0.004[5]	0.17	0.18	0.00	0.00	0.00
	Nonnative Grassland	4.85	0.96	0.00	0.00	0.00	0.00	0.00	0.00
	Native Plant Restoration	0.74	0.04	0.00	0.00	1.45	0.00	0.00	0.00
	Oak Woodland[2]	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00
	Ruderal[2]	2.16[6]	3.01[6]	0.00	0.00	0.00	0.00	0.00	0.00
	Developed[2]	2.28[6]	13.70[6]	0.00	0.00	6.33	1.18	0.00	0.00
	Total Designated Critical Habitat[2]	**12.71**	**19.16**	**0.09**	**0.56**	**7.96**	**1.18**	0.00	0.00
Grand Total		**24.56**	**22.14**	**0.09**	**0.56**	**7.96**	**1.18**	**0.00**	**0.00**

Sources: *Natural Environment Study* (December 2015); *Supplemental Natural Environment Study* (April 2016).

[1] This table represents vegetation in the median of SR-241 (within the NCCP/HCP Plan Area) where a CAGN breeding territory was found in 2011 and the designated CAGN critical habitat at the east end of the Project along SR-91.

[2] Oak Woodland, Ruderal, and Developed habitat classifications are also within Designated Critical Habitat, but are not considered suitable for use by CAGN.

[3] CAGN were not found in designated CAGN critical habitat during the 2011 focused surveys, thus the acreage areas are shown under separate headings.

[4] Some of the NCCP/HCP Plan Area also includes the NCCP/HCP Existing Use Area along SR-91 (i.e., temporary impacts to coastal sage scrub include 0.03 ac).

[5] Acreage number is shown to the thousandth place (0.000) and is not a typographical error.

[6] This impact area is different than that presented in the Draft Supplemental EIR/EIS because the current aerial photo shows pavement added for the SR-91 CIP in this area. Ruderal impacts were reduced and developed impacts were increased.

ac = acre/acres
CAGN = California gnatcatcher
Caltrans = California Department of Transportation
NCCP/HCP = Natural Community Conservation Plan/Habitat Conservation Plan

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Take of designated coastal California gnatcatcher critical habitat in the NCCP/HCP Plan Area and outside the 1994 Biological Opinion Impact Area, regardless of occupation, would occur as a result of the temporary loss of 12.71 ac of critical habitat, which includes the temporary loss of 0.09 ac on the County-owned parcel south of SR-91 as shown in Table 3.19.1.

Regardless of occupation, take of designated coastal California gnatcatcher habitat outside the NCCP/HCP Plan Area and outside the 1994 Biological Opinion Impact Area would occur as a result of temporary impacts to 7.96 ac of critical habitat within Caltrans right-of-way as shown in Table 3.19.1.

Temporary indirect impacts to coastal California gnatcatcher during construction would be reduced based on the implementation of Measures NC-1 through NC-6, provided earlier in Section 3.15, Natural Communities, which require preconstruction and construction surveys for California gnatcatcher and prohibit construction activities in and adjacent to CSS, and Measures TE-3 through TE-6, provided later in this section, which would further prohibit and limit construction activities in areas of CSS or coastal California gnatcatcher designated critical habitat.

As a covered project, the NCCP Implementation Agreement specifies take authorization within the right-of-way of SR-241 and SR-91, which includes the known territory location of the coastal California gnatcatcher in the BSA. The NCCP Implementation Agreement specifically states that take authorization for the TCA, as noted in the Biological Opinion (1-6-94-F-17) for the ETC, includes its interchange with SR-91. Incidental take would be permitted for impacts on habitat supporting up to three pairs of California gnatcatcher. Nonetheless, the Build Alternative has gone through the Section 7 consultation process among Caltrans, the TCA, and the USFWS to comply with FESA and to ensure consistency with the Implementation Agreement.

As described in Parts I and II of the NCCP Implementation Agreement, all development activities addressed by the NCCP/HCP Plan Area are considered fully mitigated under the NCCP Act, CESA, and FESA for impacts to habitat occupied by listed and other species identified in the Implementation Agreement. Therefore, compensatory mitigation for the impacts of the Build Alternative in the NCCP/HCP Plan Area has already been completed pursuant to the NCCP Implementation Agreement. USFWS verification and acceptance of the mitigation components for Project impacts occurred during Section 7 consultation and was completed in April 2019.

Impacts to California gnatcatcher habitat in non-NCCP/HCP Plan Areas within Caltrans right-of-way has been covered through conservation measures in the Biological Opinion (refer to Measure TE-7 in Section 3.19.5, below) because California gnatcatcher critical habitat was not yet designated and was, therefore, not part of the original Biological Opinion for the ETC. For CSS impacts to coastal California gnatcatcher occupied habitat or designated critical habitat, the mitigation ratio is 1:1 for temporary impacts. This mitigation was evaluated through coordination among Caltrans, TCA, and the USFWS. Specifically, federal Section 7 consultation between Caltrans and the USFWS was conducted to determine impacts to designated coastal California gnatcatcher critical habitat in the BSA. A discussion of the consultation is included in Chapter 5 and the new Biological Opinion (Appendix K).

As of December 2014, TCA had approximately 15 ac of CSS and cactus scrub mitigation land available at their Strawberry Farms habitat restoration area, located adjacent to the Strawberry Farms golf course at Strawberry Farm Road and University Drive in the City of Irvine, California. A USFWS-approved habitat restoration plan was prepared for that area. During email correspondence with the TCA on February 9, 2011 (prior to initiation of the current project), Jonathan Snyder of the USFWS conceptually agreed to the use of the Strawberry Farms area to offset impacts to CSS and cactus scrub associated with future TCA projects.

The Strawberry Farms mitigation area is in the Quail Hill Preserve, part of the Coastal Reserve of the Central and Coastal NCCP/HCP Plan Area, and is contiguous with Bommer and Shady Canyons, adjacent open space land including the Irvine Ranch National Natural Landmark, and a part of the Central and Coastal NCCP/HCP Plan Area. Bommer and Shady Canyons connect with the Laguna Coast Wilderness Park and Crystal Cove State Park. The Strawberry Farms area includes habitat for rare species such as coastal cactus wren and habitat for coastal California gnatcatcher and many-stemmed dudleya (*Dudleya multicaulis*). The Strawberry Farms mitigation area will be used as mitigation for the Proposed Project.

The Saddle Club mitigation area will also be used as mitigation for the Proposed Project as specified in the 2019 Biological Opinion. The Saddle Club mitigation area is an approximate 30.5 ac property adjacent to and northeast of County Route S19 and O'Neill Regional Park, approximately 0.5-mile northeast of SR-241 and is mapped as USFWS-designated Critical Habitat for coastal California gnatcatcher. There is a moderate-to-high potential for various special-status wildlife species to

occur on the Saddle Club site, including, but not limited to, coastal California gnatcatcher, crotch bumble bee (*Bombus crotchii*), Riverside fairy shrimp (*Streptocephalus woottoni*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), coast horned lizard (*Phrynosoma blainvillii*), orange-throated whiptail (*Aspidoscelis hyperythra*), red-diamond rattlesnake (*Crotalus ruber*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), white-tailed kite (*Elanus leucurus*), pallid bat (*Antrozous pallidus*), and western mastiff bat (*Eumops perotis californicus*).[1]

Least Bell's Vireo

Direct impacts to potential foraging habitat are expected, and there is an incremental probability that the Build Alternative may temporarily redirect foraging least Bell's vireo away from the BSA during construction. To avoid impacts to least Bell's vireos during construction, the monitoring biologist will conduct a preconstruction survey and will flush any individuals prior to brush-clearing and earth-moving activities. With the existence of more suitable habitat in the nearby Santa Ana River and Prado Basin, the temporary loss of potentially suitable foraging habitat would have minimal or no effect on least Bell's vireo.

Indirect project impacts (noise, lighting, and dust) from construction in the freeway median of an already busy facility, and thus very minor increases in temporary noise levels, are not expected to change any potential habitat uses by this species in the vicinity of the BSA. Lighting from advance signage would be minimal, and there would not be spillover to areas outside Caltrans right-of-way. Lighting levels would be consistent with the existing condition.

This is a determination of "May affect, not likely to adversely affect."

Southwestern Willow Flycatcher

Direct impacts to potential foraging habitat are expected, and there is an incremental probability that the Build Alternative may temporarily redirect foraging southwestern willow flycatcher away from the BSA during construction. To avoid impacts to southwestern willow flycatchers during construction, the monitoring biologist will conduct a preconstruction survey and will flush any individuals prior to brush-clearing and earth-moving activities. With the existence of more suitable habitat in the nearby Santa Ana River and Prado Basin, the temporary loss of potentially

[1] Michael Baker International, *Saddle Club Property (Assessor's Parcel Number 125-035-34) – Existing Conditions Analysis, Trabuco Canyon, Orange County, California*. November 9, 2017.

suitable foraging habitat would have minimal or no effect on southwestern willow flycatcher.

Indirect project impacts (noise, lighting, and dust) from construction in the freeway median of an already busy facility, and thus very minor increases in temporary noise levels, are not expected to change any potential habitat uses by this species in the vicinity of the BSA. This is a determination of "May affect, not likely to adversely affect."

Western Yellow-Billed Cuckoo

The Build Alternative is not expected to impact any western yellow-billed cuckoos due to the low probability of occurrence in the BSA and the lack of suitable foraging or nesting habitat in the BSA for this species. Due to the existing freeways and the presence of foraging habitat in the Santa Ana River and Prado Basin, it is unlikely western yellow-billed cuckoos would be present in the BSA during construction. Therefore, the Build Alternative is not anticipated to result in temporary impacts to western yellow-billed cuckoos, and no avoidance, minimization, or mitigation measures are required.

No Build Alternative

The No Build Alternative does not include any improvements to SR-241 or SR-91 in the BSA. Therefore, no temporary impacts to threatened or endangered species would occur as a result of the No Build Alternative.

3.19.3.2 Permanent Impacts

***Build Alternative* (*Two-Lane Express Lanes Connector*) (*Preferred Alternative*)**

Braunton's Milk-vetch Designated Critical Habitat

The Build Alternative would not result in any permanent impacts to Braunton's milk-vetch designated critical habitat, and no avoidance, minimization, or mitigation measures are required. This is a determination of "No effect" on Braunton's milk-vetch, but a determination of "May affect, not likely to adversely affect" on its designated critical habitat.

Thread-leaved Brodiaea

Despite direct permanent impacts to approximately 20 ac of chaparral openings, CSS, and grassland vegetation in the BSA, any potentially suitable habitat impacts are expected to be minimal for this species. Because thread-leaved brodiaea is considered absent or unlikely within the BSA, the Build Alternative is not expected to

substantially impact this species. This is a determination of "May affect, not likely to adversely affect."

Bald Eagle

Operation of the Build Alternative is not expected to directly impact any bald eagles due to the low probability of occurrence in the BSA and the lack of suitable nesting habitat in the BSA for the bald eagle. Because of the existing freeways and the presence of higher quality foraging habitat nearby, it is unlikely bald eagles are currently foraging in the BSA or would be during operation of the Build Alternative. Therefore, the Build Alternative is not anticipated to result in permanent impacts to bald eagles and no avoidance, minimization, or mitigation is required.

Coastal California Gnatcatcher

Direct and indirect permanent impacts to coastal California gnatcatcher and critical habitat would occur as a result of the Build Alternative. The coastal California gnatcatcher would experience indirect permanent impacts as a result of increased exposure to noise, vibration, and dust during operation of the Build Alternative.

Table 3.19.1 shows the direct permanent impacts to coastal California gnatcatcher occupied and designated critical habitat that would occur during operation of the Build Alternative within and outside the NCCP/HCP Plan Area. Take of coastal California gnatcatcher in the NCCP/HCP Plan Area and within the 1994 Biological Opinion Impact Area is expected to occur through the permanent loss of 2.98 ac (2.61 ac of CSS and 0.37 ac of nonnative grassland) of occupied habitat in the median of the existing SR-241/SR-91 interchange as shown in Table 3.19.1). Incidental take would be permitted for impacts on habitat supporting up to three pairs of California gnatcatcher.

Take of designated coastal California gnatcatcher designated critical habitat in the NCCP/HCP Plan Area, outside the 1994 Biological Opinion Impact Area is expected to occur through the permanent loss of 19.16 ac, which includes permanent loss of 0.56 ac on the County-owned parcel south of SR-91 as shown in Table 3.19.1.

There are 14.83 ac of suitable coastal California gnatcatcher-designated critical habitat in the Project Area. The Proposed Project would permanently impact 2.41 ac of suitable coastal California gnatcatcher designated critical habitat within Caltrans right-of-way and outside the 1994 Biological Opinion Impact Area (CSS, chaparral, and nonnative grassland; Table 3.19.1). The loss of a few acres of coastal California gnatcatcher designated critical habitat along SR-91 would not adversely affect the

survival and recovery of this species since there are thousands of acres of conserved suitable and occupied gnatcatcher habitat in the vicinity of the Project Area (much of which was never designated as critical because it had already been conserved in the NCCP/HCP before the critical habitat designation was made). Therefore, the Proposed Project impacts would not diminish the value of critical habitat area for the survival and recovery of coastal California gnatcatcher in the surrounding area.

Regardless of occupation, take of coastal California gnatcatcher designated critical habitat outside the NCCP/HCP Plan Area and outside the 1994 Biological Opinion Impact Area is expected to occur as a result of permanent impacts to 1.18 ac of critical habitat within Caltrans right-of-way as shown in Table 3.19.1.

As discussed earlier, mitigation for the segment of the Build Alternative in the NCCP/HCP Plan Area was conducted as part of the NCCP Implementation Agreement. Therefore, no further mitigation would be required for the permanent impacts to 19.16 ac of designated critical habitat within the NCCP/HCP Plan Area. Impacts to non-NCCP/HCP areas within Caltrans right-of-way have been covered through conservation measures in the new Biological Opinion because the coastal California gnatcatcher critical habitat was not yet designated and was, therefore, not part of the original Biological Opinion. For impacts to coastal California gnatcatcher occupied habitat, designated critical habitat, and impacts to CSS beyond those that were included in the original Biological Opinion, the mitigation ratio is 2:1 for permanent impacts and 1:1 for temporary impacts. The Strawberry Farms mitigation area and Saddle Club mitigation area will be used as mitigation for the Proposed Project.

Least Bell's Vireo

Direct impacts to this species are expected due to loss of a small amount (approximately 1 ac of chaparral) of potential foraging habitat within the BSA; however, there is a lack of suitable nesting habitat. Indirect project impacts (noise and lighting) from operation of an already busy facility are not expected to substantially change any potential habitat uses by this species in the vicinity of the BSA. For example, the Noise Study Report for the Proposed Project found that noise levels in the Canyon RV Park adjacent to the existing freeway are expected to increase by 1 dBA or less when compared to the No Build Condition. With the existence of more suitable habitat in the nearby Santa Ana River and Prado Basin, the permanent loss of potentially suitable foraging habitat would have a minimal or no permanent effect on

least Bell's vireo. This is a determination of "May affect, not likely to adversely affect."

Southwestern Willow Flycatcher

Direct impacts to this species are expected due to loss of a small amount (approximately 1 ac of chaparral) of potential foraging habitat within the BSA; however, there is a lack of suitable nesting habitat. Indirect project impacts (noise and lighting) from operation of an already busy facility are not expected to substantially change any potential habitat uses by this species in the vicinity of the BSA. For example, the Noise Study Report for the Proposed Project found that noise levels in the Canyon RV Park adjacent to the existing freeway are expected to increase by 1 dBA or less when compared to the No Build Condition. With the existence of more suitable habitat in the nearby Santa Ana River and Prado Basin, the permanent loss of potentially suitable foraging habitat would have a minimal or no permanent effect on southwestern willow flycatcher. This is a determination of "May affect, not likely to adversely affect."

Western Yellow-Billed Cuckoo

The Build Alternative is not expected to impact any western yellow-billed cuckoos due to the low probability of occurrence in the BSA and the lack of suitable foraging or nesting habitat in the BSA for this species. Due to the existing freeways and the presence of foraging habitat in the Santa Ana River and Prado Basin, it is unlikely western yellow-billed cuckoos would be present in the BSA during operation. Therefore, the Build Alternative is not anticipated to result in permanent impacts to western yellow-billed cuckoos, and no avoidance, minimization, or mitigation measures are required. This is a determination of "No effect."

3.19.4 Effects Determination

Table 3.19.2 shows the federally listed species and any critical habitat associated with the Proposed Project and the final effects findings issued by USFWS in the April 17, 2019 Biological Opinion for the Proposed Project. The conditions in the Biological Opinion were added to Measure TE-7 in this section. The five federally listed species, and their critical habitat (as applicable), which are known from or are in the vicinity of the BSA, are included in the Biological Assessment as part of the Section 7 consultation (i.e., thread-leaved brodiaea, Braunton's milk-vetch, southwestern willow flycatcher, least Bell's vireo, and coastal California gnatcatcher).

Table 3.19.2 Effect Findings for Federally Listed Species

Listed Species and Critical Habitat[1]	Federal Status	Rationale	Effects Determination[2, 3]
Listed Species			
Santa Monica Mountains dudleya *Dudleya cymosa* ssp. *ovatifolia*	Threatened	Site is not within elevation range of the species. Surveys have been negative.	No effect
San Diego ambrosia *Ambrosia pumila*	Endangered	Project site is outside the known range of the species. Surveys have been negative.	No effect
Braunton's milk-vetch *Astragalus brauntonii*	Endangered	No habitat available. Surveys have been negative.	NLAA
Munz's onion *Allium munzii*	Endangered	Limited habitat for this species is present. Surveys have been negative.	No effect
Thread-leaved brodiaea *Brodiaea filifolia*	Threatened	Marginally suitable habitat for this species is present. Surveys have been negative.	NLAA
San Fernando Valley spineflower *Chorizanthe parryi* var. *fernandina*	Candidate	Limited habitat for this species is present. Surveys have been negative.	No effect
Slender-horned spineflower *Dodecahema leptoceras*	Endangered	Suitable habitat is absent.	No effect
Santa Ana River woollystar *Eriastrum densifolium ssp. sanctorum*	Endangered	Suitable habitat is absent.	No effect
Gowen cypress *Hesperocyparis goveniana*	Endangered	Suitable habitat is absent.	No effect
Riverside fairy shrimp *Streptocephalus woottoni*	Endangered	Suitable habitat is absent.	No effect
San Diego fairy shrimp *Branchinecta sandiegensis*	Endangered	Suitable habitat is absent.	No effect
Delhi Sands flower-loving fly *Rhaphiomidas terminates abdominalis*	Endangered	Suitable habitat is absent.	No effect
Quino checkerspot butterfly *Euphydryas editha quino*	Endangered	Suitable habitat is absent.	No effect
Santa Ana sucker *Catostomus santaanae*	Threatened	Suitable habitat is absent.	NLAA
Southern California Steelhead Distinct Population Segment *Oncorhynchus mykiss*	Endangered	Suitable habitat is absent.	No effect
Arroyo toad *Anaxyrus californicus*	Endangered	Suitable habitat is absent.	No effect
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	Threatened	Suitable habitat is absent.	No effect
Least Bell's vireo *Vireo bellii pusillus*	Endangered	Suitable nesting habitat is absent.	NLAA
Southwestern willow flycatcher *Empidonax traillii extimus*	Endangered	Suitable nesting habitat is absent.	NLAA

Table 3.19.2 Effect Findings for Federally Listed Species

Listed Species and Critical Habitat[1]	Federal Status	Rationale	Effects Determination[2, 3]
Coastal California gnatcatcher *Polioptila californica californica*	Threatened	Suitable nesting habitat is present. Breeding territory.	LAA
Critical Habitat			
Braunton's milk-vetch	Final Designated	One critical habitat polygon occurs on the south side of SR-91 just outside the BSA.	NLAA
Santa Ana sucker	Final Designated	One critical habitat polygon occurs on the north side of SR-91.	NLAA
Coastal California gnatcatcher	Final Designated	Two critical habitat polygons occur in the BSA along the SR-91.	NLAA

Sources: *Natural Environment Study* (December 2015) and *Biological Assessment* (April 2016).

1 Includes species from the USFWS list of species (August 28, 2017) and the NMFS list of species (March 16, 2017) that may occur in the Project Area.

2 Expected effects determination with implementation of the NCCP/HCP Construction-Related Minimization Measures and other proposed mitigation measures for both NCCP/HCP Plan Areas and non-NCCP/HCP Plan Areas.

3 Effects Findings: No effect; May affect; NLAA: Not likely to adversely affect; LAA: May affect, likely to adversely affect.

BSA = Biological Study Area
NCCP/HCP = Natural Community Conservation Plan/Habitat Conservation Plan
NMFS = National Marine Fisheries Service
SR-91 = State Route 91
USFWS = United States Fish and Wildlife Service

The 2019 Biological Opinion determined that "the proposed action is not likely to jeopardize the continued existence of the gnatcatcher or adversely modify its designated critical habitat."

3.19.4.1 No Build Alternative

The No Build Alternative does not include any improvements to SR-241 or SR-91 in the BSA. Therefore, no permanent impacts to threatened or endangered species would occur as the result of the No Build Alternative.

3.19.5 Avoidance, Minimization, and/or Mitigation Measures

The following measure would reduce potential temporary impacts to Braunton's milk-vetch designated critical habitat:

Measure TE-1 **Construction Work Limits Review.** During Final Design, the construction work limits will be reviewed to ensure that the lateral work limits are reduced to avoid designated Braunton's milk-vetch critical habitat and that construction staging areas are located in areas that have been previously disturbed or

developed. All designated critical habitat for Braunton's milk-vetch adjacent to and outside the project disturbance limits will be delineated on the project specifications as environmentally sensitive areas (ESAs) prior to any construction activities near those areas.

The following measure would avoid and/or minimize impacts to thread-leaved brodiaea:

Measure TE-2 **Thread-leaved Brodiaea Preconstruction Surveys and Environmentally Sensitive Areas.** Preconstruction surveys will be conducted to determine if thread-leaved brodiaea is present in the Project Area. If this species is found in the Project Area, prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed around the protected zone of any thread-leaved brodiaea individuals and designated as an ESA to be preserved to the extent feasible. The protected zone will extend 5 feet (ft) outside of the vegetation edge. No grading or fill activity of any type will be permitted within the ESA. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby thread-leaved brodiaea. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESA. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where thread-leaved brodiaea is adjacent to planned grading activities.

In addition to Measures NC-1 through NC-6 (refer to Section 3.15, Natural Communities) that address CSS, Measures WQ-2, WQ-3, and WQ-4 (refer to Section 3.8, Water Quality and Storm Water Runoff), and Measure IS-1 (refer to Section 3.20, Invasive Species), the following measures would avoid and/or minimize impacts to coastal California gnatcatcher and designated critical habitat:

Measure TE-3 **Coastal California Gnatcatcher Survey.** Prior to the commencement of grading operations or other activities involving disturbance of coastal sage scrub (CSS) or areas of

coastal California gnatcatcher designated critical habitat (with constituent elements), a survey will be conducted to locate coastal California gnatcatcher within 100 ft of the outer extent of projected soil disturbance activities and the locations of coastal California gnatcatchers shall be clearly marked and identified on the construction/grading plans. The 100 ft buffer outside the project soil disturbance limits will be clearly marked in the field by construction personnel under the guidance of the biologist. Construction or clearing will not be conducted within the project disturbance limits adjacent to the 100 ft buffer until the biologist determines that the young have fledged or the nest is no longer active.

Measure TE-4 **Barrier Installation.** Prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed around CSS and coastal California gnatcatcher designated critical habitat (with constituent elements) adjacent to and outside the project footprint to designate ESAs. No grading or fill activity of any type will be permitted within the ESAs and no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby ESAs. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESAs. Silt fence barriers will be installed at the ESA boundaries adjacent to the project footprint to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities.

Measure TE-5 **Construction Activities Monitoring.** A qualified biologist will monitor all construction activities for the duration of the project construction in areas adjacent to ESAs to flush out any wildlife species present from the construction areas prior to construction and to ensure that vegetation removal, best management practices, ESAs, and all avoidance and minimization measures are properly followed.

Measure TE-6 **Shielded Lighting.** Shielded lighting will be used for any nighttime construction adjacent to CSS within coastal California gnatcatcher designated critical habitat to avoid and minimize artificial night lighting effects on the gnatcatcher.

The following measure would mitigate for temporary and permanent impacts to coastal California gnatcatcher occupied habitat and designated critical habitat outside of the NCCP/HCP Plan Area.

Measure TE-7 **Section 7 Consultation and Biological Opinion.** Section 7 consultation was conducted with the United States Fish and Wildlife Service (USFWS) to address effects to coastal California gnatcatcher and coastal California gnatcatcher occupied and/or designated critical habitat outside the Natural Communities Conservation Plan (NCCP) Area. Requirements from the 2019 Biological Opinion are listed below.

Temporary impacts to coastal sage scrub and native plant restoration will be offset through restoration of 6.84 ac with coastal sage scrub (not as mitigation slopes, coastal sage scrub will be the baseline condition for future consultations).

Temporary impacts to chaparral, oak woodland, nonnative grassland, and ruderal in designated critical habitat will be offset through restoration of 7.31 ac with native fuel modification zone species[1] (not mitigation slopes).

Permanent impacts to coastal sage scrub and native plant restoration will be offset through: on-site restoration of 8.73 ac (6.98 ac with coastal sage scrub and 1.75 ac with native fuel modification zone species [not mitigation slopes]); off-site mitigation of 19.63 ac including advance restoration of 13.3 ac at Strawberry Farms (9.75 ac of coastal sage scrub restoration, 1.86 ac of coastal sage scrub and prickly pear cactus

[1] A fuel modification zone is an area where combustible vegetation in the landscaping is modified or replaced with drought-tolerant or fire-resistant vegetation to provide protection against wildfires. These drought-tolerant and fire-resistant species are considered fuel modification zone species.

restoration, 0.39 ac of native perennial grassland restoration, and 1.3 ac of coastal sage scrub enhancement); and off-site mitigation of 6.33 ac at the Saddle Club (2.63 ac of coastal sage scrub and 3.7 ac of coastal sage scrub/chaparral mix).

Permanent impacts to chaparral, oak woodland, nonnative grassland, and ruderal in designated critical habitat will be offset through: on-site restoration of 7.31 ac with native fuel modification zone species (not mitigation slopes); on-site restoration of 0.28 ac with native fuel modification zone species, with maintenance activities within 14 ft from edge of pavement (not mitigation slopes); and off-site mitigation of 4.24 ac at the Saddle Club with coast live oak woodland.

The conservation measures included in the 2019 Biological Opinion that will be implemented as part of the Proposed Project to avoid and minimize impacts to coastal California gnatcatchers are as follows:

Avoidance and Minimization through Project Design

CM 1. *If feasible, the Soil Nail Wall Design Option will be selected to minimize permanent impacts to approximately 5 acres of land located within the Gypsum Canyon Nature Preserve. The final engineering design for this area will be reported to the CFWO at least 15 working days prior to initiating project impacts.*

CM 2. *Permanent project lighting will be of the lowest illumination necessary for safety and will be directed toward the roadway and away from sensitive habitats and wildlife crossing areas. Light glare shields will be used to reduce the extent of illumination into sensitive habitats. The Caltrans Project Biologist[1] will review the permanent lighting plans and*

[1] The Caltrans Project Biologist will be a Caltrans biologist familiar with the federally listed species potentially affected by the Project and with the habitats that support these species; he/she will be the primary contact for the CFWO during Project implementation.

then submit them to the CFWO for review and approval at least 15 working days prior to initiating project impacts.

CM 3. *A wildlife connectivity plan will be developed and implemented to ensure that ecosystem functions[1] are maintained by the project for the benefit of listed species. The plan will be provided to the CFWO for review and approval at least 60 days prior to initiating project impacts. The plan will include the following requirements:*

a. Animals may not be able to navigate steep vertical bends and they may not utilize culverts or crossing structures that have horizontal bends that limit visibility. The culvert at drainage feature 4 will be lengthened by the project but no vertical or horizontal bends will be constructed in the culvert extension;

b. To the maximum extent feasible, rock slope protection will be avoided at culvert and wildlife crossing openings. If rock slope protection is required, modifications (e.g., small pebble, dirt, or grouted movement pathways) will be made such that animals of all sizes can access culverts and wildlife crossings;

c. If stream bank reinforcements are required at wildlife crossing and culvert areas, project proponents will design them in the manner most conducive to wildlife movement. If stream bank reinforcements of ungrouted riprap gabions or other material are required, they will be constructed at the shallowest possible slope (2:1 or less), and will be covered with soil and revegetated with native riparian plant species in a manner that will allow for the movement of wildlife of all sizes. Project proponents will ensure that soil placement on top of stream bank reinforcements will occur in a manner that does not result in erosion holes in the soil surface over time;

[1] For example, dispersal of top predators to control meso-predators that prey on avifauna, such as gnatcatchers (e.g., Crooks and Soule 1999)

d. Restoration of temporary impact areas at wildlife crossings will be planned in a manner that will encourage wildlife use and movement. Project proponents will ensure that plantings will not obscure culvert or wildlife crossing openings. Native vegetation may be used to funnel wildlife toward the crossings and create a visual barrier between the roadway and habitat in a manner that will encourage wildlife movement;

e. Culvert openings will be flush with the road slope and ground to allow animals to easily find and access the culverts. Culvert openings that provide for wildlife movement under the roadway will not be blocked with grates, with the exception of openings from culverts to those portions of the roadway median that are not intended for wildlife access or movement;

f. Where the project will result in new roadside fencing, project proponents will ensure that fencing ties into culvert and wildlife crossing openings such that animals following the fencing can easily find and access culverts and crossings. Any new roadside fencing will be 10 to 12-foot high chain link fence with an 18-inch "outrigger" (three strands of barbed wire) angled away from the road, located within the Caltrans right-of-way, subject to the Biological Monitor's[1] recommendations, and will be buried 24 inches into the ground to discourage wildlife from digging under the fence. In areas where new fencing is installed, old fencing that blocks access to culverts and crossings will be removed. Any new fencing constructed by the project at the SR-241/SR-91 interchange will incorporate recommendations on page 194 of USGS 2013;

g. Project proponents will coordinate with the Orange County Transportation Authority (OCTA) to ensure that the project will not negatively affect the camera study and native

[1] See CM 14 for a description of the Biological Monitor.

plantings planned by OCTA at the Coal Canyon Undercrossing;

h. Equipment maintenance, lighting, and staging for the project will be in designated areas, away from the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing. Construction in the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing will be limited to daylight hours. These areas will be kept clear of all equipment or structures that could potentially serve as barriers to wildlife passage. Structures required for bridgework at the Windy Ridge Wildlife Undercrossing will be erected so as not to block the main underpass, and scaffolding and false work will be restricted to the side of the underpass to maintain the functionality of the crossing for wildlife movement. Construction access to the SR-91 median at Coal Canyon will be provided within the fenced access area at Coal Canyon Road, and no project work or access will take place beyond the fencing within the existing dirt wildlife crossing area at Coal Canyon;

i. Freeway signage with lighting, including changeable message signs, will be located in areas away from the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing;

j. Construction noise at the Coal Canyon Undercrossing will be limited to no more than 5 dBA hourly L_{eq} above ambient levels beyond 100 feet from the edge of the roadway to avoid noise disturbance to wildlife within the crossing;

k. A new turnaround has been constructed in the SR-91 median west of Coal Canyon that benefits both wildlife connectivity and human safety by providing a more accessible and rapid turnaround location that is outside of the wildlife undercrossing. This turnaround is not large enough to accommodate construction vehicles and will continue to be accessible to emergency vehicles during project work, maintaining the recent benefits to wildlife movement that the turnaround provides; and

l. Subject to approval by California Highway Patrol (CHP) and Orange County Fire Authority (OCFA), install a permanent access control gate near the top of the eastbound off-ramp at Coal Canyon, leaving enough room in front of the gate for personnel in authorized vehicles to exit SR-91 and open the gate, but encouraging unauthorized vehicles to use the new median turnaround. Signage will be posted and maintained at the gate to inform the public about adjacent sensitive habitats and species as well as access restrictions (e.g., wildlife crossing, no unauthorized access, no night access). The gate and signage will be installed prior to completion of project construction. If installation of the gate is not approved, Caltrans and TCA will coordinate with the CFWO to identify an alternative measure to enhance connectivity or improve safety for dispersing wildlife to offset temporal impacts resulting from the substantially degraded functioning of Coal Canyon as a wildlife undercrossing during the 2-year construction period. If enhancing connectivity at Coal Canyon itself isn't practicable, then improvements may occur at a different location identified in coordination with the CFWO.

Avoidance and Minimization during Vegetation Clearing/Project Construction

CM 4. *The clearing and grubbing of native upland habitats for the project will occur between September 1 and February 14, to avoid the gnatcatcher breeding season (or sooner than September 1, if a biologist knowledgeable of gnatcatcher biology and ecology approved by the CFWO demonstrates to the satisfaction of the CFWO that all gnatcatcher nesting is complete). The project proponents will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO at least 15 working days prior to initiating project impacts.*

CM 5. *All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will be restricted*

to designated staging areas that are a minimum of 100 feet from sensitive habitats and drainages.

CM 6. *All lighting used at night for project construction will be selectively placed and directed at the immediate work area and away from adjacent sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats.*

CM 7. *Erosion and sediment control devices used for the project, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.*

CM 8. *The project site will be kept as clear of debris as possible. All food-related trash items will be enclosed in sealed containers and regularly removed from the site. All spoils and material disposal will be disposed of properly.*

CM 9. *If fill must be borrowed from or disposed of offsite, the construction contractor will identify any necessary borrow and disposal sites and provide this information to Caltrans for review. Caltrans will review borrow and disposal site information and if borrow or disposal activities may affect a listed species or critical habitat, Caltrans will reinitiate Section 7 consultation.*

CM 10. *Impacts from fugitive dust will be avoided and minimized through watering and other appropriate measures.*

CM 11. *Project personnel will be prohibited from bringing domestic pets to construction sites to avoid disturbance and depredation of wildlife by domestic pets in adjacent habitats.*

CM 12. *During project construction all invasive species included on the National Invasive Species Management Plan, the State of California Noxious Weed List, and the California Invasive Plant Council's Invasive Plant Inventory list (Cal-IPC 2006) found growing within the project impact area will be removed. Special care will be taken during transport, use, and disposal of soils containing invasive weed seeds and all weedy vegetation removed during construction will be properly*

disposed of to prevent spread into areas outside of the construction area.

CM 13. *All native or sensitive habitats outside and adjacent to the construction limits will be designated as Environmentally Sensitive Areas (ESAs) on project maps. ESAs will be temporarily fenced during construction with orange plastic snow fence, orange silt fencing, or in areas of flowing water, with stakes and flagging. No personnel, equipment, or debris will be allowed within the ESAs. Temporary ESA fencing and flagging will be installed in a manner that does not impact habitats to be avoided and such that it is clearly visible to personnel on foot and operating heavy equipment. The project proponents will submit to the CFWO, at least 5 days prior to initiating project impacts (except for impacts resulting from clearing to install temporary fencing), the final plans for initial clearing and grubbing of habitat and project construction. These final plans will include photographs that show the fenced and flagged limits of impact and all areas to be impacted or avoided. Field maps indicating the location of temporary ESA fencing and/or staking will also be provided. If work occurs within gnatcatcher habitat beyond the fenced or demarcated limits of impact, all work will cease until the problem has been remedied to the satisfaction of the CFWO. Temporary ESA fencing and markers will be maintained in good repair until the completion of project work adjacent to each ESA and removed upon completion of project work adjacent to each ESA.*

CM 14. *A CFWO-approved biologist (Biological Monitor)[1] will be on site during all initial vegetation clearing/grubbing and weekly during project construction within 500 feet of gnatcatcher habitat to monitor compliance with all conservation measures. The project proponents will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO at least 15 working days*

[1] The Biological Monitor will be familiar with the federally listed species potentially affected by the project (i.e., gnatcatcher) and with the habitats that support this species.

prior to initiating project impacts. The contract of the Biological Monitor will allow direct communication with the CFWO at any time regarding the proposed project. The Biological Monitor will be provided with a copy of this consultation. The Biological Monitor will be available during pre-construction and construction phases to address protection of sensitive biological resources, monitor ongoing work, and maintain communications with construction personnel to facilitate the appropriate and lawful management of issues relating to biological resources. The Biological Monitor will perform the following duties:

a. *Perform a minimum of three focused preconstruction surveys, on separate days, to determine the presence of gnatcatchers in the upland project impact footprint. Surveys will begin a maximum of 30 days prior to performing vegetation clearing/grubbing, and one survey will be conducted the day immediately prior to the initiation of vegetation clearing. If any gnatcatchers are found in the upland project impact footprint, the Biological Monitor will direct construction personnel to begin vegetation clearing/grubbing in an area away from the gnatcatchers. It will be the responsibility of the Biological Monitor to implement measures (e.g., direct vegetation clearing away from gnatcatchers, flush gnatcatchers out of the active work area) to avoid death and injury of gnatcatchers by vegetation clearing/grubbing. The Biological Monitor will also record the number and location of gnatcatchers disturbed by vegetation clearing/grubbing. Caltrans will notify the CFWO at least 7 days prior to vegetation clearing/grubbing to allow the CFWO to coordinate with the Caltrans Project Biologist on potential bird flushing activities;*

b. *Perform a minimum of three focused surveys, on separate days, to determine the presence of gnatcatcher nest building activities, egg incubation activities, or brood rearing activities within 500 feet of project construction that is initiated during the February 15 to August 31*

breeding season for the gnatcatcher. Surveys will begin a maximum of 7 days prior to performing construction within 500 feet of gnatcatcher habitat during the breeding season, and one survey will be conducted the day immediately prior to the initiation of construction within 500 feet of gnatcatcher habitat during the breeding season. Additional surveys will be done once a week during project construction within 500 feet of gnatcatcher habitat during the breeding season. These additional surveys may be suspended as approved by the CFWO;

c. *If active gnatcatcher nests are identified within 500 feet of noise generating construction activities and noise is in excess of 60 dBA hourly Leq or if noise is in excess of ambient noise levels if ambient noise levels exceed 60 dBA hourly Leq, noise attenuation structures will be installed at the noise source to reduce noise levels to 60 dBA hourly Leq or to ambient noise levels if ambient noise levels exceed 60 dBA hourly Leq at the nest location. Noise monitoring will occur during the breeding season and be reported monthly to the CFWO. If the Biological Monitor suspects that avoidance and minimization measures are ineffective, and project activities may be adversely affecting the gnatcatcher, culpable activities will be suspended within 500 feet of active nests until nesting activity is completed and fledglings are no longer in the area or until effective avoidance and minimization measures can be identified, implemented, and demonstrated to be effective. If the specified noise targets cannot be met or the Biological Monitor observes potential adverse effects to gnatcatchers from project-related noise, activities that are resulting in potential adverse effects will be halted, and the CFWO will be contacted to determine if reinitiation of consultation is necessary;*

d. *Oversee installation of and inspect erosion control measures a minimum of once per week to document and bring to the attention of the contractor any breaks in*

erosion control measures such that they are repaired immediately;

e. *Oversee installation of and inspect ESA fencing a minimum of once per week to document and bring to the attention of the contractor any breaks in the fence such that they are repaired immediately;*

f. *Train contractors and construction personnel expected to be in the project impact area on the biological resources associated with the project and document that training is implemented by construction personnel. At a minimum, training will include:*

   i. *The purpose for resource protection;*

   ii. *A description of the gnatcatcher and its habitats;*

   iii. *The CMs that should be implemented during project construction to conserve the gnatcatcher, including strictly limiting activities, vehicles, equipment, and construction materials to the project footprint to avoid adjacent sensitive resource areas;*

   iv. *Environmentally responsible construction practices;*

   v. *the protocol to resolve conflicts that may arise at any time during the construction process; and*

   vi. *The general provisions of the Act, the need to adhere to the provisions of the Act, and the penalties associated with violating the Act;*

g. *Monitor the project site immediately prior to and during construction to identify the presence of invasive weeds and recommend measures to avoid their inadvertent spread in association with the project. Such measures may include inspection and cleaning of construction equipment and use of eradication strategies;*

h. *Periodically monitor the work area to document that work activities do not generate excessive amounts of dust;*

i. Submit monthly email reports (including photographs of impact areas) to the CFWO during clearing of, and construction within, 500 feet of gnatcatcher habitat. The monthly reports will document that authorized impacts were not exceeded and general compliance with all conditions. The reports will also outline the location of construction activities, the type of construction that occurred, and equipment used. These reports will specify numbers and locations of gnatcatchers (if observed), their observed behavior (especially in relation to construction activities), and remedial measures employed to avoid and minimize impacts to these species. Raw field notes should be available upon request by the CFWO; and

j. Submit a final report to the CFWO within 120 days of the completion of construction for the project that includes: photographs of habitat areas that were to be avoided and other relevant summary information documenting that authorized impacts were not exceeded and that general compliance with all conservation measures was achieved.

Measures to Offset Impacts to Gnatcatcher and its Habitat

CM 15. *Areas of temporary impact, as quantified in Tables 1 and 3, will be revegetated and restored with native species as specified in Tables 4 and 5. These areas will be returned to original grade, as feasible. Prior to initiating project impacts, a restoration plan will be developed for the temporary impact areas. The plan will be submitted to the CFWO for review and approval at least 15 working days prior to initiating project impacts. This plan will include a detailed description of restoration methods, slope stabilization, and erosion control, criteria for restoration to be considered successful, and monitoring protocol(s). Following the completion of construction activities within each area of impact, the restoration plan will be implemented for a minimum of 5 years, unless success criteria are met earlier and all artificial water has been off for at least 2 years. Temporary impact areas will be planted as soon as possible, with consideration of seasonal*

timing, following re-grading after completion of construction to prevent encroachment by nonnative plants.

CM 16. *Some permanent impact cut and fill slopes for the project will be revegetated with native species as specified in Table 4. Duff and rare plants may be salvaged from the project impact footprint to aid in revegetating slopes with native habitats. The revegetated areas will have temporary irrigation and will be planted with native container plants and seeds. At least 3 years of plant establishment/ maintenance on these slopes will be conducted to control nonnative plants. These areas will be planted as soon as possible, with consideration of seasonal timing, following the completion of construction to prevent encroachment by nonnative plants.*

CM 17. *If maintenance of a coastal sage scrub restoration area is necessary between February 15 and August 31, a CFWO-approved biologist[1] will survey for gnatcatchers within the restoration area, access paths to it, and other areas susceptible to disturbances by site maintenance. Surveys will consist of three visits separated by 2 weeks starting March 1 of each maintenance/monitoring year. Work will be allowed to continue on the site during the survey period. However, if gnatcatchers are found during any of the visits, the applicant will notify and coordinate with the CFWO to identify measures to avoid and/or minimize effects to the gnatcatcher (e.g., nests and an appropriate buffer will be flagged by the biologist and avoided by the maintenance work).*

CM 18. *Permanent and temporary impacts to the gnatcatcher and its habitat[2] (as summarized in Tables 1, 2, and 3) will be offset as specified in Tables 4 and 5.*

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1 The biologist for this measure will be a trained ornithologist with at least 40 hours of observing gnatcatchers in the field and documented experience locating and monitoring nests of the target species.

2 Permanent and temporary impacts to 3.81 ac and 26.63 ac of habitat, respectively, have already been offset in accordance with the requirements of Biological Opinion 1-6-94-F-17.

CM 19. *Portions of the Saddle Club property used to offset project-related impacts will be conserved and managed in perpetuity. Each of the sub-measures below will be implemented prior to initiating project-related impacts:*

a. A CFWO-approved conservation easement will be recorded over conserved land in favor of a CFWO-approved entity (e.g., a non-profit environmental organization or government agency). The conservation easement will prohibit all activities that significantly disturb wildlife or detrimentally impact habitat for the gnatcatcher. Potential recreation uses that do not impact habitat or result in significant disturbance to gnatcatchers (e.g., hiking along existing trails) may be proposed in a CFWO-approved habitat management plan for the property provided that the management plan includes sufficient measures and funding to ensure that these activities are appropriately monitored and managed;

b. A CFWO-approved habitat management plan will be prepared that addresses potential threats to the conserved habitat, such as unauthorized human access, monitoring and management of any authorized recreational activities, control of non-native invasive plant species, and habitat degradation from fire;

c. A CFWO-approved land manager will be identified to implement the habitat management plan; and

d. A CFWO-approved non-wasting endowment or endowments will be established with sufficient funds to implement the habitat management plan and to monitor and enforce the conservation easement. The funding for the endowment(s) will be determined through a Property Analysis Record (PAR) or equivalent analysis.

Caltrans will monitor and report on compliance with the established take exemptions for gnatcatchers associated with the proposed action. The terms and conditions of the 2019 Biological Opinion are as follows:

Coastal California Gnatcatcher

1.1 *Prior to initiating project work, three preconstruction surveys will be conducted within all suitable gnatcatcher habitat within the project footprint, within 30 days prior to initiation of vegetation removal activities, to verify that no more than 1 pair of gnatcatchers will be harmed as a result of the project.*

1.2 *Prior to initiating project work, Caltrans will provide to the CFWO a map showing the distribution of gnatcatchers relative to the project footprint and an estimate of the number of gnatcatcher territories that will be impacted by the project, or confirm in writing that maps, distribution information, and the number of territories that will be impacted by the project remain correct.*

1.3 *Prior to project construction, the project proponent will submit to the CFWO Geographic Information System (GIS) shapefiles in UTM, Zone 11N (meters), NAD 83 coordinate system that show the following: anticipated permanent impacts, temporary impacts, habitat restoration sites, and habitat conservation sites. Please note that these polygons may overlap. For example, one location could be temporarily impacted and subsequently restored and conserved. Include the following metadata for each shapefile: summary/description of the data, attribute definitions, coordinate system/projection information or any other pertinent information. If there are any changes to the boundaries anticipated impacts, restoration, or conservation sites, such changes must be addressed consistent with the Reinitiation Notice below. In addition, updated GIS shapefiles will be submitted to the CFWO.*

1.4 *Caltrans will notify the CFWO within 30 days of completing removal of gnatcatcher occupied habitat. The purpose of this notification is to ensure that impacts to gnatcatcher-occupied habitat from the proposed project do not exceed the take thresholds.*

The following measure will be incorporated to avoid and minimize impacts to least Bell's vireo and southwestern willow flycatcher.

Measure TE-8 **Foraging Special-Status Riparian Birds.** Prior to vegetation clearing or construction within the species foraging habitat areas during the migration and nesting periods (generally mid-March through August), a qualified biologist will conduct a preconstruction survey to identify the locations of any special-status riparian birds. If foraging individuals are found within the vegetation clearing area during the breeding season, clearing will be delayed until the species is absent. Per the NCCP/HCP construction minimization measures, outside the breeding season, the monitoring biologist will flush NCCP/HCP identified species from the area, prior to brush-clearing and earth-moving activities.

Measure NC-16 for CSS habitat, discussed in Section 3.15, Natural Communities, is also applicable to Braunton's milk-vetch and its critical habitat.

3.19.5.1 ETC Final EIR and Final EIS

In addition to ETC Final EIR and Final EIS Measure B-25 in Section 3.15, Natural Communities, the following measure for impacts to Coastal California gnatcatcher from the ETC Final EIR and Final EIS is applicable to the Build Alternative:

Measure B-27 *Grading and construction activities shall be redirected temporarily around any nesting sites for a distance of 500 ft for candidate and listed species of birds and at a distance of 1,000 ft for raptors during nesting and breeding seasons. ~~In the event that a coyote, bobcat, or mountain lion den is located, grading and construction operations shall be redirected around the den for a distance of 1,000 ft.~~ The nesting sites ~~and dens~~ should be resurveyed toward the end of the breeding seasons of these species to verify completion of the breeding cycle. Nests ~~and dens~~ that will be removed ~~due to ETC~~ must be removed during the nonbreeding season only.*

The ETC Final EIR and Final EIS Measures B-8 and B-11 for CSS habitat, discussed in Section 3.15, Natural Communities, are also applicable to Braunton's milk-vetch and its critical habitat.

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3.20 Invasive Species

3.20.1 Regulatory Setting

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 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 (FHWA) 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 plants that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

3.20.2 Affected Environment

The information in this section is based on the *Natural Environment Study* (NES; December 2015) prepared for the Proposed Project.

The Study Area that is assessed for biological resources is referred to as the Biological Study Area (BSA). The description of the BSA is discussed in Section 3.15, Natural Communities, and shown on Figure 3.15.1.

Exotic plant species exist within the nonnative plant communities throughout the BSA, within patches of native plant communities, and in areas that have been disturbed by human uses. Exotic species are typically more numerous adjacent to roads and developed areas and frequently border areas of ornamental landscaping. In the past, these areas likely supported grasslands, oak woodland, coastal sage scrub, and riparian habitats. Consequently, scattered plant species associated with these plant communities are often found in these areas.

The California Invasive Plant Council (Cal-IPC) 2006 Invasive Plant Inventory highlights nonnative plants that are serious problems in wildlands (i.e., natural areas that support native ecosystems, including national, State, and local parks, ecological reserves, wildlife areas, national forests, and Bureau of Land Management lands). The inventory categorizes plants as High, Moderate, or Limited based on each species' negative ecological impact in California. Plants categorized as High have severe ecological impacts. Plants categorized as Moderate have substantial and

apparent, but not severe, ecological impacts. Plants categorized as Limited are invasive, but their ecological impacts are minor on a statewide level.

A total of 29 exotic plants listed on Cal-IPC's Invasive Plant Inventory were identified in the BSA during the surveys described earlier in Section 3.15.2.2. Of these species, there are 4 with an overall High rating, 12 with a Moderate rating, and 13 with a Limited rating. Invasive species that have severe ecological impacts are given a High rating. Species with a High rating identified in the BSA are fennel (*Foeniculum vulgare*), broad-leaved peppergrass (*Lepidium latifolium*), Mediterranean tamarisk (*Tamarix ramosissima*), and foxtail chess (*Bromus madritensis* ssp. *rubens*).

No invasive animal species were observed in the BSA, such as the potentially occurring brown-headed cowbird (*Molothrus ater*).

3.20.3 Environmental Consequences

3.20.3.1 Temporary Impacts

Impacts related to invasive species are considered permanent impacts because the introduction of invasive species into previously undisturbed areas would result in permanent impacts to the habitats in those areas. Therefore, impacts related to invasive species as a result of construction and operation of the Proposed Project are described below under permanent impacts.

3.20.3.2 Permanent Impacts

Build Alternative (*Two-Lane Express Lanes Connector*) *(Preferred Alternative)*

Implementation of the Build Alternative has the potential to spread invasive species by the entering and exiting of construction equipment contaminated by invasive species, disturbances to soil surfaces, and improper removal and disposal of invasive species that result in the seed being spread along the highway. Invasive species also have the potential to be included in seed mixtures and mulch; however, none of the species on the California list of noxious weeds are currently used by Caltrans for erosion control or landscaping.

As specified in Measure IS-1, a Weed Abatement Program/Non-Standard Special Provisions will be developed and implemented consistent with EO 13112 to minimize the potential for intrusion or exportation of invasive plant species to and from the BSA during project construction. With implementation of Measure IS-1, potential permanent impacts related to invasive species would be minimized.

No Build Alternative

The No Build Alternative does not include any improvements to SR-241 or SR-91 in the Project Area. Therefore, no permanent impacts to invasive species would occur as a result of the No Build Alternative.

3.20.4 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures would reduce the potential impacts of the Proposed Project related to invasive species:

Measure IS-1 **Weed Abatement Program/Non-Standard Special Provisions.** During Final Design, a qualified landscape architect will develop a Weed Abatement Program/Non-Standard Special Provisions (NSSP) for inclusion in the project specifications. The Weed Abatement Program/NSSP will be developed in compliance with Executive Order 13112 to minimize the potential for intrusion or export of invasive plant species to and from the Biological Study Area during project construction. At a minimum, the following will be included in the Weed Abatement Program/NSSP and implemented prior to and during construction to address potential effects associated with invasive species. The Weed Abatement Program/NSSP will define the specific details, frequency, and, if applicable, performance standards for the following individual activities and requirements:

- Inspect and clean construction equipment at the beginning and end of each day and prior to transporting equipment from one project location to another.
- Limit soil and vegetation disturbance to those areas specifically required for the project construction.
- Obtain soil, gravel, and rock from weed-free sources.
- Use only certified weed-free straw, mulch, and/or fiber rolls for erosion control during construction.
- Prior to the completion of construction, revegetate affected areas adjacent to native vegetation with plant species that are native to the vicinity and approved by California Department of Transportation (Caltrans) District 12 Biologists.

- Not use any species listed in the California Invasive Plant Council Invasive Plant Inventory with a High or Moderate rating in revegetation.
- After construction, ensure that erosion control and revegetation sites are monitored until achievement of the project-specific performance standards defined in the Weed Abatement Program/NSSP or a period of 1 year, whichever is greater, after installation, to detect nonnative species prior to the establishment of the native vegetation.
- Implement eradication procedures (e.g., spraying and/or hand weeding) should an infestation occur. The use of herbicides will be prohibited within and adjacent to native vegetation, except as specifically authorized and monitored by Caltrans District 12 Biologists during and after project construction.
- During construction, reduce indirect impacts of exotic plant infestations and litter by roadside maintenance at least once daily during construction to remove litter and weeds from the right-of-way.

3.21 Relationship between Local Short-term Uses of the Human Environment and the Maintenance of Long-Term Productivity

According to the original Eastern Transportation Corridor (ETC) EIR/EIS, project implementation with the west leg of the corridor would result in attainment of long-term transportation objectives at the expense of commitment of substantial financial and material resources and the adverse impacts of construction including dust from earth movement, noise associated with heavy equipment, scarring of the natural landscape, the potential for increased downstream sedimentation, removal of native vegetation, and additional traffic congestion and rerouting of traffic. Long-term effects of the ETC include major changes in landforms, visual quality, localized changes in hydrology, localized increases in ambient noise levels, reduced open space, loss of substantial plant and animal communities, and growth-inducing effects.

The majority of those impacts were realized during the construction of the ETC, an approximately 23-mile corridor through the Santa Ana foothill area. Now that the Proposed Project is limited to a much smaller project site (which is developed), the balance of short-term versus long-term goals weighs much heavier with the accomplishment of long-term goals. A median connector between the ETC to SR-91 was always contemplated as part of ETC. Today, with this proposed construction, the short-term impacts that will be tolerated to accomplish the ETC build out are nominal by comparison. As stated in the original ETC Final EIR and Final EIS, the Proposed Project's transportation improvements are based on comprehensive State and local planning efforts that consider the need for present and future traffic requirements within the context of present and future land use development. The need for these long-term transportation improvements is based on the lack of connectivity between the SR-241 and the SR-91 Express Lanes, and it is necessary to ensure safe and efficient local and regional movement of people and goods. Indeed, the short-term consequences to achieve the long-term transportation goals have already been accounted for.

3.21.1 Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

Short-term losses and impacts would include:

- Traffic delays and detours; construction impacts related to visual quality, water quality, biology, and increased noise levels; and general access and travel inconveniences
- Temporary construction impacts, such as increased noise, impaired air quality from dust and debris, increased nighttime light, blocked viewsheds, and construction in recreation areas
- Temporary construction impacts, such as disruption of local traffic patterns and access to residences, businesses, and community facilities
- Temporary construction impacts to utility services, such as service interruptions or damage to facilities
- Temporary construction impacts to sensitive viewers, including viewers along the segment of SR-91 designated as a scenic highway, clearing of existing vegetation, grading, construction of road improvements and structures, construction vehicles, and construction staging areas
- Temporary impacts to natural communities and habitats, wetlands and other waters of the United States, bird and bat species, and threatened and endangered species

Short-term benefits would include:

- Job creation and a secondary increase in local revenue generated during construction activities

Long-term losses and impacts would include:

- Permanent loss of plant and wildlife resources
- Permanent consumption of energy and construction materials, including concrete, steel, and asphalt, during construction
- Permanent loss of approximately 5 acres of a County of Orange-owned parcel with a conservation easement held by The Nature Conservancy.
- Permanent impacts on wetlands and other waters of the United States, on coast live oaks, southern California black walnut, and Coulter's matilija poppy habitats for threatened and endangered species, and biological resource habitat areas

Long-term gains and benefits would include:

- Improvement to the throughput traffic in the area
- Increased access to the project vicinity and region

- Reduction of congestion and improvement of the regional transportation network between the counties of Riverside and Orange
- Improvement of vehicle, person, and goods movement travel times on SR-241 and SR-91 to more effectively serve existing and future travel demand between and within the Counties of Riverside and Orange
- Improvements to storm water management facilities along SR-241 and SR-91
- Improvements to utility facilities crossings or within the right-of-way for SR-241 and SR-91

3.21.2 No Build Alternative

The No Build Alternative would not change the existing conditions on SR-241 and SR-91. The No Build Alternative would offer none of the benefits nor have any of the impacts listed above; however, it would not resolve worsening congestion on local streets and highways or fix the lack of connectivity of the two facilities described in the Purpose and Need. Additionally, the No Build Alternative would not result in the generation of short-term jobs and revenues during construction, and is not expected to result in the potential environmental effects of the Build Alternative.

3.21.3 Comparative Analysis

In summary, implementation of the Build Alternative would result in trade-offs between addressing short- and long-term transportation needs and goals and adverse short- and long-term environmental impacts. The Build Alternative would provide increased capacity and improved regional transportation connecting major population and employment centers between the Counties of Riverside and Orange. The long-term benefits to the community of those transportation improvements would be weighed against the short- and long-term adverse environmental impacts of the Build Alternative and the No Build Alternative.

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3.22 Irreversible and Irretrievable Commitments of Resources That Would Be Involved in the Proposed Action

3.22.1 Build Alternative (Two-Lane Express Lanes Connector) (Preferred Alternative)

The construction of the Build Alternative would involve a commitment of a range of natural, physical, human, and fiscal resources. Land used in the construction of the Build Alternative would be considered to result in an irreversible commitment of that land during the time period the land is used for the highway facilities. However, if a greater need arises for use of the land or if the highway facilities are no longer needed in the future, that land could be converted to another use. At present, there is no reason to expect that such a conversion would ever be necessary or desirable. It should also be noted that only a very small area (5 ac) of the Build Alternative occurs outside of Caltrans right-of-way, which eliminates a large range of alternative land uses for the project site.

Construction of the Build Alternative would require permanent acquisition of approximately 5 acres of land on a vacant County-owned parcel within the Irvine Ranch National Natural Landmark (NNL). The parcel is on the slope approximately 3,600 feet (ft) west of Coal Canyon Undercrossing. The Proposed Project would need to grade into this slope in order to accommodate the widening of SR-91 to the south. Additionally, the Build Alternative would result in the construction of four retaining walls within the existing Caltrans right-of-way. One wall would be constructed in the median of SR-241; two mechanically stabilized earth retaining walls would be constructed in the median of SR-91; and the remaining wall would be constructed adjacent to eastbound SR-91. Construction of the proposed retaining walls would not require grading activity.

The Build Alternative would result in an irreversible commitment of biological resource habitat areas to transportation uses. The Proposed Project would result in direct permanent effects to coastal sage scrub, which is a habitat of special concern within the Biological Study Area (BSA) for the Proposed Project, while fairly small, direct and indirect effects to coastal California gnatcatcher and designated critical habitat would occur as a result of project implementation. Incidental take would be permitted for impacts on habitat supporting up to three pairs of California gnatcatcher.

Considerable amounts of fossil fuels, labor, and construction materials (e.g., cement, aggregate, and bituminous material) would be expended for construction of the Build Alternative, and these resources would not be retrievable. Additionally, large amounts of labor and natural resources would be used in the production of construction materials that are generally non-retrievable as well. However, the use of labor and natural resources required for the Proposed Project would not have an adverse effect on the continued availability of these resources in Southern California. Construction of the Build Alternative would also require expenditures of anticipated funds from local, State, and federal sources. Those funds are not retrievable. However, savings in travel time and improved transportation system efficiency would offset this use of materials, labor, resources, and funds. In addition to the costs of construction, there would be increased ongoing costs for facility maintenance, including pavement, roadside litter/sweeping, signs and markers, electrical, and storm water control.

The commitment of these resources to the Build Alternative is based on the concept that residents, workers, travelers, and others in the immediate area and region, would benefit from the improved quality of the regional transportation system that connects the Counties of Orange, Riverside, and San Bernardino. These benefits would consist of improved accessibility, travel time, and safety, and a potentially reduced demand for fossil fuels to operate vehicles on the corridor between SR-241 and SR-91. These benefits of the Build Alternative are expected to offset the commitment of these resources to this Proposed Project.

3.22.2 No Build Alternative

The No Build Alternative would not result in any irretrievable commitment of resources because the No Build Alternative would not result in the construction of improvements associated with the SR-241/SR-91 Tolled Express Lanes Connector. The No Build Alternative would not provide any reduction in travel times or efficiency and, therefore, would not provide benefits related to reduced demand for fossil fuels to operate cars, buses, and trucks as a result of improved efficiency at the connection point between SR-241 and SR-91.

3.23 Cumulative Impacts

3.23.1 Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the Proposed Project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

The California Environmental Quality Act (CEQA) Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under the National Environmental Policy Act (NEPA) can be found in 40 Code of Federal Regulations (CFR) Section 1508.7 of the Council on Environmental Quality (CEQ) Regulations.

3.23.2 Methodology

The potential for cumulative impacts was evaluated by considering the direct and indirect effects of the Proposed Project and other past, present, or reasonably foreseeable future actions in the area to establish whether, in the aggregate, they could result in cumulative environmental effects. The cumulative impacts analysis discussed in this section focuses on those issues and resources that would be affected by the aggregation of stress factors on the environment and does not address in detail those topics that would not have additional environmental effects from the cumulative condition. The analysis provided in this section considered the effects of the other cumulative projects and the Build Alternative in assessing whether a particular environmental parameter would experience cumulative adverse impacts.

The following eight-step process, based on Caltrans Guidance for Preparers of Cumulative Impact Analysis (February 3, 2012), was used as a guideline for identifying and assessing cumulative impacts:

- Identify the resources to consider in the cumulative effect analysis by gathering input from knowledgeable individuals and reliable information sources. This process was initiated during project scoping and continued throughout the CEQA/NEPA analysis.
- Define the Resource Study Areas (RSAs) for each resource to be addressed in the cumulative effect analysis.
- Describe the current health and historical context of each resource.
- Identify the direct and indirect effects of the Proposed Project that might contribute to a cumulative effect on the identified resources.
- Identify other current and reasonably foreseeable future actions or projects and their associated environmental effects to include in the cumulative effect analysis.
- Assess the potential cumulative effects.
- Report the results of the cumulative impact analysis.
- Assess the need for additional avoidance, minimization, mitigation, and/or recommendations for actions by other agencies to address a cumulative effect.

3.23.3 Identification of Cumulative Projects

The reasonably foreseeable projects considered in this analysis are presented in Table 3.1.3 and Figure 3.1.3 in Section 3.1, Land Use. Table 3.1.3 includes two commercial projects, four residential projects, one mixed-use project, one industrial project, and seven transportation facility projects. Most of the projects are infill projects, while the transportation projects are all along existing facilities.

Recent and future actions in the general vicinity of the Project Area of the SR-241/ SR-91 Express Lanes Connector Project include:

- Planned transportation projects, including the SR-91 Corridor Improvement Project (CIP), the State Route 71 (SR-71)/SR-91 Interchange Improvement Project, and improvements to local arterials
- Express bus improvements throughout the counties of Orange and Riverside
- Rail improvements projects for Metrolink and Burlington-Northern Santa Fe (BNSF) Railway facilities
- Residential and nonresidential development in the cities of Orange and Yorba Linda

- School expansion in the City of Corona
- Public infrastructure projects, including extension of the Santa Ana River Parkway and improvements to the Santa Ana River and wildlife crossings

Not all of the projects listed in Table 3.1.3 would contribute to cumulative effects related to every environmental topical area. For example, not all of the projects would result in effects on biological resources. In addition, not all effects of an individual project listed in Table 3.1.3 would contribute to a cumulative effect. Some effects are very site-specific and would not contribute to cumulative effects associated with other projects. In other cases, short-term effects would not contribute to cumulative effects because construction of the cumulative projects and Build Alternatives, and the short-term effects of those construction activities would not occur in the same time period and/or in the vicinity of each other.

The identification and/or quantification of the potential effects of the individual projects and, as a result, potential cumulative effects, were not feasible for some effect topics. This is because either no environmental document has been prepared for those projects and, therefore, the potential effects of those projects are not known at this time, or the environmental documentation was not available at the time this cumulative impacts analysis was conducted. As a result, identification of potential effects of those projects would be speculative. Therefore, the cumulative impacts analyses include some qualitative judgments regarding the potential combined effects of the relationships among the projects in the RSA for each resource. In some cases, avoidance, minimization, and/or mitigation of possible effects of other projects could reasonably be anticipated, based on the assumption that those projects would include measures similar to the measures included in this environmental document conducted for compliance with CEQA.

Construction of the Build Alternative is scheduled to begin in late 2021 and be completed in 2023. For the cumulative projects listed in Table 3.1.3, construction of the SR-71/SR-91 interchange improvements, Weir Canyon Regional Riding and Hiking Trail, and Gypsum-Coal Canyon Riding and Hiking Trail could also occur during that 2-year period.

3.23.4 Identification of the Resources Considered in the Cumulative Impact Analysis

If a potential effect of the Build Alternatives related to a specific environmental topic is fully mitigated or offset, with no net effect, or if there are no effects related to that

topic, then it was determined that there is no contribution to cumulative effects from the Proposed Project for that topic and it is not discussed further in this section. Those resources for which cumulative effects are not anticipated or for which the impacts were already analyzed in a cumulative context are briefly discussed below. It should also be noted that cumulative impacts to the resources listed below were previously evaluated for the entire ETC, which included the express lanes connector, and were disclosed in the ETC Final EIR and Final EIS.

3.23.4.1 Human Environment

- **Land Use.** As discussed in Section 3.1, Land Use, the Build Alternative would be constructed mostly within existing Caltrans right-of-way. However, the Build Alternative would require the permanent acquisition of approximately 5 acres (ac) of land from the Irvine Ranch National Natural Landmark (NNL)/Gypsum Canyon Nature Preserve. However, the removal of approximately 5 ac within the 40,000 ac Irvine NNL adjacent to existing Caltrans right-of-way is not considered a substantial impact to this property. Therefore, the Proposed Project would not result in cumulatively considerable adverse impacts related to land use.
- **Coastal Zone.** As discussed in Section 3.0, the Project Area is not in or in the immediate vicinity of a designated Coastal Zone. Therefore, the Proposed Project would not contribute to cumulative adverse effects to coastal zones.
- **Wild and Scenic Rivers.** As discussed in Section 3.0, the Project Area does not cross and is not in the vicinity of any designated National Wild and Scenic Rivers. Therefore, the Proposed Project would not contribute to cumulative adverse effects to wild and scenic rivers.
- **Parks and Recreational Facilities.** As discussed in Section 3.1, Land Use, the Build Alternative would be constructed mostly within existing Caltrans right-of-way. However, the Build Alternative would require the permanent acquisition of approximately 5 ac of land from the Irvine Ranch NNL/Gypsum Canyon Nature Preserve. However, the removal of approximately 5 ac within the 40,000 ac Irvine NNL adjacent to existing Caltrans right-of-way is not considered a substantial impact to this property. No permanent impacts to other existing parks and recreational resources and properties including Section 4(f) or 6(f) properties would occur.
- The planned Weir Canyon Regional Riding and Hiking Trail and Gypsum-Coal Canyon Riding and Hiking Trail would not be constructed prior to 2021, but may be open by 2022 based on the estimated design and construction dates provided

by OC Parks personnel (refer to Table 3.1.3). As discussed in Section 3.5.3.1, temporary detours and weekend or night time closures would be required along Gypsum Canyon Road, which would affect the proposed trail along the roadway. The required TMP (Measure TR-1) would minimize circulation and delay impacts for all travelers, including planned trail users adjacent to Gypsum Canyon Road. Therefore, the Proposed Project would not result in cumulatively considerable adverse impacts related to parks and recreational facilities.

- **Growth.** As discussed in Section 3.2, Growth, the Build Alternative would improve the vehicle, person, and goods movement travel times on SR-241 and SR-91 to more effectively serve existing and future travel demand between and within the counties of Orange, Riverside, and San Bernardino. The Build Alternative is not expected to influence the amount, timing, or location of growth in the area. Therefore, the Proposed Project would not contribute to cumulative adverse effects related to growth.
- **Farmlands/Timberlands.** As discussed in Section 3.0, there are no farmlands or timberlands present in the Project Area. Therefore, the Proposed Project would not contribute to cumulative adverse effects to farmlands or timberlands.
- **Community Character and Cohesion.** As discussed in Section 3.3.1, Community Character and Cohesion, the Build Alternative would improve mobility and increase the efficiency of the existing circulation system without dividing or otherwise adversely affecting the character of adjacent communities. As a result, the Build Alternative would not contribute to cumulative adverse effects related to community character and cohesion.
- **Relocations and Real Property Acquisition.** The Build Alternative would not result in acquisition of property that would displace residents or businesses. As a result, the Build Alternative would not contribute to cumulative adverse effects related to relocations and real property acquisition.
- **Environmental Justice.** As discussed in Section 3.3.3, Environmental Justice, the Build Alternative would not cause disproportionately high or adverse effects on any minority or low-income populations. As a result, the Build Alternatives would not contribute to cumulative adverse effects related to environmental justice.
- **Utilities** During construction, two utility relocations are anticipated and three existing utilities would be protected in-place; no interruption in service is anticipated. Operation of the Build Alternative would not adversely affect

utilities. The Build Alternative would not result in relocation of aerial or underground utility facilities across environmentally sensitive areas. Therefore, the Proposed Project would not contribute to cumulative adverse effects related to utility facilities.

- **Emergency Services.** Temporary traffic impacts to emergency service providers would be minimized through implementation of a Traffic Management Plan (TMP). Operation of the Build Alternative would not adversely affect emergency services. Therefore, the Proposed Project would not contribute to cumulative adverse effects to emergency service providers.
- **Traffic and Transportation.** The Build Alternatives would improve traffic throughput and travel times, and reduce delays for travelers on SR-241 and SR-91 in the Project Area. The analysis of future traffic conditions in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, for 2017 (Opening Year) and 2040 (Horizon Year) is a cumulative analysis in that it considers traffic generated by existing and future planned land uses and the effect of future planned transportation improvements. As discussed in Chapter 1, the Proposed Project would actually open in 2019; however, the difference in traffic operations between the projected Opening Year of 2017 and the actual Opening Year of 2019 in the Study Area would be nominal in the peak hours due to over-saturated conditions that would remain on the general purpose lanes. Of the planned transportation projects listed in Table 3.1.3, construction of SR-71/SR-91 interchange improvements may occur concurrently with construction of the Build Alternative. However, the SR-71/SR-91 Interchange Improvement Project is only in proximity of the advance signage areas for the Build Alternative. The construction activities for these two projects, including any detours and closures, are far enough apart that they would not contribute to cumulatively considerable adverse traffic effects.
- **Pedestrian and Bicycle Facilities.** As discussed in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, pedestrians and bicyclists are not allowed to travel on the SR-241 or SR-91 mainline. The temporary detours and weekend or nighttime closures would not impact pedestrians and bicyclists or pedestrian and bicycle facilities. Therefore, the Proposed Project would not contribute to cumulative adverse effects to pedestrian or bicycle facilities.
- **Visual/Aesthetics.** Visual impacts related to views of the construction activities would be temporary and would cease after completion of construction. The proposed express lanes connector would be constructed of similar mass, profile,

paving, and other construction materials to the existing general purpose lane connectors in the Project Area. The proposed wall features would be similar to those currently experienced on the site and in the Project Area. Graded slopes would be contoured consistent with the existing topography, and would be seeded with native plant species consistent with existing vegetation. Because the features of the Build Alternative would result in similar encroaching features in the View Corridor as the existing freeways and their associated structures, the Proposed Project would not substantially degrade the existing visual character or quality of the project site and the surrounding area. Therefore, the Proposed Project would not contribute to cumulative adverse effects to visual resources.

- **Cultural Resources.** As discussed in Section 3.7, Cultural Resources, it was determined that no known archaeological resources or historic properties would be affected by the Build Alternative. Although considered unlikely, there is the potential to encounter unknown buried cultural materials or human remains in the disturbance limits during construction of the Build Alternative. Those potential effects would be avoided and/or minimized with implementation of Measures CR-1 and CR-2. As a result, the Build Alternative would not contribute to cumulative adverse effects related to cultural resources.

3.23.4.2 Physical Environment

- **Hydrology and Floodplain.** As discussed in Section 3.0, the Proposed Project would not encroach onto a floodplain. The Build Alternative includes new storm water drainage systems to accommodate storm water flows from the new facility. The Build Alternative also includes Best Management Practices (BMPs) (biofiltration swales and strips and media filters) to provide flow duration, volume, and rate control functions and promote infiltration to offset the increased flows associated with the increase in impervious surface. With implementation of the BMPs, storm water flow concentrations associated with the Project Area would be similar to current conditions. Therefore, the Proposed Project would not contribute to cumulative adverse effects to hydrology and floodplains.

- **Water Quality and Storm Water Runoff.** The Build Alternative would comply with all applicable National Pollutant Discharge Elimination System (NPDES) regulations. Construction, Design Pollution Prevention, and Treatment BMPs would be implemented for the Build Alternative to address impacts to water quality. Treatment BMPs would include biofiltration swales and strips and media filters to target and remove pollutants of concern in storm water runoff. The proposed BMPs would treat approximately 135 percent of the net new impervious

surface area (all of the impervious surfaces added to the Proposed Project would be treated, as well as an additional 35 percent of impervious surface from the existing transportation facility). Therefore, with compliance with NPDES regulations and implementation of BMPs, the Proposed Project would not contribute to cumulative adverse effects to water quality and storm water runoff.

- **Geology/Soils/Seismic/Topography.** As discussed in Section 3.9, Geology/Soils/ Seismic/Topography, the potential impacts of the Build Alternative related to geologic conditions and soils would be avoided or minimized based on implementation of geotechnical design features. As a result, the Build Alternative would not contribute to cumulative adverse effects related to geology and soils.
- **Hazardous Waste/Materials.** As discussed in Section 3.11, Hazardous Waste/Materials, the potential impacts of the Build Alternative related to hazardous waste and materials would be avoided or minimized through implementation of Caltrans Standard Specifications and Measures HAZ-1 through HAZ-6. Therefore, the Proposed Project would not contribute to cumulative adverse effects related to hazardous waste.
- **Air Quality (Operation).** The analysis of air quality provided in Section 3.12, Air Quality, is a cumulative analysis in that it considers the emissions of traffic generated by existing and future planned land uses and the effects of other future planned transportation improvements. Temporary air quality impacts would be minimized through implementation of dust control and equipment management measures. The Proposed Project would not contribute to cumulative air quality effects because it would not violate any air quality standard, would not contribute substantially to an existing air quality violation, and would not expose sensitive receptors to substantial pollutant concentrations.
- **Noise.** The analysis of noise impacts provided in Section 3.13, Noise, is a cumulative analysis in that it considers the traffic noise generated by existing and future planned land uses and the effects of other future planned transportation improvements on the noise environment. The maximum noise level increase attributable to the Build Alternative would be barely perceptible to the human ear in an outdoor environment. Construction noise is not generally considered a substantial impact because of the temporary nature of that noise and the limited exposure of sensitive receptors to construction noise. The noise analysis concluded that the construction noise would be short-term, intermittent, and overshadowed by local traffic noise. For these reasons, the Proposed Project would not contribute to cumulative adverse effects related to noise.

- **Climate Change.** The analysis of air quality provided in Section 4.3, Climate Change, is a cumulative analysis in that it considers the emissions of traffic generated by existing and future planned land uses and the effects of other future planned transportation improvements. As discussed in Section 4.3, the Build Alternative would increase the average vehicle speeds in the Project Area and decrease the average delay per vehicle. Therefore, the Build Alternative would not substantially alter the long-term greenhouse gas (GHG) emissions or contribute to cumulative impacts related to climate change.
- **Energy.** The energy consumed during construction and maintenance of the Build Alternative would represent a negligible fraction of regional energy consumption. In addition, the Build Alternative would result in an overall reduction in the vehicle hours traveled (VHT) and increase in system efficiency, which would result in less energy use compared to the No Build Alternative. Therefore, the Proposed Project would not result in a cumulatively considerable energy impact.

3.23.4.3 Biological Environment

- **Wetlands and Other Waters.** The Build Alternative would not impact wetlands. The temporary and permanent impacts to jurisdictional waters would be minimal and would be minimized or mitigated through compliance with the measures required by the resource agencies during the permitting process. In addition, the current functions and values of the impacted drainages features are quite low. Therefore, the Build Alternative would not contribute to cumulative adverse effects related to wetlands and other waters.
- **Plant Species.** As discussed in Section 3.17, Plant Species, the Build Alternative would result in impacts to Coulter's Matilija poppies and California black walnut. Coulter's Matilija poppies are somewhat numerous within and adjacent to the biological study area (BSA), and the project is not expected to contribute more than incrementally to the cumulative loss of this species and its potential habitat. California black walnuts are not numerous within and adjacent to the BSA; however, those few individuals that may be impacted by the Build Alternative are saplings situated within a median and the removal or relocation of these three saplings is not expected to substantially impact the long-term viability of this species. Therefore, the Build Alternative would not contribute to cumulative adverse effects to special-status plant species.

- **Animal Species.** As discussed in Section 3.18, Animal Species, the Build Alternative has the potential to impact golden eagles, bats, migratory birds, and special-status species inhabiting the natural communities Project Area. The Project Area is located within or adjacent to Caltrans right-of-way for an existing highway and lacks suitable nesting habitat for golden eagles. Although construction could temporarily impede access to potential bat roost sites in the crevices of the bridge and overhead structures, none of the potential roosting habitat is expected to be permanently altered by the Build Alternative. Impacts to migratory birds would be addressed through compliance with the Migratory Bird Treaty Act (MBTA). Although the Build Alternative would replace some of nonnative grassland and open space areas with impervious areas, this would occur within the median and perimeter of existing freeways. For these reasons, the Proposed Project would not contribute to cumulative adverse effects related to animal species. Impacts to coastal sage scrub special-status species are discussed below in Section 3.23.5 in conjunction with impacts to coastal sage scrub.
- **Invasive Species.** The Build Alternative would not substantially increase the potential for the spread of invasive species. Compliance with standard procedures would address this impact. Therefore, the Proposed Project would not contribute to cumulative adverse effects related to invasive species.

The following environmental topics for which the Proposed Project may contribute to cumulative effects for the environmental topics listed below. The cumulative impacts of these topics are discussed further in Section 3.23.5, below.

3.23.4.4 Physical Environment

- Paleontology

3.23.4.5 Biological Environment

- Natural Communities
- Threatened and Endangered Species

3.23.5 Cumulative Impact Analysis

3.23.5.1 Paleontological Resources

Resource Study Area

The RSA for paleontological resources is the northwestern Peninsular Ranges Geomorphic Province of southern California (Province). This Province is bounded on the north by the Transverse Ranges, on the east by the Colorado Desert, and on the west by the Pacific Ocean, and extends south to include the entire Baja California Peninsula. This province is characterized by a series of mountain ranges separated by

northwest-trending valleys subparallel to faults branching from the San Andreas Fault. The trend of topography is similar to that of the Coast Ranges Geomorphic Province to the north, but the geology is more like that of the Sierra Nevada, with granitic rock intruding on older metamorphic rocks. The Province contains extensive pre-Cretaceous (more than 145 million years ago) igneous and metamorphic rocks covered by limited exposures of post-Cretaceous (less than 66 million years ago) sedimentary deposits. Many of the formations and rock types in the RSA are considered highly sensitive for paleontological resources.

Project Impacts

The analysis of the potential impacts of the Build Alternative on paleontological resources is provided in Section 3.10, Paleontology. The Build Alternative is anticipated to disturb geologic units in the RSA that have high potential to contain significant, nonrenewable paleontological resources. The formations and units that exist within the RSA include: the Baker Canyon Member of the Ladd Formation, the Schulz Ranch member of the Williams Formation, the Silverado Formation, the Santiago Formation, the undifferentiated Sespe/ Vaqueros Formation, the Topanga Formation, Very Old Alluvial Fan Deposits, Young Alluvial Fan Deposits, Young Axial Channel Deposits, Landslide Deposits, and Artificial Fill.

Artificial Fill has no potential to contain valuable paleontological resources because these deposits are the result of human activity. Late Holocene Landslide Deposits do not have the potential to contain paleontological resources because of their young age (less than 11,700 years). Young Alluvial Fan Deposits and Young Axial Channel Deposits have a low paleontological sensitivity. However, these two units are expected to overlie formations with high sensitivity. Therefore, in areas where Young Alluvial Fan Deposits and Young Axial Channel Deposits are exposed at the surface, the sediments encountered at depths greater than 10 feet (ft) are considered to have a high paleontological sensitivity.

The Very Old Alluvial Fan Deposits, the Topanga Formation, undifferentiated Sespe/ Vaqueros Formation, the Santiago Formation, the Silverado Formation, the Schultz Ranch Member of the Williams Formation, and the Baker Canyon Member of the Ladd Formation all have a high paleontological sensitivity and are expected to contain scientifically valuable paleontological resources. However, the Silverado Formation and the Baker Canyon Member of the Ladd Formation are less likely to be impacted because they are not located in an area of the RSA where excavation is expected.

Within the approximately 5 ac parcel in the NNL where ground disturbance will occur, four geologic units are present: the Santiago Formation, Very Old Alluvial Fan Deposits, Young Alluvial Fan Deposits, and Holocene Landslide Deposits. As stated above, the Santiago Formation and the Very Old Alluvial Fan Deposits have a high paleontological sensitivity and potentially contain paleontological remains.

Because of the presence of formations with high paleontological sensitivity, in areas where excavation for the Build Alternative would occur, construction activities have the potential to result in permanent impacts to paleontological resources. These potential permanent impacts would be reduced based on the development and implementation of a Paleontological Mitigation Plan (PMP) that follows the guidelines of the Society of Vertebrate Paleontologists (SVP) and Caltrans. The requirement for a PMP is specified in Measure PAL-1 in Section 3.10.4.

Cumulative Impacts

The cumulative projects would also be expected to result in permanent impacts to paleontological resources when excavation for those projects extends into fossiliferous formations. The quantity and severity of those impacts would be related to the amount (acres) of soil disturbed, the depth of excavation, and the resources, if any, encountered during construction. The cumulative projects would typically be required to comply with mitigation measures to address potential impacts to paleontological resources encountered during construction.

Each cumulative project is subject to the applicable requirements of federal and/or State environmental laws for protection of paleontological resources. Projects that would disturb sediments with high paleontological sensitivity should be required to implement mitigation measures to address the potential impacts to paleontological resources encountered during construction. Caltrans has developed a set of guidelines similar to those of the SVP for preparation of a PMP to reduce impacts to paleontological resources. The cumulative projects subject to Caltrans oversight would be required to follow a PMP. For those cumulative projects that are not subject to Caltrans oversight, similar measures to those contained in the PMP should be implemented. As such, cumulative projects with the potential to impact paleontological resources should implement measures, such as preconstruction field surveys, full-time monitoring by a qualified paleontologist, and the recovery, identification, and appropriate storage of any paleontological resources found, to reduce potential impacts.

As stated previously, a PMP would be implemented during construction of the Build Alternative to avoid impacts to paleontological resources. The requirement for a PMP is included in Measure PAL-1 in Section 3.10.4. In the event that paleontological resources are encountered during excavation and grading for the Build Alternatives, implementation of a PMP would ensure that fossils would be able to be recovered. Therefore, the Build Alternative's contribution to cumulative paleontological impacts would not be considerable. No additional measures beyond Measure PAL-1 would be required to address cumulative impacts to paleontological resources.

3.23.5.2 Biological Resources (Natural Communities and Threatened and Endangered Species)

The analysis below of cumulative impacts to natural communities and threatened and endangered species is focused on impacts to coastal sage scrub habitat, coast live oak, and critical habitat for coastal California gnatcatcher. Braunton's milk-vetch and thread-leaved brodiaea are considered either unlikely to be present or absent from the BSA; therefore, it is unlikely that the Project would contribute to cumulative impacts to this species. Because the Project Area is located within or adjacent to State right-of-way for an existing highway and because of the lacks of suitable nesting habitat and limited foraging habitat for bald eagles, least Bell's vireo, and southwestern willow flycatcher, the Project is not expected to contribute to the cumulative impacts to these species. Therefore, cumulative impacts to these species are not discussed further.

Resource Study Area

The Project Area for the Build Alternative is in the cities of Anaheim, Yorba Linda, and Corona and in unincorporated areas of the counties of Orange and Riverside. However, the portion of the Proposed Project within the County of Riverside is limited to advance signage areas. Because the physical improvements are limited to the portion of the Project Area in the County of Orange, the RSA for biological resources was defined as northeastern Orange County.

As described in *The Jepson Manual* (Hickman, J.C., ed. 1993), the RSA is located in the South Coast subregion of the Southwestern California region of the California Floristic Province. That subregion is characterized by valleys and small hills extending from the coast inland to the foothills of the Transverse and Peninsular Mountain Ranges. Historically, the natural vegetation communities in this subregion consisted primarily of chaparral, coastal sage scrub, annual grasslands, and some riparian scrub and woodland, along with the special-status plants and wildlife

associated with these vegetation communities. However, much of the area has been modified from these natural plant communities as a result of agriculture and the development of urban and suburban uses.

Much of the area in the RSA for biological resources is within lands that are protected from development to preserve biological resources and natural habitat (e.g., Orange County Central and Coastal Subregion Natural Community Conservation Plan/Habitat Conservation Plan [NCCP/HCP]). Much of the remaining areas of natural vegetation in the RSA and the plant and wildlife species associated with that natural vegetation occur in lower quality, scattered, often fragmented patches on hills or in other areas not easily developed.

Project Impacts

As discussed in Section 3.15, Natural Communities, and shown in Table 3.15.2, the Build Alternative would temporarily impact 8 coast live oak and 15 sycamore trees and permanently impact 6 coast live oak trees in the area of the junction of SR-241 and SR-91. Modifications to the Project to mitigate effects to impacts to trees would include replacement of trees at approved ratios as part of a revegetation program.

Within the NCCP/HCP Plan Area, there would be permanent and temporary impacts to approximately 47.35 acres (ac) of potential coastal California gnatcatcher habitat known to support one pair of coastal California gnatcatcher. Approximately 9.14 ac of permanent and temporary impacts to designated coastal California gnatcatcher critical habitat would occur outside the NCCP/HCP Plan Area, 6.33 ac of which is developed. As discussed in Section 3.19, Threatened and Endangered Species, and illustrated in Table 3.19.1, direct temporary and permanent impacts to coastal California gnatcatcher occupied habitat and designated critical habitat would occur within and outside the NCCP/HCP Plan Area. Take of coastal California gnatcatcher in the NCCP/HCP Plan Area is expected to occur through the temporary loss of 11.85 ac (11.47 ac of coastal sage scrub and 0.38 ac of nonnative grassland) and the permanent loss of 2.98 ac (2.61 ac of coastal sage scrub and 0.37 ac of nonnative grassland) of occupied habitat in the median of the existing SR-241/SR-91 interchange as shown in Table 3.19.1. In addition, the Build Alternative would result in 12.80 ac of temporary impacts and 19.72 ac of permanent impacts to designated critical habitat in the NCCP/HCP Plan Area, as well as 7.96 ac of temporary impacts and 1.18 ac of permanent impacts outside the NCCP/HCP Plan Area. The Build Alternative would also result in temporary impacts 0.23 ac of California gnatcatcher habitat outside the NCCP/HCP Plan Area.

As discussed in detail in Section 3.15, Natural Communities, mitigation for the segment of the Build Alternative in the NCCP/HCP Plan Area was conducted as part of the NCCP Implementation Agreement. Therefore, no further mitigation would be required for the permanent impacts to 19.72 ac of designated critical habitat within the NCCP/HCP Plan Area. Impacts to non-NCCP/HCP areas within Caltrans right-of-way will be covered through mitigation measures in the new Biological Opinion because the coastal California gnatcatcher critical habitat was not yet designated and was, therefore, not part of the original Biological Opinion. For impacts to coastal California gnatcatcher occupied habitat, designated critical habitat, and impacts to CSS beyond those that were included in the original Biological Opinion, the proposed minimum mitigation ratio is 2:1 for permanent impacts and 1:1 for temporary impacts as described in Measure TE-7 in Section 3.19.4. It is proposed that the Strawberry Farms mitigation area be used as mitigation for the Proposed Project.

Impacts to non-NCCP/HCP areas within Caltrans right-of-way would be addressed through requirements of the 2019 Biological Opinion and formal Section 7 consultation that have been added to Measure TE-7, because the coastal California gnatcatcher critical habitat was not yet designated and was, therefore, not part of the original Biological Opinion. To offset coastal sage scrub impacts to coastal California gnatcatcher occupied habitat or designated critical habitat, the proposed minimum mitigation ratio is 1:1 for temporary impacts and 2:1 for permanent impacts as described in Mitigation Measure TE-7.

Cumulative Impacts

As described above, the Project would permanently impact 6 coast live oak trees in the area of the junction of SR-241 and SR-91. Although Caltrans provides for the protection and replacement of oak trees and the protection of oak habitats, oak trees take 60 to 80 years to mature. However, suitable habitat is expected to be available for wildlife within 20 years of planting. Despite the removal of individual mature oak trees within the junction of SR-241 and SR-91, it is unlikely that the removal would cause cumulative impacts to oak species or wildlife given the sparse nature of the oak habitat in this area.

The Build Alternative would result in the permanent and temporary removal of coastal sage scrub within the project disturbance limits and has the potential to result in adverse impacts on the plant and animal species associated within this natural community, including coastal California gnatcatcher. Some of the other cumulative projects that are in the same geographic areas may also result in the permanent and/or

temporary removal of coastal sage scrub and have the potential to result in adverse impacts on the plant and animal species (e.g., coastal California gnatcatcher) associated with this natural community. Future development of these areas may increase traffic noise and additional nighttime light spill into preserved areas, as well as the degradation of coastal sage scrub habitat as a result of off-site development. Therefore, the cumulative projects have the potential to contribute incrementally to cumulative impacts on these natural communities in the RSA.

Each cumulative project would be required to include measures to mitigate for impacts to natural communities and threatened and endangered species, including impacts to coastal sage and coastal California gnatcatcher. In addition, other cumulative projects within the NCCP/HCP Plan Area would be required to consult with the wildlife resource agencies (USFWS and California Department of Fish and Wildlife [CDFW]) and comply with the measures in the NCCP/HCP to reduce impacts to habitats and species covered by the plan.

The NCCP/HCP approved in 1996 serves as a comprehensive, multijurisdictional habitat based conservation program pursuant to Section 10(a)(1)(B) of the Federal Endangered Species Act (FESA) of 1973 and the Natural Communities Conservation Planning Act of 1991. The NCCP/HCP focuses on the conservation of multiple species and their associated habitats while allowing for economic uses that meet social and economic needs in Central and Coastal Orange County. The NCCP/HCP authorizes the take of plant and wildlife species in the NCCP/HCP Plan Area by participating jurisdictions. Regulation of the take of threatened, endangered, and rare species is authorized by the wildlife resource agencies (USFWS and CDFW), which allow take authorization for otherwise lawful actions (e.g., public and private development) in exchange for the assembly and management of a coordinated NCCP/HCP Reserve System.

The NCCP/HCP was conceived, developed, and is being implemented specifically to address direct, indirect, permanent, and temporary impacts on species and habitats (including coastal sage scrub and coastal California gnatcatcher) within central and coastal Orange County, resulting from the build out of planned land use and infrastructure, including the Build Alternative. The NCCP/HCP ensures that the cumulative impacts to those species identified are effectively mitigated by assembling the Reserve System. According to the NCCP/HCP Final EIR/EIS (County 1996b; pages 9–16), the Central/Coastal NCCP/HCP is directed specifically to address reasonably foreseeable cumulative impacts of incidental take of coastal sage scrub

habitat on the target/Identified Species and species dependent on or associated with coastal sage scrub and covered habitat at a very large subregional scale. Therefore, cumulative impacts are addressed at the subregional level as described in Chapters 5 through 8 of the NCCP/HCP Final EIR/EIS (County 1996b). Because the ETC is a project covered by the NCCP/HCP, the part of the Build Alternative within the NCCP/HCP Plan Area is not expected to contribute considerably to cumulative impacts to coastal sage scrub or coastal California gnatcatcher.

The measures provided in Section 3.19 as a result of Section 7 consultation and the 2019 Biological Opinion address any California gnatcatcher use areas in the non-NCCP/HCP Plan Area, as well as mitigation measures for designated California gnatcatcher critical habitat since critical habitat was not part of the original Biological Opinion. Therefore, the part of the Build Alternative outside the NCCP Plan Area is not expected to contribute to the cumulative impacts to coastal sage scrub or coastal California gnatcatcher.

3.23.6 Avoidance, Minimization, and/or Mitigation Measures

Measures to avoid, minimize, or mitigate harm resulting from construction and operation of the Build Alternative are provided in Sections 3.1 through 3.20. Those measures address temporary direct and indirect effects during construction and permanent direct and indirect effects during operation of the Build Alternative. No measures beyond those identified in Sections 3.1 through 3.20 are required to address the potential contributions of the Build Alternative to cumulative adverse impacts.

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Chapter 4 California Environmental Quality Act (CEQA) Evaluation

4.1 Determining Significance under CEQA

The Proposed Project is a joint project by the California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) 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). FHWA's responsibility for environmental review, consultation, and any other action required in accordance with NEPA and other applicable federal laws for this project is being, or has been, carried-out by Caltrans under its assumption of responsibility pursuant to 23 United States Code 327 (23 USC 327) and the Memorandum of Understanding dated December 23, 2016, and executed by FHWA and Caltrans. Caltrans is the lead agency under CEQA and NEPA.

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an Environmental Impact Statement (EIS), or a lower level of documentation, will be required. NEPA requires that an EIS 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 EIS, 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 (1) each "significant effect on the environment" resulting from the project, and (2) ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an Environmental Impact Report (EIR) must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the State CEQA Guidelines list a number of

"mandatory findings of significance," which also require the preparation of an EIR. 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.

4.2 Impacts of the Proposed Project

The significance of the potential impacts of the Proposed Project under CEQA was assessed based on the CEQA Environmental Checklist provided in Appendix A, and the analyses of project impacts discussed in detail in Chapter 3, Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures. For discussion of the impacts of the No Build Alternative, refer to Chapter 3. The impacts of the Build Alternative are summarized in the following sections, including the identification of the level of significance of the potential adverse effects under CEQA. Because the significance discussion is categorized by level of impact, starting with No Impact and concluding with Significant Effects, and because the CEQA Environmental Checklist asks a variety of questions for each environmental topic, certain environmental topics may be discussed in more than one level of significance discussion. The environmental topic headings provide clarification on the particular environmental subset being addressed where it appears in more than one level of significance discussion. To better help the reader, the specific CEQA Environmental Checklist questions that are addressed in the discussion are referenced below each heading for each environmental topic.

The evaluation of the potential impacts of the Build Alternatives under CEQA provided in this chapter was conducted by comparing the Build Alternatives to the baseline conditions, which in most cases, are the existing conditions in the Study Area. For some environmental parameters, this is a different baseline than what was used for other environmental parameters. Existing conditions are generally the appropriate baseline per the State CEQA Guidelines Section 15125(a). Section 15125 also states:

> "Where existing conditions change or fluctuate over time, and where necessary to provide the most accurate picture practically possible of the project's impacts, a lead agency may define existing conditions by referencing historic conditions, or conditions expected when the project becomes operational, or both, that are supported with substantial evidence. In addition, a lead agency may also use baselines consisting of both existing conditions and projected future conditions

> that are supported by reliable projections based on substantial evidence in the record."

Collection of data for the technical studies, field surveys, and preparation of the technical studies were initiated in 2013. As a result, for most of the technical evaluations, the baseline conditions for comparative purposes under CEQA were the existing conditions in 2013, when the information was collected.

However, for the topics of transportation/traffic, air quality, noise, and energy, the evaluation utilized the 2017 Opening Year as baseline conditions instead of the traffic data collection year (2013). The impact evaluations of these environmental topics all utilized the traffic modeling conducted for the Proposed Project, which established 2017 scenario as the Existing Conditions that will exist at the start of project operations and environmental baseline for CEQA purposes. The considerations involved in determining the appropriateness of the 2017 condition as the environmental baseline are described below.

Two different sets of traffic data were assessed to determine how traffic volumes will change between 2013 Existing Conditions and the existing conditions at the start of project operations (2017). Peak-period volumes were studied to evaluate the period with the highest volumes and congestion, and daily volumes were studied to evaluate the overall traffic demand throughout the day.

- For peak-period traffic, Table 1.1 included a summary of the total demand entering the Study Area network during the AM and PM peak periods. That table illustrated that the change in traffic volume between Existing Conditions (2013) and Existing Conditions (2017) is projected to be 22 to 27 percent.
- For daily traffic, Table 3.12.4 included data for State Route 91 (SR-91) (303,200 vehicles per day) and State Route 241 (SR-241) (52,200 vehicles per day) for the Existing Conditions (2017). The Caltrans Performance Measurement System (PeMS) data (available at http://pems.dot.ca.gov) for those two freeways indicate that the 2013 traffic volumes are 278,300 vehicles per day on SR-91 and 43,900 vehicles per day on SR-241. These data suggest changes in daily traffic volume of 9 to 19 percent.

The percentages are different, yet the patterns are the same. There are two reasons for the relatively large projected increases in traffic between 2013 Existing Conditions and 2017 Existing Conditions. Most importantly, it was known that the SR-91 CIP Initial Phase would be completed by 2017. The SR-91 CIP Initial Phase would extend

the existing express lanes in Orange County to the east from the Orange/Riverside County line to I-15 in the City of Corona. This project will attract traffic to the corridor, particularly during the peak periods, and specifically to the *91 Express Lanes*. Secondly, there will be some natural background growth. However, the SR-91 CIP Initial Phase was projected to have a large influence on the transportation system, and the use of Existing Conditions at the start of project operations in 2017 as the baseline year for analysis of impacts provides the most accurate picture possible of traffic conditions prior to the opening of the Project to traffic.

Given the substantial change in traffic volumes due to the SR-91 CIP Initial Phase new express lanes, and to a lesser extent background growth, a comparison between the 2017 Build Conditions and the 2013 Existing Conditions would not be accurate. The traffic volume change due to the SR-91 CIP Initial Phase has a major effect on operations, with or without the Proposed Project. An analysis comparing the Proposed Project on 2013 traffic conditions (without the SR-91 CIP Initial Phase) would not be appropriate, because the SR-91 CIP Initial Phase was already under construction during preparation of the *Traffic Analysis* [July 2015] for the Proposed Project. Therefore, the comparison between the 2017 Build Conditions and 2017 Existing Conditions (which included the SR-91 CIP Initial Phase) was used as the basis for evaluating impacts related to traffic/transportation, air quality, noise, and energy.

The discussion on greenhouse gas (GHG) emissions and global climate change is discussed in detail later in Section 4.3, Climate Change.

This chapter only discusses the significance of the Proposed Project's impacts under CEQA. The significance determinations of impacts for the approved Eastern Transportation Corridor (ETC) project under CEQA have not changed.

4.2.1 No Impacts

4.2.1.1 Aesthetics

Checklist Questions: I(a) Scenic Vistas

I(a) Would the project have a substantial adverse effect on a scenic vista?

As discussed in the *Visual Impact Assessment* (June 2015), there are no designated scenic vistas located within the viewshed of the project corridor (View Corridor). Therefore, the Build Alternative would not impact a scenic vista, and no mitigation is required.

4.2.1.2 Agriculture and Forest Resources

Checklist Questions: II(a), (b), (c), (d), and (e) Farmlands, Forest Lanes, and Timberlands

II(a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?

The Project Area is not used for agricultural production and is not designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. Land in the Project Area is either classified as "Other Land" or "Urban and Built Up."[1] In addition, according to the City of Anaheim Zoning Map (2014), the Project Area is not zoned for agricultural uses. The Proposed Project would not convert any type of farmland to a nonagricultural use or contribute to environmental changes that could result in conversion of farmland to nonagricultural use. Therefore, the Proposed Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, no impacts would occur, and no mitigation is required.

II(b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

As discussed above, the Project Area is not used for agricultural production and is not zoned for agricultural use. In addition, the Project Area is not protected by, or eligible for, a Williamson Act contract.[2] Therefore, the Proposed Project would not conflict with existing zoning for agricultural use or a Williamson Act contract, no impacts would occur, and no mitigation is required.

II(c) Would the project 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))?

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1 California Resources Agency. Website: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2012/ora12.pdf (accessed April 8, 2015).

2 California Department of Conservation. Website: ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Orange_WA_03_04.pdf (accessed August 22, 2015).

The Project Area is not used for agricultural or timberland production, not zoned as forest land or timberland, and does not contain forest land or timberland. Therefore, the Proposed Project would not conflict with existing zoning of forest land, timberland, or timberland zoned Timberland Production, no impacts would occur, and no mitigation is required.

II(d) Would the project result in the loss of forest land or conversion of forest land to nonforest use?

The Project Area is not zoned as forest land and does not contain forest land. Therefore, the Proposed Project would not result in the loss of forest land or conversion of forestland to nonforest use, no impacts would occur, and no mitigation is required.

II(e) Would the project 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?

The Project Area is not used for agricultural or timberland production, not zoned as forest land or timberland, and does not contain forest land or timberland. Therefore, the Proposed Project would not involve changes in the existing environment, which could result in conversion of Farmland to non-agricultural use, or conversion of forest land to non-forest use, no impacts would occur, and no mitigation is required.

4.2.1.3 Air Quality

Checklist Questions: III(a) Air Quality Plan Consistency

III(a) Conflict with or obstruct implementation of the applicable air quality plan?

As discussed in Sections 3.1, Land Use, and 3.13, Air Quality, the Proposed Project is included in the Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and is programmed in SCAG's 2019 Federal Transportation Improvement Program (FTIP) and Orange County Transportation Authority's (OCTA's) 2014 Long Range Transportation Plan (LRTP). The Build Alternative is consistent with the scope of the design concept of the FTIP. Therefore, the Proposed Project is in conformance with the State Implementation Plan (SIP) for attaining the national ambient air quality standards (NAAQS). The Build Alternative would not conflict with or obstruct

implementation of an applicable air quality plan. No impacts would occur, and no mitigation is required.

4.2.1.4 Biological Resources

Checklist Question: IV(e) Tree Ordinances

IV(e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The majority of project improvements would occur within Caltrans right-of-way. Senate Concurrent Resolution No. 17 (filed with the Secretary of State on September 1, 1989) requests all State agencies to preserve and protect native oak woodlands to the maximum extent feasible or to provide for replacement plantings. Impacts to any oak trees with trunk sizes greater than 8 inches diameter at breast height (DBH), but less than 36 inches DBH, would be replaced at a minimum mitigation-to-impact ratio of 1:1. Heritage oaks (oaks greater than 36 inches DBH) would be replaced at a minimum mitigation-to-impact ratio of 3:1.

The slope south of SR-91, approximately 3,600 feet (ft) west of Coal Canyon Undercrossing, that would be graded is located on County land. There are no County policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. In addition, this parcel would be acquired and incorporated into Caltrans right-of-way, where local regulations are not applicable. Therefore, the Proposed Project would not conflict with any local policies or ordinances protecting biological resources. No impacts would occur, and no mitigation is required.

4.2.1.5 Cultural Resources

Checklist Question: V(a) Historic Resources

V(a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

As discussed in Section 3.7, Cultural Resources, one historic archaeological resource, 33-10819/CA-RIV-6532H (the Green River Camp/Alta Vista site) extends into the project Area of Potential Effects (APE). The site has been determined not eligible for listing in the National Register of Historic Places and the State Historic Preservation Officer concurred with this finding in a letter dated March 8, 2001. The portion of the site recorded within the APE has been completely destroyed by construction of SR-91. This part of the APE consists of an Advance Signage Area and there will be no ground disturbance in this area. Caltrans has determined that a finding of No

Impact is appropriate pursuant to State CEQA Guidelines Section 15064.5(b)(3) because there are no Historical Resources within the Project Area. Therefore, the Build Alternative would not cause a substantial adverse change in the significance of a historical resource, and no mitigation is required.

4.2.1.6 Geology and Soils

Checklist Question: VI(a)(i) and (e) Fault Rupture and Septic Tanks

VI(a)(i) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving 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.

As discussed in Section 3.9, Geology and Soils, the Project Area is not located within an Earthquake Fault Zone according to the Alquist-Priolo Earthquake Fault Zoning Act of 1972. Although a number of inactive faults are within the Project Area, no active faults transverse the Project Area. Therefore, the Project Area would not be subject to impacts related to rupture of a known earthquake fault as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, no impacts would occur, and no mitigation is required.

VI(e) Would the project 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?

The Build Alternative does not include construction of septic tanks or alternative wastewater disposal systems. Therefore, it would not result in impacts related to capability of the soil to adequately support the use of septic tanks or alternative wastewater disposal systems, no impacts would occur, and no mitigation is required.

4.2.1.7 Hazards and Hazardous Materials

Checklist Questions: VIII(c), (d), (e), and (f) Schools, Hazardous Materials Sites, and Airports

VIII(c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

There are no existing or proposed schools located within 0.25 mile (mi) of the Project Area. The closest school, Running Springs Elementary School, located to the west of SR-241 in The Summit of Anaheim Hills community, is located approximately 0.42 mi west of SR-241. The Build Alternative is a median-to-median connector that would not generate hazardous emissions or handle hazardous materials beyond those used for routine maintenance. Therefore, the Proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mi of an existing or proposed school. No impacts would occur, and no mitigation is required.

VIII(d) Would the project 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?

Available public records were searched on September 27, 2013, by Environmental Data Resources, Inc. (EDR) for hazardous waste sites within an approximate 1 mi radius Project Area. The records search did not find any sites included within the Project Area that are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and as a result, the Build Alternative would not create a significant hazard to the public or the environment. Therefore, no impacts would occur, and no mitigation is required.

VIII(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?

The Project Area is not within an airport land use plan or within 2 mi of a public airport. The closest airport is Corona Municipal Airport, located approximately 2.5 mi from the Project Area. Therefore, the Build Alternative would not result in impacts related to safety hazards related to airports, and no mitigation is required.

VIII(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?

There are no private airstrips within 2 mi of the Project Area; therefore, the Proposed Project is not within the vicinity of a private airstrip. As such, the Build Alternative

would not result in impacts related to safety hazards related to airports, and no mitigation is required.

4.2.1.8 Hydrology and Water Quality

Checklist Questions: IX(g) and (h) 100-Year Flood Hazard Areas

IX(g) Would the project 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?

The Build Alternative includes improvements to an existing transportation facility and does not involve any housing development. Therefore, the Build Alternative would not place housing within a 100-year flood hazard area, and no impacts would occur. No mitigation is required.

IX(h) Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

The Proposed Project is adjacent to the Santa Ana River, which runs parallel to the north of SR-91. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) No. 06059C0180J (December 3, 2009), the Santa Ana River is located in a 100-year Flood Zone AE, which is a special flood hazard area for which Base Flood Elevations have been provided. However, no project improvements would occur within the 100-year flood hazard area. Therefore, the Build Alternative would not place structures that would impede or redirect flood flows, no impacts would occur, and no mitigation is required.

4.2.1.9 Land Use and Planning

Checklist Question: X(a) and (b) Division of an Established Community and Conflict with Land Use Plans

X(a) Would the project physically divide an established community?

The Build Alternative would not physically divide an established community because it involves improvements to the existing freeway network, primarily within existing right-of-way and would not acquire right-of-way from any established communities. No impacts would occur, and no mitigation is required.

X(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?

The Proposed Project is consistent with the SCAG's 2016–2040 RTP/SCS, SCAG's 2019 FTIP, the County of Orange Master Plan of Arterial Highways (MPAH), OCTA's LRTP and the goals, policies, and plans of the counties of Orange and Riverside and the cities of Anaheim, Yorba Linda, Orange, and Corona. Therefore, no impacts related to land use plans, policies, or regulations of agencies with jurisdiction over the Proposed Project would occur, and no mitigation is required.

4.2.1.10 Noise

Checklist Question: XII(e) and (f) Airports

XII(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?

The Project Area is not within an airport land use plan or within 2 mi of a public airport. The closest airport is Corona Municipal Airport, located approximately 2.5 mi from the Project Area. Because the Build Alternative is not located in the vicinity of an airport, the Proposed Project would not expose people residing or working in the Project Area to excessive noise levels related to airports. No impacts would occur, and no mitigation is required.

XII(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?

There are no private airstrips within 2 mi of the Project Area; therefore, the Proposed Project is not within the vicinity of a private airstrip. Because the Build Alternative is not located in the vicinity of a private airstrip, the Proposed Project would not expose people residing or working in the Project Area to excessive noise levels related to airports. No impacts would occur, and no mitigation is required.

4.2.1.11 Population and Housing

Checklist Question: XIII(a), (b) and (c) Population Growth and Displacement of Housing and People

XIII(a) Would the project 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)?

As discussed in detail in Section 3.2, Growth, the Build Alternative includes improvements to an existing transportation facility and is expected to accommodate existing, approved, and planned growth in the area. However, the Build Alternative is not expected to influence the amount, timing, or location of growth in the area. Therefore, the Build Alternative would not induce substantial population growth in an area, either directly or indirectly, and no mitigation is required.

XIII(b) Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

The Build Alternative would not require the acquisition of any residential properties for construction of the project improvements. Therefore, the Build Alternative would not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere. No mitigation is required.

XIII(c) Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The Build Alternative would not require the acquisition of any residential properties for construction of the project improvements. Therefore, the Build Alternative would not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere. No mitigation is required.

4.2.1.12 Public Services

Checklist Question: XIV(a)(iii) Schools and (v) Other Public Facilities

XIV(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:

(Note that impacts related to fire protection, police protection, and parks, as they relate to this threshold, are discussed later in Section 4.2.2, Less than Significant Effects of the Proposed Project.)

As discussed in detail in Section 3.2, Growth, the Build Alternative includes improvements to an existing transportation facility and is expected to accommodate existing, approved, and planned growth in the area. However, the Build Alternative is not expected to influence the amount, timing, or location of growth in the area. Therefore, the Build Alternative would not induce population growth. In addition, the Build Alternative does not include the construction of residential or nonresidential uses that would increase the number of households in the surrounding cities. Therefore, the Build Alternative would not increase the population or the number of people in the surrounding cities that rely on the services provided by schools or other public facilities (e.g., libraries). As such, the Build Alternative would not generate an increased demand for school facilities or other public facilities or require the construction of school facilities or other public facilities. Therefore, the Build Alternative would not result in physical impacts associated with the provision of new or physically altered school or other public facilities, and no mitigation is required.

4.2.1.13 Recreation

Checklist Questions: XV(a) and (b) Parks and Recreational Facilities

XV(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?

As discussed in detail in Section 3.2, Growth, the Build Alternative includes improvements to an existing transportation facility and is expected to accommodate existing, approved, and planned growth in the area. However, the Build Alternative is not expected to influence the amount, timing, or location of growth in the area. In addition, the Build Alternative does not include the construction of residential or nonresidential uses that would increase the number of households in the surrounding cities. As such, the Build Alternative would not generate an increased demand for parks or other recreational facilities such that physical deterioration would occur or be accelerated. Therefore, it is not anticipated that recreation facilities would be affected by project implementation, no impacts would occur, and no mitigation is required.

XV(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?

The Build Alternative includes improvements to an existing transportation facility and does not include the construction of recreational facilities. As discussed in detail in Section 3.2, Growth, the Build Alternative is not expected to influence the amount, timing, or location of growth in the area. Therefore, the Build Alternative would not generate an increased demand for recreational facilities or require the construction or expansion of recreational facilities. It is not anticipated that recreation facilities or the availability of recreation resources within the surrounding cities would be affected by project implementation, no impacts would occur, and no mitigation is required.

4.2.1.14 Transportation/Traffic

Checklist Question: XVI(b), (c), (d), and (f) Congestion Management Programs, Air Traffic Patterns, Design Features, and Alternative Transportation

XVI(b) Would the project 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?

The Build Alternative would not conflict with the Congestion Management Programs for the counties of Orange or Riverside. In addition, the Proposed Project is consistent with the SCAG's 2016–2040 RTP/SCS, SCAG's 2019 FTIP, the County of Orange MPAH, and OCTA's LRTP. The Build Alternative would improve traffic throughput and travel times, reduce delays for travelers on SR-241 and SR-91 in the Project Area and, improve the efficiency of the overall regional express lane system. Therefore, the Proposed Project would not conflict with an applicable congestion management program, no impacts would occur, and no mitigation is required.

XVI(c) Would the project 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?

The Project Area is not within 2 mi of a public or private airport. The closest airport is Corona Municipal Airport, located approximately 2.5 mi from the Project Area. Therefore, the Build Alternative would not include any structures that could interfere with designated air space or affect air traffic patterns over the SR-241/SR-91 interchange and surrounding areas. The Build Alternative would not result in any changes in demand for air travel or any changes that would result in substantial safety risks associates with air travel, no impacts would occur, and no mitigation is required.

XVI(d) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The Build Alternative would not increase hazards due to a design feature or incompatible uses because the Proposed Project would be designed and constructed in compliance with the Caltrans Design Standards and Standard Construction Specifications. The proposed improvements do not include any hazardous design features or incompatible uses. No impacts would occur, and no mitigation is required.

XVI(f) Would the project conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

As discussed in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, pedestrians and bicyclists are not allowed to travel on the SR-241 or SR-91 mainline. The temporary detours and weekend or nighttime closures at the SR-91/ Gypsum Canyon Road interchange on- and off-ramps and the northbound SR-241 to eastbound SR-91 connector would not affect the existing fire trails or the Santa Ana River Trail/Bike Lane and would, therefore, not impact pedestrians and bicyclists or pedestrian and bicycle facilities.

As discussed in Chapter 1, Proposed Project, express bus service operating on SR-91 provides connections from the County of Riverside to employment centers in the cities of Anaheim, Costa Mesa, Fullerton, and Irvine in the County of Orange. Four additional express bus routes are planned for implementation in 2016. The Build Alternative would increase vehicle throughput on SR-91 within the Project Area, which would improve bus service. Therefore, the Proposed Project does not conflict with adopted plans, policies, or programs supporting alternative transportation, no impacts would occur, and no mitigation is required.

4.2.1.15 Utilities and Service Systems

Checklist Question: XVII(a), (e), and (g) Wastewater Treatment and Capacity and Solid Waste

XVII(a) Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The Build Alternative would not generate wastewater that would be disposed of in the municipal sewer system. As a result, the Build Alternative would not result in impacts

related to exceedances of the ability of local wastewater treatment providers to treat wastewater generated in their service areas. No mitigation is required.

XVII(e) Would the project 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?

As discussed in XVII(a) above, the Build Alternative would not generate wastewater that would be disposed of in the municipal sewer system. Therefore, the Build Alternative would not result in impacts related to the capacity of local wastewater treatment providers to treat wastewater generated in their service areas. No mitigation is required.

XVII(g) Would the project comply with federal, state, and local statutes and regulations related to solid waste?

The Build Alternative would comply with federal, State, and local statutes and regulations related to solid waste, and construction waste would be recycled to the extent feasible consistent with Caltrans standards. Therefore, no impacts related to solid waste regulatory compliance would occur, and no mitigation is required.

4.2.2 Less Than Significant Impacts of the Proposed Project

4.2.2.1 Aesthetics

Checklist Questions: I(b), (c), and (d) Scenic Resources, Visual Character and Quality, Light, and Glare

I(b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway

According to the Caltrans Scenic Highway Program, SR-91 is officially designated as a Scenic Highway west of State Route 55 (SR-55). SR-91 from west of SR-241 to east of Interstate 15 (I-15) is an eligible State Scenic Highway. South Weir Canyon Road, approximately 0.58 mi west of the project View Corridor, is designated as a Scenic Expressway in the City of Anaheim General Plan (2004). However, the Project Area is not visible from that Scenic Expressway due to intervening topography.

As discussed in the *Visual Impact Assessment* (VIA), views to State scenic route SR-91 (west of the project corridor), and eligible State scenic route SR-91 (through the Project Area and eastward) would be affected by the Build Alternative. However, the bridge connectors and associated piers/supports would be constructed to a similar massing and profile as the existing connectors in the area, and would not substantially obstruct any scenic views along SR-91, compared to the existing condition. Thus, the features of the Build Alternative would not substantially degrade scenic resources along a State-designated scenic highway. Although the visual sensitivity is moderate-high, the overall change is moderate-low due to minimal view blockage to surrounding visual resources from SR-91. Therefore, impacts to scenic resources within a State scenic highway would be less than significant, and no mitigation is required.

I(c) Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

As discussed in Section 3.6.4, Visual/Aesthetics, short-term visual impacts would occur during construction of the Build Alternative. Construction of the Build Alternative would expose sensitive viewers including motorists and residents to views of cleared vegetation, graded slopes, construction vehicles, equipment and other materials. Construction activities would be temporary, and the visual impacts related to views of the construction activities would cease after completion of construction.

As also discussed in Section 3.6.4, the features of the Build Alternative would result in similar encroaching features in the View Corridor as the existing freeways and their associated structures. The proposed bridge connector would be constructed of similar mass, profile, paving, and other construction materials to the existing general purpose lane connectors in the Project Area. Further, the proposed wall features would be similar to those currently experienced on-site and in the area. The views of surrounding areas including Cleveland National Forest, Chino Hills State Park, the Santa Ana Mountains, and the Santa Ana River would be similar to existing conditions, and would not be obstructed by the Build Alternative. In summary, the visual character/quality of the views experienced within the View Corridor would not be substantially reduced as a result of the Build Alternative.

Areas of cut and fill would appear similar in color to the existing topography, as specified in Measure V-2 in Section 3.6.5. Landscape and/or architectural treatments would be consistent with the existing infrastructure, as discussed in Measure V-3 in

Section 3.6.5. Slopes graded for the Build Alternative would be contoured consistent with the existing topography, and would be seeded with native plant species consistent with existing vegetation (Measure V-4). The Proposed Project would not substantially degrade the existing visual character or quality of the site and its surroundings, and no mitigation is required.

I(d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

As discussed in Section 3.6, Visual/Aesthetics, nighttime construction would occur periodically during the 18-month construction period. During nighttime construction, safety/security lighting would be used in accordance with California Division of Occupational Safety and Health (Cal/OSHA) standards. As described in Measure V-5 in Section 3.6.5, necessary nighttime lighting for safety, security, and construction purposes will be contained and directed toward the specific area of construction. Low glare construction signs would be used consistent with Caltrans standards.

The Build Alternative would include permanent safety and security lighting fixtures. As specified in Measure V-1 in Section 3.6.1, these fixtures would be hooded where feasible and the lighting would be directed on site to minimize potential intrusion of light and glare onto nearby land uses. The lighting would be designed consistent with the existing lighting along SR-241 and SR-91. Light and glare impacts would be less than significant, and no mitigation is required.

4.2.2.2 Air Quality

Checklist Questions: III(b), (c), (d), and (e) Air Quality Standards, Cumulative Increase in Criteria Pollutants, Sensitive Receptors, Odors

III(b) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

As discussed in Section 3.12.3, in Section 3.12, Air Quality, during construction of the Build Alternative, short-term degradation of air quality may occur due to the release of particulate emissions generated by excavation, grading, hauling, and other activities related to construction of the Proposed Project. Emissions from construction equipment would include CO, sulfur oxides (SO_2), NO_x, volatile organic compounds (VOCs), directly-emitted particulate matter (particulate matter less than 2.5 microns in size [$PM_{2.5}$] and particulate matter less than 10 microns in size [PM_{10}]), and toxic air contaminants such as diesel exhaust particulate matter. However, the daily construction emission levels for these contaminants would be low due to the

relatively small area of grading required (south of SR-91). Therefore, construction impacts related to violation of air quality standards and contribution to an existing or projected air quality violation would be less than significant, and no mitigation is required. Measures AQ-1 through AQ-5, detailed in Section 3.12.4, include South Coast Air Quality Management District (SCAQMD) Standard Conditions and Caltrans Standard Construction Specifications to address construction-related air quality impacts from fugitive dust and construction equipment emissions.

As also discussed in Section 3.12, Air Quality, the Build Alternative would increase traffic volumes on SR-91 by 1 to 2.6 percent (2040 and 2017, respectively) compared to the No Build Alternative. Due to the low traffic volumes on SR-241, the percentage increases in traffic are greater than 5 percent for both 2017 and 2040. However, the Build Alternative would increase the average vehicle speeds in the Project Area by 2–4 miles per hour (mph) and would decrease the average delay per vehicle by up to 20 percent.

As shown in Table 3.12.9, the increase in systemwide project-related motor vehicle Build Alternative emissions in 2040 would be minimal when compared to the No Build Alternative.

Therefore, operational impacts related to violation of air quality standards and contribution to an existing or projected air quality violation would be less than significant, and no mitigation is required.

III(c) Would the project 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)?

The Project Area is within the South Coast Air Quality Basin, which is in nonattainment for the following criteria pollutant: $PM_{2.5}$, PM_{10}, ozone (O_3), nitrogen dioxide (NO_2), and lead. As discussed above, during operation, the Build Alternative would not worsen air quality. Minor short-term degradation of air quality may occur due to the release of particulate emissions generated by excavation, grading, hauling, and other activities related to construction of the Proposed Project. Therefore, the Proposed Project would not result in a cumulatively considerable net increase in criteria pollutants, and no mitigation is required. Measures AQ-1 through AQ-5, detailed in Section 3.12.4, include SCAQMD Standard Conditions and Caltrans

Standard Construction Specifications to address construction-related air quality impacts from fugitive dust and construction equipment emissions.

III(d) Would the project expose sensitive receptors to substantial pollutant concentrations?

As discussed in Section 3.12.2.5, sensitive receptors located near the Project Area include residential uses, a church, a recreational vehicle (RV) campground, and playground (within Featherly Regional Park). As discussed above, during operation, the Build Alternative would not worsen air quality. However, the Build Alternative may result in temporary, short-term minor construction-related increases in pollutant concentrations specifically associated with construction equipment emissions and fugitive dust. However, those potential short-term air quality impacts to sensitive receptors would be less than significant, and no mitigation is required. The implementation of SCAQMD Standard Conditions and Caltrans Standard Construction Specifications, provided in Measures AQ-1 through AQ-5 in Section 3.12.4, would further reduce potential short-term air quality impacts to sensitive receptors.

III(e) Would the project create objectionable odors affecting a substantial number of people?

Some phases of construction of the Build Alternative (particularly asphalt paving) could result in short-term odors in the immediate vicinity of the Project Area. Also, diesel exhaust odors would be associated with operation of construction equipment. Such odors would be quickly dispersed below detectable thresholds as distance from the site(s) increases. The Build Alternative involves improvements to an existing transportation facility and would not result in substantial changes to operational vehicle emissions; therefore, the Build Alternative would not result in noticeable change in odors from vehicle emissions. Therefore, impacts related to odors would be less than significant, and no mitigation is required.

4.2.2.3 Biological Resources

Checklist Questions: IV (c), IV(d), and (f) Federally Protected Wetlands, Wildlife Movement, and Habitat Conservation Plans

IV(c) Would the project 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?

As discussed in Section 3.16, Wetlands and Other Waters, the Project Area does not contain any federally protected wetlands as defined by Section 404 of the Clean Water Act. However, the Build Alternative would result in less than 0.54 ac of temporary impacts as shown in Table 3.16.4 and 0.47 ac of permanent impacts to USACE potentially jurisdictional non-wetland waters as shown in Table 3.16.6. In addition, the Build Alternative would result in approximately 1.04 ac of temporary impacts as shown in Table 3.16.5 and 0.86 ac of permanent impacts as shown in Table 3.16.7 to CDFW potentially jurisdictional areas. Impacts to RWQCB jurisdictional areas would be the same as the impacts to USACE jurisdictional areas. Impacts to USACE, CDFW, and RWQCB jurisdictional areas would require authorization from these agencies prior to construction as specified in Measures WET-1 through WET-3, and would be less than significant because the biological functions and values of the jurisdictional drainages are low. No mitigation is required. Measures WET-1 through WET-3 require a nationwide permit from the USACE in accordance with Section 404 of the Clean Water Act, as well as a Streambed Alteration Agreement from CDFW and a Section 401 Water Quality Certification from the RWQCB, impacts to USACE jurisdictional non-wetland waters, CDFW jurisdictional areas, and RWQCB jurisdictional areas. Specific requirements and conditions would be determined during the permit process.

IV(d) Would the project 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?

As discussed in Section 3.15.3, Natural Communities, the Build Alternative would not result in temporary or permanent impacts to the Gypsum Canyon culvert, Coal Canyon Undercrossing and culvert, or B Canyon culvert because work in these areas would only occur within the SR-91 median or along the paved roadways. However, the Build Alternative would widen the southbound bridge structure at Windy Ridge Wildlife Undercrossing. Construction activities could result in temporary impacts, such as temporary avoidance by wildlife, to this wildlife corridor. However, these occasional, temporary impacts would be less than significant, and Measures N-9, NC-11, NC-12, NC-13, and NC-14 would be implemented to limit construction equipment and activities at Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing in order to further minimize these temporary impacts.

The Build Alternative would decrease the openness ratio of Windy Ridge Wildlife Undercrossing by a small increment; however, the openness of the crossing would not be reduced enough to discourage wildlife use or have a long-term impact on larger wildlife utilization of the crossing, and impacts related to wildlife movement and wildlife corridors would be less than significant. No mitigation is required. Measures NC-9 and NC-10 would require restoration of habitat adjacent to the wildlife crossing that is impacted during construction, and any removal of existing wildlife fencing after the installation of the new fencing to prevent wildlife/vehicle collisions.

IV(f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

As discussed in Section 3.15, Natural Communities, a majority of the Project Area is located with the Orange County Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP) Plan Area. An NCCP/HCP Existing Use Area overlaps the eastbound SR-91 lanes in the easternmost end of the Proposed Project at Coal Canyon Undercrossing. The Project Area is not located within any portion of the NCCP/HCP Reserve. However, SR-241 bisects a part of the Reserve near Windy Ridge Wildlife Undercrossing; this wildlife crossing is designed to functionally link the NCCP/HCP Reserve with the Coal Canyon Reserve, Lomas de Santiago, and the Cleveland National Forest.

A portion of the Project Area in Riverside County is located within the WR-MSHCP Conservation Area including designated Criteria Cells/Criteria Area and survey areas that overlap the Project Area. However, this segment of SR-91 is planned for advance signage and is not located within any portion of the MSHCP Conservation Area that is vegetated, as it consists only of the paved roadway and shoulder.

The Build Alternative would not result in the use of any land designated in the NCCP/HCP Reserve. In addition, the Proposed Project is a covered project under the NCCP/HCP, and "take" of both plant and wildlife species is authorized in the NCCP/HCP Plan Area. As discussed in Section 3.15, compensatory mitigation for project impacts within the NCCP/HCP Plan Area has already been completed pursuant to the NCCP Implementation Agreement; however, USFWS verification and acceptance of the mitigation components associated with the NCCP/HCP for impacts to CSS occurred during Section 7 consultation. Additional mitigation for impacts that

were not authorized through the NCCP/HCP was identified during Section 7 consultation.

The SR-91 Advance Signage Area in the context of the WR-MSHCP is a Covered Activity under Section 7.3.4, Existing Roads Within the Criteria Area – Covered Road Maintenance Activities Within the Criteria Area: Publicly Maintained Roads.

For the reasons stated above, the Proposed Project would be consistent with the NCCP/HCP and WR-MSHCP. Therefore, impacts related to conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan would be less than significant, and no mitigation is required. The implementation of Measures NC-1 through NC-6 and NC-15, as outlined in Section 3.15.4, Natural Communities, are required NCCP/HCP Construction-Related Measures and will be incorporated into the Proposed Project to minimize impacts to coastal sage scrub habitat within the NCCP/HCP Plan Area. As required by Measure NC-15, the objectives, policies, procedures, and guidelines from Section 7.5.3, Construction Guidelines, as well as best management practices (BMPs) outlined in Appendix C (WR-MSHCP Volume 1) will be implemented to minimize and avoid impacts to sensitive species and habitats occurring adjacent to the existing roadway in the Riverside County portion of the Project Area.

4.2.2.4 Cultural Resources

Checklist Questions: V(b) and (d) Archaeological Resources and Human Remains

V(b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

As discussed in Section 3.7, Cultural Resources, two cultural resources were previously identified within the APE. The records search showed that one archaeological site (CA-ORA-303/30-000303) was located in the APE. However, the archaeological field survey completed in 2008 for the *91 Express Lanes Extension and State Route 241 Connector Feasibility Study* revealed that this site had been completely destroyed by the construction of SR-241. In addition, this portion of the APE consists of an advance signage area where signage would be installed within existing paved or graded areas within right-of-way. There are no properties requiring evaluation present within the Proposed Project's APE. Therefore, construction of the Build Alternative would not result in impacts to known archeological resources.

Furthermore, as discussed in Chapter 5, Comments and Coordination, representatives of 11 Native American tribes were contacted, and no tribal cultural resources were identified. Therefore, construction of the Build Alternative would not result in impacts to tribal cultural resources.

As discussed in Section 3.7, although considered unlikely, there is the potential to encounter unknown buried cultural materials within the APE during construction of the Build Alternative. Therefore, potential impacts to previously unknown cultural resources are less than significant, and no mitigation is required. As specified in Section 3.7.4, Standard Minimization Measure CR-1 requires that earth-moving activities cease if unknown cultural materials are encountered until a qualified archaeologist can assess the nature and significance of the find and that the Caltrans District 12 Environmental Branch Chief be contacted to ensure that Section 106 compliance is maintained.

V(d) Disturb any human remains, including those interred outside of formal cemeteries?

As discussed in Section 3.7, Cultural Resources, although considered unlikely, there is the potential to encounter unknown buried human remains within the APE during construction of the Build Alternative. Therefore, potential impacts to previously unknown human remains would be less than significant, and no mitigation is required. As specified in Section 3.7.4, Standard Minimization Measure CR-2 requires that if human remains are discovered during construction, further disturbances and activities would cease and the County Coroner contacted. Pursuant to California Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the Coroner would notify the Native American Heritage Commission (NAHC), which would then notify the Most Likely Descendant (MLD). At this time, the person who discovered the remains would contact the Caltrans District 12 Environmental Branch Chief so that they may ensure compliance with Section 106, if required, and to work with the MLD on the respectful treatment and disposition of the remains. No additional measures are required to address discovery of previously unknown cultural resources or human remains during construction.

4.2.2.5 Geology and Soils

Checklist Questions: VI(a)(ii)-(iv), (b), (c), and (d) Seismic Ground Shaking and Failure, Landslides, Erosion, and Soil Instability

VI(a)(ii) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

As discussed in Section 3.9, Geology and Soils, an earthquake along the Whittier-Elsinore Fault Zone and other regionally active faults could result in ground shaking within the Project Area. Moderate to severe seismic shaking may occur during construction of the Build Alternative and is likely to occur in the Project Area during the life of the improvements. However, this does not represent a substantially greater hazard than any other area because Southern California is a seismically active region, and the Proposed Project is not located within an active fault zone. In general, the project improvements would be designed to accommodate the expected ground accelerations through compliance with applicable building and seismic codes. As a result, the potential for structural damage from seismic ground shaking would be less than significant, and no mitigation is required.

VI(a)(iii) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Soil liquefaction occurs when saturated, loose soils lose their strength due to excess pore water pressure caused by earthquake ground shaking. As discussed in Section 3.9, Geology and Soils, areas in the vicinity of the SR-241/SR-91 interchange and Santa Ana Canyon along SR-91 have been mapped as a liquefaction Zone of Required Investigation by the California Division of Mines and Geology. Based on soils investigations conducted previously for the original construction of SR-241 and SR-91, local, potentially liquefiable layers are present within Santa Ana Canyon. Therefore, the liquefaction potential in the Project Area is considered low to medium.

Seismically induced landslides are rock, earth, or debris flows on slopes that can occur as a result of seismic shaking. As discussed in Section 3.9, Geology and Soils, steep slopes in the vicinity of the Project Area as well as slopes located along the south side of the SR-91 mainline have been mapped as an earthquake-induced landslide Zone of Required Investigation. One cut slope on the south side of SR-91 would be modified by the Build Alternative improvements. The slope appears to be

stable and does not exhibit signs of weakness; however, the slope continues to experience considerable erosion. Therefore, there is a low-to medium-potential for landslides along the hillside areas of the alignment.

Seismic settlement is a phenomenon in which loose, unsaturated sands tend to settle or become denser during strong seismic shaking. Sediments that are sufficiently loose can experience seismic settlement, which can cause ground settlement and damage to structures. As discussed in Section 3.9, Geology and Soils, hazards associated with seismically induced settlement in the Project Area are considered low.

Lateral spreading occurs due to pore water pressure or liquefaction in shallow deposits during an earthquake, resulting in lateral displacement of gently sloping ground. As discussed in Section 3.9, Geology and Soils, similar to the potential for liquefaction, within the Project Area, the potential for hazards associated with lateral spreading is considered low to medium. Based on the information provided above, Project impacts related to seismic-related ground failure including liquefaction would be less than significant, and no mitigation is required. However, a Final Geotechnical Report, as specified in Measure GEO-1, will be prepared during final design that will identify any special soil remediation that needs to be done prior to construction of the Build Alternative. The potential for structural damage associated with geologic hazards can be substantially reduced or avoided through seismic engineering design. Measure GEO-2 requires confirmation that the geotechnical/geologic recommendations from the design-level geotechnical report and standard design and construction practices are fulfilled by the contractor.

VI(a)(iv) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

As discussed in Section 3.9, Geology and Soils, there are no landslides mapped along or adjacent to the Build Alternative; however, there is a potential for unmapped landslides to occur along or adjacent to the Build Alternative. During construction of the Build Alternative, one cut slope on the south side of SR-91 would be modified. The slope appears to be stable and does not exhibit signs of weakness; however, the slope continues to experience considerable erosion. Therefore, there is a low-to-medium potential for landslides along the hillside areas of the alignment. Impacts related to landslides would be less than significant, and no mitigation is required. However, further evaluation would be required during final design to identify

potential hillside remediation required to stabilize the slope. A Final Geotechnical/ Baseline Report as specified in Measure GEO-1 will be prepared during final design that will identify any special hillside remediation that needs to be done prior to construction of the project improvements. Any hillside areas to be modified will be geologically mapped during construction to verify the findings evaluated during the final design and revised remediation will be implemented, if warranted. Measure GEO-2 requires confirmation that the geotechnical/geologic recommendations from the design-level geotechnical report and standard design and construction practices are fulfilled by the contractor.

VI(b) Would the project result in substantial soil erosion or the loss of topsoil?

Erosion occurs when rock and/or soil surfaces are exposed to weathering caused by wind and/or water. The United States Geological Survey has delineated Soil Erodibility Factors (K Factors) that indicate how susceptible surface soils are to erosion. Soils within the Project Area have been mapped with a K Factor ranging from 0.05 to 0.37; therefore, the Project Area is considered to have a moderate erosion potential.

As discussed in Section 3.9 Geology and Soils, and Section 3.8 Water Quality and Stormwater Runoff, during construction of the Build Alternative, excavated soil would be exposed, and there would be an increased potential for soil erosion compared to existing conditions. In addition, during a storm event, soil erosion could occur at an accelerated rate. However, impacts related to erosion would be less than significant with standard engineering design. As specified in Measure WQ-1 in Section 3.8.4, construction activities for the Build Alternative would be required to adhere to the requirements of the General Construction Permit and implement erosion and sediment control BMPs specifically identified in a project Storm Water Pollution Prevention Plan (SWPPP) to keep sediment from moving off site into receiving waters. Because of the potential for erosion after the completion of construction, sensitive design and grading techniques would be implemented to reduce operational erosion impacts.

VI(c) Would the project 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?

As discussed in Section 3.9, Geology and Soils, areas in the vicinity of the SR-241/SR-91 Interchange and Santa Ana Canyon along SR-91 have been mapped as a liquefaction Zone of Required Investigation by the California Division of Mines and Geology. Based on soils investigations conducted previously for the original construction of SR-241 and SR-91, local, potentially liquefiable layers are present within Santa Ana Canyon. Therefore, the liquefaction potential in the Project Area is considered low-to-medium, and impacts related to unstable geologic units or soil are less than significant. Impacts related to secondary seismic hazards including liquefaction and expansive soils and bedrock would be further minimized through investigation in the Final Geotechnical Report (Measure GEO-1). No mitigation is required.

VI(d) Would the project 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?

As discussed in Section 3.9, Geology and Soils, the soils within the Project Area can be somewhat expansive; however, hazards associated with expansive soils are considered low. Therefore, impacts related to expansive soils would be less than significant, and no mitigation is required.

4.2.2.6 Hazards and Hazardous Materials

Checklist Questions: VIII(a), (b), (g), (h)

VIII(a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

As discussed in Section 3.11, Hazardous Waste and Materials, typical hazardous materials used during construction (e.g., solvents, paints, and fuels) would be handled in accordance with standard procedures. There are standard regulations and Caltrans policies that must be followed with respect to the use, storage, handling, disposal, and transport of potentially hazardous materials during construction of the Proposed Project to protect human health and the environment.

During construction, there is the potential to encounter the following hazardous materials/wastes that are typical of a transportation facility: aerially deposited lead (ADL) (unpaved areas adjacent to SR-91), asbestos-containing materials (ACM) (Gypsum Canyon bridge structure), chemically treated wood waste (guardrails and landscape timber, etc.), and lead-based paint (LBP) in traffic striping (SR-241 and SR-91). Additionally, the generally unknown location of the on-site petroleum pipeline could lead to a rupture during construction activities. Although this pipeline is reported to be empty, there could be some residual material that would need disposal. Due to historical uses in the area, there is a potential to encounter unrecorded hazardous waste during construction.

Although there is the potential for hazardous materials associated with roadways and structures in the Project Area, these materials are either confined in building materials, were delineated as part of the SR-91 Corridor Improvement Project, or are addressed through compliance with standard regulatory requirements prior to and during construction activities.

Routine maintenance activities during operation would be required to follow applicable regulations with respect to the use, storage, handling, transport, and disposal of potentially hazardous materials. In addition, routine maintenance activities would be similar to those already occurring in the existing condition within Caltrans right-of-way in the Study Area.

With compliance with existing regulations and Caltrans safety practices, impacts related to routine transport, use, or disposal of hazardous materials would be less than significant, and no mitigation is required. Measures HAZ-1 through HAZ-6, listed in Section 3.11.4, include further testing and would require proper handling and disposal of hazardous waste and materials in accordance with local, State, and federal regulations, including Caltrans Standard Specifications and Special Provisions, to further minimize any potential impacts.

VIII(b) Would the project 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?

During construction of the Build Alternative, hazardous materials would be used, handled, stored, disposed of, and transported in accordance with applicable local, State, and federal regulations. As an improvement to a transportation facility,

operation of the Build Alternative would not generate hazardous materials. Routine maintenance activities during operation would be similar to those already occurring in the existing condition within Caltrans right-of-way in the Project Area. In addition, the maintenance activities would be conducted in compliance with applicable regulations with respect to the use, storage, handling, transport, and disposal of potentially hazardous materials. Compliance with existing regulations and Caltrans safety practices would prevent impacts related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials. Impacts would be less than significant, and no mitigation is required.

VIII(g) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

As discussed in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, traffic delays are expected during construction of the Build Alternative. Temporary detours and weekend or night time closures would be required at the Gypsum Canyon Road on- and off-ramps and at the northbound SR-241 to the eastbound SR-91 connector. These detours and closures are expected to result in some delay to the traveling public. In addition, as discussed in Section 3.5, Utilities/Emergency Services, some impairment to emergency response times may occur during construction. However, construction of the Proposed Project would not significantly impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, and no mitigation is required. As specified in Measure TR-1 in Section 3.5.4, a Transportation Management Plan (TMP) with traffic control plans and related specifications during project construction would be implemented to further minimize circulation and delay impacts. In addition, as specified in Measure UES-2 in Section 3.4.4, temporary ramp and lane closures and detour plans will be coordinated with law enforcement, fire protection, and emergency medical service providers to minimize temporary delays in emergency response times.

As an improvement to a transportation facility, the Build Alternative would improve operations and travel times in the Project Area; therefore, the Proposed Project would not interfere with the implementation of emergency response or evacuation plans.

VIII(h) Would the project 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?

According to the Safety Elements of the General Plans for the cities of Anaheim, Yorba Linda, and Corona and the County of Orange, the majority of the Project Area is located within areas with a high risk of wildfires. There is a potential for construction vehicles and equipment to ignite wildfires in areas with dry vegetation adjacent to SR-91 during grading and excavation activities to accommodate road widening to the south. Within State right-of-way, Caltrans conducts regular mowing/ vegetation trimming to reduce brush adjacent to State highways, which reduces the potential spread of fires and improves access for firefighters. These procedures would be applied to the slope on County land that would be graded to accommodate the Build Alternative. In addition, Caltrans implements standard specifications to control the operation and maintenance of construction vehicles to minimize the potential for sparks or other fire-causing activities. Therefore, the potential for risk of loss, injury, or death involving wildland fires during construction is less than significant, and no mitigation is required. Measure NC-15 includes several requirements related to fire prevention, training, and fire response. Measure AQ-1 in Section 3.12 requires frequent watering (e.g., minimum twice per day) of construction areas for dust control. Measure NC-6 requires spraying coastal sage scrub within the likely dust drift radius of the construction area with water to reduce accumulated dust on the leaves. These measures will further reduce fire hazards.

The Build Alternative would not elevate the risk associated with wildland fires because freeways generally provide a fuel break for containment of wildland fires. Although, on occasion, fires can proceed across freeways when humidity and wind conditions allow for it, the Build Alternative is primarily within the median of existing facilities, except for a small portion along the SR-91, which would widen the fuel break. Therefore, during operation, the Proposed Project would have a beneficial effect related to wildland fire hazards.

4.2.2.7 Hydrology and Water Quality

Checklist Questions: IX(a), (b), (c), (d), (e), (f), (i), and (j) Water Quality, Groundwater Supplies, Drainage, Stormwater Drainage System Capacity, Dam Failure, Seiche, Tsunami, and Mudflow

IX(a) Would the project violate any water quality standards or waste discharge requirements?

As discussed in Section 3.8, Water Quality and Storm Water Runoff, during construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion compared to existing conditions. Construction of the Build Alternative would disturb a total of approximately 43.9 acres (ac) of soil. In addition, chemicals, liquid products, and petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked during construction and have the potential to be transported via storm runoff into receiving waters. However, this potential is relatively minor; therefore, impacts related to violation of water quality standards or waste discharge requirements are less than significant, and no mitigation is required. As detailed in Measure WQ-1 in Section 3.8.4, construction activities would comply with the requirements of the Construction General Permit. The Construction General Permit requires preparation of a SWPPP and implementation of Construction BMPs to reduce pollutants of concern in storm water runoff by minimizing erosion and preventing spills, leaks, and discharges into receiving waters.

Groundwater dewatering may be necessary during construction of the footings for the proposed bridge at the junction of SR-241 and SR-91. Discharge of groundwater to surface waters during dewatering has the potential to introduce pollutants, such as organic and inorganic pollutants, to surface waters. If groundwater dewatering becomes necessary during construction, Measure WQ-5 in Section 3.8.4 requires compliance with the provisions of the General Groundwater Permit. The General Groundwater Permit would require groundwater-dewatering activities to comply with discharge specifications, receiving water limitations, and monitoring and reporting requirements detailed in the permit.

The Build Alternative would increase impervious area by approximately 20.5 ac. An increase in impervious surface area would incrementally increase the volume of runoff and pollutants transported to receiving waters during a storm, which would be addressed through current Caltrans drainage design standards to better control runoff. Therefore, impacts would be less than significant, and specific mitigation is not required. Operation of the Build Alternative would be in compliance with the Caltrans NPDES Permit (Measure WQ-2 in Section 3.8.4). In addition, as required by Measures WQ-3 and WQ-4, Caltrans-approved Design Pollution Prevention and Treatment BMPs would be implemented to further reduce the discharge of pollutants

of concern to the maximum extent practicable (MEP). Design Pollution Prevention BMPs would include slope/surface protection systems, concentrate flow conveyance systems, and vegetation preservation techniques. Treatment BMPs would include biofiltration swales and strips and media filters to target and process pollutants of concern from the operation of transportation facilities, including nutrients, sediments, oil and grease, and trash and debris. The proposed BMPs would treat approximately 135 percent of the net new impervious surface area, which would be an improvement to the existing condition.

IX(b) Would the project 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)?

As discussed in Section 3.8, Water Quality and Storm Water Runoff, groundwater dewatering may be necessary during construction of the footings for the proposed bridge at the SR-241/SR-91 interchange. However, groundwater dewatering would be temporary and the volume of groundwater removed would not be substantial. During operation, the Build Alternative would result in a net increase in impervious surface area of approximately 20.5 ac. An increase in impervious surface area decreases infiltration, which decreases the amount of water that is able to recharge the aquifer/ groundwater. However, as discussed in detail in the *Water Quality Assessment Report* (August 2015), the majority of soils within the Project Area are classified as having very-low-to-low infiltration rates. Because the soils in the Project Area have very-low-to-low infiltration rates, an increase in impervious surface area would not substantially reduce infiltration compared to existing conditions. Therefore, impacts to groundwater recharge would be less than significant, and no mitigation is required.

IX(c) Would the project 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?

During construction, excavation and grading activities would alter the existing drainage pattern and increase the potential for erosion and sedimentation. However, as discussed in detail in the *Water Quality Assessment Report* (August 2015), the

Build Alternative would preserve the existing drainage system as much as possible. Therefore, impacts related to erosion and siltation from alterations of the existing drainage pattern would be less than significant, and no mitigation is required. As discussed in Section 3.8, Water Quality and Storm Water Runoff, construction activities would comply with the requirements of the Construction General Permit, as specified in Measure WQ-1 in Section 3.8.4. The Construction General Permit requires preparation of a SWPPP and implementation of Construction BMPs, including Erosion and Sediment Control BMPs to minimize erosion and siltation and retain sediment on site. In addition, the Build Alternative includes the implementation of Caltrans-approved Treatment BMPs that include biofiltration swales and strips and media filters (Measures WQ-2 through WQ-4). The proposed biofiltration swales and strips and media filters would provide flow duration, volume, and rate control functions and promote infiltration to offset the increased flows associated with the increase in impervious surface. By preserving existing drainage patterns to the extent practicable and adding biofiltration swales and strips and media filters to the existing drainage system, storm water flow concentrations associated with the Project Area would be similar to pre-Project conditions, which would minimize impacts related to erosion and siltation.

IX(d) Would the project 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?

As discussed in Section 3.8, Water Quality and Stormwater Runoff, the Build Alternative would increase impervious area by approximately 20.5 ac, which would increase the rate and amount of runoff from the Project Area during a storm. As discussed in IX(c), above, the Build Alternative would preserve the existing drainage system as much as possible. In addition, the Build Alternative includes modifications to existing storm water drainage facilities as well as new storm water drainage systems to accommodate storm water flows. Therefore, impacts related to erosion and siltation from alterations of the existing drainage pattern would be less than significant, and no mitigation is required. In addition, the Build Alternative includes the implementation of Caltrans-approved Treatment BMPs that include biofiltration swales and strips and media filters that would be linked to the existing drainage system (Measures WQ-2 through WQ-4). The proposed biofiltration swales and strips and media filters would provide flow duration, volume, and rate control functions and promote infiltration to offset the increased flows associated with the increase in

impervious surface from the Project Area. Therefore, the Build Alternative would result in only a negligible increase in flow velocities and volumes of runoff during a storm.

IX(e) Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

As discussed in Section 3.8, Water Quality and Stormwater Runoff, the Build Alternative would increase impervious area by approximately 20.5 ac, which would increase the volume of runoff and pollutants transported to receiving waters during a storm. However, the Build Alternative includes modifications to existing storm water drainage facilities as well as new storm water drainage systems to accommodate storm water flows as part of the Project. In addition, the Build Alternative includes the implementation of Caltrans-approved Treatment BMPs that include biofiltration swales and strips and media filters that would be linked to the existing drainage system. The proposed biofiltration swales and strips and media filters would provide flow duration, volume, and rate control functions and promote infiltration to offset the increased flows associated with the increase in impervious surface from the Project Area. Therefore, the Build Alternative would result in only a negligible increase in flow velocities and volumes to downstream stormwater drainage systems, impacts related to storm drain improvements would be less than significant, and no mitigation is required. As discussed above in IX(a), BMPs would be implemented during construction and operation of the Build Alternative to target pollutants of concern in runoff (Measures WQ-1 though WQ-5) so that substantial additional sources of polluted runoff would not be discharged to the stormwater drainage system.

IX(f) Would the project otherwise substantially degrade water quality?

As mentioned above in Responses IX(a), IX(c), and IX(d), construction-related pollutants of concern potentially released from the Project site include sediment, chemicals, liquid products, and petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste. Because the Proposed Project would improve an existing transportation facility, new sources of pollutants would not be created and the increase in storm water runoff would be controlled through modifications and improvements to the existing storm water drainage system. Therefore, the Proposed Project would not otherwise substantially degrade water quality, and impacts related to water quality would be less than significant. No mitigation is required. However,

any impacts related to pollutants of concern would be minimized or avoided through compliance with the requirements of the Construction General Permit and preparation of an SWPPP. During operation of a transportation facility, pollutants of concern released from the Project site include nutrients, sediments, oil and grease, and trash and debris. Any impacts related to these pollutants of concern would be minimized or avoided through implementation of Treatment BMPs, which include biofiltration swales and strips and media filters.

IX(i) Would the project 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?

As stated in Section 3.9, Geology and Soils, the portion of SR-91 within the Project Area is in a potential dam inundation area for Prado Dam. According to the USACE Dam Safety Program, Prado Dam received a Dam Safety Action Class III (DSAC III) rating in December 2009. A DSAC III rating is given when a dam is significantly inadequate, or the combination of threat to life, economy, or environment with probability of failure is moderate to high.[1]

Although portions of SR-91 within the Project Area would be subject to inundation in the event that Prado Dam failed, the potential for inundation to occur and the risk to people and the freeway structures is the same for the Build Alternative compared to existing conditions. The Build Alternative would not substantially increase the number of people using SR-241 or SR-91 within the Study Area. In addition, construction of the Build Alternative would not increase the risk of failure of Prado Dam. Therefore, impacts related to exposure of additional people or structures to risk of loss, injury, or death involving flooding as a result of failure of a levee or dam would be less than significant, and no mitigation is required.

IX(j) Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result inundation by seiche, tsunami, or mudflow?

Seiching is a phenomenon that occurs when seismic groundshaking induces standing waves (seiches) inside large bodies of water, such as reservoirs. Such waves can cause retention structures to fail and flood downstream properties. There are no

[1] United States Army Corps of Engineers. 2015. Website: http://www.spl.usace.army.mil/Media/FactSheets/tabid/1321/Article/477349/dam-safety-program.aspx (accessed August 29, 2015).

reservoirs in proximity to the Study Area. Irvine Lake is approximately 3 mi south of the southern end of the Project Area along SR-241. In addition, Walnut Canyon Reservoir is located approximately 1.75 mi to the west of SR-241. However, these reservoirs are far enough away that if a seiche was to occur, the Project Area would not be inundated. However, as stated in Section 3.9, Geology and Soils, surface water could overtop Prado Dam as result of strong seismic shaking, presenting a seiche hazard. Although portions of SR-91 within the Project Area could be subject to seiche, the potential for a seiche to occur and the risk to people and the freeway structures is the same for the Build Alternative compared to existing conditions. Therefore, impacts related to exposure of additional people or structures to risk of loss, injury, or death involving flooding from seiche would be less than significant, and no mitigation is required.

Tsunamis are generated wave trains generally caused by tectonic displacement of the seafloor associated with shallow earthquakes, seafloor landslides, rockfalls, or volcanic eruptions. The Study Area is more than 20 mi from the ocean shoreline and is not within a tsunami inundation area.

Mudslides and slumps are described as a shallower type of slope failure, usually affecting the upper soil mantle or weathered bedrock underlying natural slopes and triggered by surface or shallow subsurface saturation. As discussed in Section 3.9, Geology and Soils, there are no landslides mapped along or adjacent to the Build Alternative; however, there is a potential for unmapped landslides to occur along or adjacent to the Build Alternative. During construction of the Build Alternative, one cut slope on the south side of SR-91 would be modified. The slope appears to be stable and does not exhibit signs of weakness; however, the slope continues to experience considerable erosion. Therefore, there is a potential for mudflows along the hillside areas of the alignment during a heavy rain event. However, as this would not occur as a result of the Build Alternative, impacts related to the exposure of people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of mudflow are considered less than significant, and no mitigation is required. Further evaluation would be required during final design to identify potential hillside remediation required to stabilize the slope. A Final Geotechnical/Baseline Report specified in Measure GEO-1 will be prepared during final design that will identify any special hillside remediation that needs to be done prior to construction of the project improvements. Any hillside areas to be modified will be geologically mapped during construction to verify the findings evaluated during the final design and revised remediation will be implemented, if warranted.

Measure GEO-2 requires confirmation that the geotechnical/geologic recommendations from the design-level geotechnical report and standard design and construction practices are fulfilled by the contractor. These measures will further minimize or avoid impacts related to risk associated with seiche, tsunamis, and mudflow.

4.2.2.8 Land Use and Planning

Checklist Questions: X(c) Habitat Conservation Plans and Natural Community Conservation Plans

X(c) Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

As discussed in Section 3.1, Land Use, the Build Alternative would not result in the use of any land designated in or adjacent to any lands designated in the Orange County NCCP/HCP Reserve. The Proposed Project is a covered project under the NCCP/HCP and "take" of both plant and wildlife species is authorized in the NCCP/HCP Plan Area. Therefore, the Build Alternative is consistent with, and would not conflict with, the NCCP/HCP.

The Riverside County portion of the Project Area is located within the WR-MSHCP. Conservation Area; however, this portion of SR-91 is planned for advance signage only and consists only of the paved roadway and shoulder. The SR-91 advance signage area in the context of the WR-MSHCP is a Covered Activity under Section 7.3.4, Existing Roads Within the Criteria Area – Covered Road Maintenance Activities Within the Criteria Area: Publicly Maintained Roads. F/ETCA and Caltrans will follow the procedures and guidelines from Section 7.5.3: Construction Guidelines, as well as BMPs outlined in Appendix C (WR-MSHCP Volume 1). Therefore, the Build Alternative is consistent with the WR-MSHCP.

Because the Proposed Project is consistent with the NCCP/HCP and the WR-MSHCP, impacts related to conflict with an applicable habitat conservation plan or natural community conservation plan would be less than significant, and no mitigation is required.

4.2.2.9 Mineral Resources

Checklist Questions: XI(a) and (b) Known Mineral Resource and Locally-Important Mineral Resource

XI(a) Would the project 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?

In 1975, the California Legislature enacted the Surface Mining and Reclamation Act (SMARA) which, among other things, provided guidelines for the classification and designation of mineral lands. Areas are classified on the basis of geologic factors without regard to existing land use and land ownership. The areas are categorized into four Mineral Resource Zones (MRZs):

- **MRZ-1:** An area where adequate information indicates no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence
- **MRZ-2:** An area where adequate information indicates significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence
- **MRZ-3:** An area containing mineral deposits, the significance of which cannot be evaluated
- **MRZ-4:** An area where available information is inadequate for assignment to any other MRZ zone

Of the four categories, lands classified as MRZ-2 are of the greatest importance. Such areas are underlain by demonstrated mineral resources or are located where geologic data indicate significant measured or indicated resources are present. MRZ-2 areas are designated by the Mining and Geology Board as being "regionally significant." Such designations require that a lead agency's land use decisions involving designated areas be made in accordance with its mineral resource management policies and that it consider the importance of the mineral resource to the region or the State as a whole, not just to the lead agency's jurisdiction.

According to the Santa Ana River and Lower Santiago Creek Resource Areas map (Division of Mines and Geology, 1983) a majority of the Project Area along SR-91 is designated MRZ-2. In addition, according to the City of Anaheim General Plan, the Project Area south of SR-91, where road widening would occur, is designated MRZ-2. The Project Area along SR-241 is not designated as an MRZ. According to the

California Department of Conservation District 1 W1-4 Wildcat Map, no productive oil or gas wells are in the Project Area.

Although road widening would occur within an area designated as regionally significant for mineral resources, no active mines would be directly or indirectly impacted by Build Alternative. In addition, the areas where mineral resources occur within the Project Area are currently not available for resource extraction due to their proximity to SR-91. In addition, the improvements for the Build Alternative at the location where significant mineral deposits are potentially present would be at or just below the ground surface and would not affect the availability of a known mineral resource. For these reasons, the Build Alternative would not substantially impact extraction potential or current mining operations of mineral resources. Therefore, impacts related to the loss of availability of known mineral resources that would be of value to the residents of the State would be less than significant, and no mitigation is required.

XI(b) Would the project 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?

As stated above, although part of the Project Area is located within an area where significant mineral deposits are present, no active mines would be directly or indirectly impacted by Build Alternative. In addition, the areas where mineral resources occur within the Project Area are currently not available for resource extraction due to their proximity to SR-91. In addition, the improvements for the Build Alternative at the location where significant mineral deposits are potentially present would be at or just below the ground surface and would not affect the availability of a known mineral resource. For these reasons, the Build Alternative would not substantially impact extraction potential or current mining operations of mineral resources. Therefore, impacts related to the loss of availability of a locally important mineral resources recovery site would be less than significant, and no mitigation is required.

4.2.2.10 Noise

Checklist Question: XII(a), (b), (c), and (d) Noise Levels and Vibration

XII(a) Would the project result in 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?

Sensitive receptors at single-family residences, multifamily residences, and recreational uses in the noise Study Area would be exposed to construction noise during construction of the Build Alternative. As discussed in Section 3.13, Noise, during construction of the Build Alternative, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction equipment is expected to generate noise levels ranging from 70 to 90 decibels (dB) at a distance of 50 ft from the piece of equipment, and noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance from the piece of equipment. However, construction noise would be short-term, intermittent, and overshadowed by local traffic noise. Therefore, construction impacts related to exposure of people to noise levels in excess of local standards would be less than significant, and no mitigation is required. Construction noise levels are expected to be further minimized through compliance with Caltrans Standard Specifications for construction, which is stipulated in Measure N-1 in Section 3.13.4.

As discussed in Section 3.13, Noise, potential long-term noise impacts of the Build Alternative would be associated with vehicular traffic. As shown on Figure 3.13.1 in Section 3.13, land uses in the Study Area were grouped into a series of Common Noise Environments (CNE 1-3, CNE 2-3, and CNE 3-3), which were representative of land uses and noise sources in the Study Area.

As shown in Tables 3.13.7 through 3.13.9 in Section 3.13, Noise, the noise levels for the Build Alternative at sensitive receptors in the Study Area would be a maximum of 3 dBA higher at CNE 1-3 and a maximum of 1 dBA higher at CNE 2-3 and 3-3 compared to the No Build Alternative (2017). A 3 dBA difference is generally the point at which the human ear will perceive a difference in noise level. Therefore, the maximum noise increase that would result during operation of the Build Alternative would be barely perceptible to the human ear. Operational noise would be further minimized through compliance with Caltrans' deck specifications, as described in Measure N-2 in Section 3.13.4. Therefore, operational impacts related to exposure of people to noise levels in excess of local standards would be less than significant, and no mitigation is required.

XII(b) Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

During construction, groundborne vibration and groundborne noise could be generated in conjunction with pile driving. However, construction noise would be short-term, intermittent, and overshadowed by local traffic noise. Furthermore, the closest sensitive receptor is a campground approximately 150 ft from the existing edge of pavement. Therefore, impacts related to excessive groundborne vibration or groundborne noise levels would be less than significant, and no mitigation is required. Furthermore, if pile driving takes place, potential groundborne noise and vibration impacts would be further minimized through compliance with Caltrans Standard Specifications for construction, which is stipulated in Measure N-1 in Section 3.13.4.

XII(c) Would the project result in substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

As discussed above in XII(a), potential long-term noise impacts of the Build Alternative would be associated with vehicular traffic. The noise levels for the Build Alternative at sensitive receptors in the Study Area would be a maximum of 3 dBA higher at CNE 1-3 and a maximum of 1 dBA higher at CNE 2-3 and 3-3 compared to the No Build (2017) condition. The maximum noise increase that would result during operation of the Build Alternative would be barely perceptible to the human ear. Therefore, impacts related to a permanent increase in noise levels would be less than significant, and no mitigation is required.

XII(d) Would the project result in substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

As discussed in Section 3.13, Noise, during construction of the Build Alternative, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction equipment is expected to generate noise levels ranging from 70 to 90 dB at a distance of 50 ft from the piece of equipment, and noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance from the piece of equipment. However, construction noise would be short-term, intermittent, and overshadowed by local traffic noise. Therefore, impacts related to a temporary or periodic increase in ambient noise levels would be less than significant, and no mitigation is required. Construction noise levels are expected to be further minimized through compliance

with Caltrans Standard Specifications for construction, which is stipulated in Measure N-1 in Section 3.13.4.

4.2.2.11 Public Services

Checklist Question: XIV(a) Fire Protection, Police Protection, and Parks

XIV(a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire Protection?
Police Protection?
Parks?

(Note that impacts related to schools and other public facilities, are discussed previously in Section 4.2.1, No Effects.)

Fire and Police Protection. As discussed in Section 3.5, Traffic and Transportation/ Pedestrian and Bicycle Facilities, traffic delays are expected during construction of the Build Alternative. Temporary detours and weekend or nighttime closures would be required at the Gypsum Canyon Road on- and off-ramps and at the northbound SR-241 to the eastbound SR-91 connector. These detours and closures may impair the ability of law enforcement, fire, and other emergency service providers to meet response time goals. However, temporary impacts related to service ratios, response times, or other public services performance objectives with respect to fire protection and police protection would be less than significant, and no mitigation is required. In addition, to minimize delays to the greatest extent feasible, as specified in Measure TR-1 in Section 3.5.4, a TMP with traffic control plans and related specifications during project construction would be implemented to minimize circulation and delay impacts. In addition, as specified in Measure UES-2 in Section 3.4.4, temporary ramp and lane closures and detour plans will be coordinated with law enforcement, fire protection, and emergency medical service providers to minimize temporary delays in emergency response times.

The Build Alternative does not include the construction of housing or other uses that would necessitate the construction of additional fire or police stations. In addition, as discussed in detail in Section 3.2, Growth, the Build Alternative would not induce

population growth. Therefore, implementation of the Build Alternative would not increase the demand for emergency services and would not require the construction of any new police or fire stations. As discussed in Section 3.5, Utilities/Emergency Services, the Build Alternative would improve traffic throughput and travel times, and reduce delays for travelers on SR-241 and SR-91 in the Project Area. These improvements would have beneficial effects for law enforcement, fire protection, and emergency service providers because the Build Alternative may improve response times for emergency services using SR-241 and SR-91. In addition, emergency service providers would be able to use the express lanes when the other travel lanes are experiencing heavy traffic volumes and slow travel speeds, and would also be provided with direct connection between SR-241 and SR-91. Therefore, during operation, the Build Alternative would not result in adverse impacts related to service ratios, response times, or other public services performance objectives with respect to fire protection and police protection, and no mitigation is required.

Parks. The Build Alternative does not include the construction of housing or other uses that would necessitate the construction of additional public facilities such as parks. In addition, as discussed in detail in Section 3.2, Growth, the Build Alternative would not induce population growth. Therefore, implementation of the Build Alternative would not increase the demand for parks and would not require the construction of any new parks.

The Build Alternative would require the permanent acquisition of approximately 5 ac of land on the slope approximately 3,600 ft west of Coal Canyon Undercrossing. This parcel is part of the Irvine Ranch National Natural Landmark (NNL)/Gypsum Canyon Nature Preserve, owned by the County of Orange with a Conservation Easement held by the Nature Conservancy. Although the slope would be revegetated after construction is complete, a maintenance access road and drainage structures would need to be constructed on the slope, which would require the conversion of approximately 5 ac of land from parkland/reserve to transportation use. However, the removal of approximately 5 ac within the 40,000 ac Irvine NNL adjacent to existing Caltrans right-of-way is not considered a substantial impact to this property. The Irvine Ranch NNL/Gypsum Canyon Preserve is not currently in use as a public park, recreation area, wildlife refuge, or waterfowl refuge. However, it may be converted to a public park or recreation area in the future. If at the time of acquisition, the Irvine Ranch NNL/Gypsum Canyon Reserve is in use as a public park or recreation area, then it would be subject to the requirements of the Park Preservation Act and the F/ETCA would be required to provide compensation to the County of Orange

consistent with the Park Preservation Act. Therefore, impacts related to parks or the availability of parks would be less than significant, and no mitigation is required.

4.2.2.12 Transportation/Traffic

Checklist Questions: XVI(a) and (e) Circulation System Performance and Emergency Access

XVI(a) Would the project 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?

As discussed in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, traffic delays are expected during construction of the Build Alternative. Temporary detours and weekend or nighttime closures would be required at the Gypsum Canyon Road on- and off-ramps and at the northbound SR-241 to the eastbound SR-91 connector. These detours and closures are expected to result in some temporary delay to the traveling public, but construction activities would not conflict with applicable transportation plans, and no mitigation is required. However, as specified in Measure TR-1 in Section 3.5.4, a TMP with traffic control plans and related specifications during project construction would be implemented to minimize circulation and delay impacts.

As also discussed in detail in Section 3.5, the Build Alternative would achieve the following:

- Vehicle throughput in the SR-91 corridor would improve, vehicles miles traveled would increase, and travel time would decrease. More vehicles would use the *91 Express Lanes* (i.e., the Proposed Project brings more cars into the *91 Express Lanes* and, therefore, the combined general purpose lane and the *91 Express Lanes* throughput increases).
- Traffic would shift from other regional routes (SR-91, SR-55, and surface streets) to SR-241 as a result of the additional capacity of the new connector.
- The length of the northbound SR-241 to the eastbound SR-91 queue on the general purpose ramp would shorten in the PM peak period.

- The length of the queues would shorten at the SR-91 westbound mainline bottleneck between the Green River Road interchange and the *91 Express Lanes* ingress in the AM peak period.
- There would be a reduction in friction due to fewer vehicles weaving from the northbound SR-241 to eastbound SR-91 general purpose ramp to the Riverside County Transportation Commission (RCTC) Express lanes (i.e., most of these vehicles will now use the SR-241/SR-91 Express Lanes Connector) with the Proposed Project.

Overall, there would be a net zero impact on the eastbound SR-91 general purpose lanes in the PM period. Therefore, as an improvement to a transportation facility, the Build Alternative would improve operations, increase throughput, and improve travel times in the Study Area; therefore, the Proposed Project would not conflict with applicable transportation plans, and no mitigation is required.

XVI(e) Would the project result in inadequate emergency access?

As discussed in Section 3.5, Traffic and Transportation/Pedestrian and Bicycle Facilities, traffic delays are expected during construction of the Build Alternative. Temporary detours and weekend or nighttime closures would be required at the Gypsum Canyon Road on- and off-ramps and at the northbound SR-241 to the eastbound SR-91 connector. These detours and closures are expected to result in some delay to the traveling public. In addition, as discussed in Section 3.5, Utilities/Emergency Services, some temporary impairment to emergency response times may occur during construction; however, construction impacts related to emergency access would be less than significant, and no mitigation is required. However, as specified in Measure TR-1 in Section 3.5.4, a TMP with traffic control plans and related specifications during project construction would be implemented to minimize circulation and delay impacts. In addition, as specified in Measure UES-2 in Section 3.4.4, temporary ramp and lane closures and detour plans will be coordinated with law enforcement, fire protection, and emergency medical service providers to minimize temporary delays in emergency response times.

As an improvement to a transportation facility, the Build Alternative would improve operations and travel times in the Study Area; therefore, the Proposed Project would not result in inadequate emergency access, and no mitigation is required.

4.2.2.13 Utilities and Service Systems

Checklist Question: XVII(b), (c), (d), and (f) Wastewater and Water Treatment, Storm Water Drainage, Water Supply, and Landfills

XVII(b) Would the project 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?

The Build Alternative would not result in substantial demand for water supplies. Some water may be needed during project construction and as landscaping is planted to allow the landscaping to become established. During construction of the Build Alternative, water would need to be provided for potable use and for dust control. However, the demand for water during construction of the Build Alternative would represent only a very small percentage of total demand for water in the area.

Water use for landscaping during operation of the Build Alternative would be similar to existing conditions. The demand for water during construction and operation of the Build Alternative would be intermittent, would represent only a very small percentage of total demand for water in the area, and would not exceed existing entitlements. Construction and operation of the Build Alternative would not generate wastewater that would be disposed of in the municipal sewer system. Therefore, impacts related to the need for additional water or wastewater treatment capacity and/or facilities would be less than significant, and no mitigation is required.

XVII(c) Would the project 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?

The Build Alternative includes modifications to existing storm water drainage facilities as well as new storm water drainage systems to accommodate storm water flows from the Build Alternative that will modify existing concrete and earthen drainages. Those facilities would not result in the need for expanded or new storm water facilities beyond those that are proposed as part of the Build Alternative. As discussed in Section 4.2.2.3, IV(c), permits will be obtained for these modifications that will have specific conditions. Therefore, impacts related to storm drain facilities would be less than significant, and no mitigation is required.

XVII(d) Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

As discussed in XVII(b), above, the demand for water during construction and operation of the Build Alternative would represent only a very small percentage of total demand for water in the area and would not exceed existing entitlements. Therefore, impacts related to water supply would be less than significant, and no mitigation is required.

XVII(f) Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Waste materials generated during construction of the Build Alternative would include materials from demolished structures such as rebar, wood, concrete, and other similar materials, as well as vegetation removed from construction areas. Because the project is limited in scope, a substantial amount of waste would not be generated during the construction phase. All waste materials would be properly disposed of by the Construction Contractor during construction, including diversion from area landfills for reduction, recycling, reuse, and composting (greenwaste), consistent with Caltrans standards.

Waste generated during operation of the Build Alternative would be limited to trash picked up along the transportation facilities and vegetation from landscaping maintenance, consistent with existing waste removal activities along SR-241 and SR-91.

The closest permitted landfill to the Project Area is Olinda Alpha Sanitary Landfill located in City of Brea. This landfill will stop accepting waste when it reaches its full capacity, which is anticipated to occur by 2030.[1] In addition, Orange County is also served by Prima Deshecha Landfill which is projected to serve the County until approximately 2102. The amount of waste materials generated during construction and operation of the Build Alternative that would be disposed of in landfills would represent only a very small percentage of the total amount of waste generated in the region and disposed of at the landfills. Therefore, impacts related to landfill capacity would be less than significant, and no mitigation is required.

[1] OC Waste & Recycling. Website: http://oclandfills.com (accessed November 3, 2015).

4.2.2.14 Mandatory Findings of Significance

Checklist Questions: XVIII(c) Effects on Human Beings

XVIII(c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

The Build Alternative would improve traffic throughput and travel times, reduce delays for travelers on SR-241 and SR-91 in the Project Area and, improve the efficiency of the overall regional express lane system, thereby improving the human environment. Typically for any roadway project, construction impacts would occur related to aesthetics, noise, detours, and dust; however, these impacts would be minor and temporary and would be further minimized through adherence to control measures. For these reasons, impacts to human beings are considered less than significant, and no mitigation is required.

4.2.3 Less Than Significant with Mitigation Incorporated

4.2.3.1 Biological Resources

Checklist Questions: IV(a) and (b) Special Status Species and Natural Communities

IV(a) 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 the California Department of Fish and Game or the U.S. Fish and Wildlife Service?

California Black Walnut. As discussed in Section 3.17, Plant Species, the Build Alternative would result in temporary indirect impacts and direct permanent impacts to Southern California black walnut. Although this species is not federally and/or State-listed, this species merits consideration under CEQA because of its relatively limited distribution. Temporary indirect impacts to Southern California black walnut could occur during construction of the Build Alternative due to potential fuel spills from construction equipment and activities of equipment or personnel outside designated construction areas. However, these potential impacts are considered less than significant because the Project would adhere to Caltrans standard specifications and provisions, which include construction best management practices to avoid spills, and no mitigation is required. In addition, Measure PS-1, presented in Section 3.17.4, requires barriers to be installed around the protected zone of Southern California black walnut during construction, to further minimize any potential impacts.

The Build Alternative may result in permanent direct impacts to three California black walnut saplings. While these three saplings may be permanently impacted by the Build Alternative, the complete removal of these three saplings is not expected to substantially affect the long-term viability of this species because they are young trees, and they occur outside a native woodland habitat. Therefore, impacts are considered less than significant, and no mitigation is required. Additionally, potential impacts would be further minimized by the implementation of Measures PS-1 and PS-2 in Section 3.17.4, which provides for protection in place or relocation of these three saplings.

Coulter's Matilija Poppy. As discussed in Section 3.17, Plant Species, the Build Alternative would result in temporary indirect impacts and direct permanent impacts to Coulter's matilija poppy. Although this species is not federally and/or State-listed, this species merits consideration under CEQA because of its relatively limited distribution. Temporary indirect impacts to Coulter's matilija poppy could occur during construction of the Build Alternative due to potential fuel spills from construction equipment and activities of equipment or personnel outside designated construction areas. However, these potential temporary impacts are considered less than significant, because the Project would adhere to Caltrans standard specifications and provisions, which include construction best management practices to avoid spills and habitat encroachment, and no mitigation is required. To further minimize potential impacts, Measure PS-3, presented in Section 3.17.4, requires barriers to be installed around the protected zone of Coulter's Matilija poppies.

The Coulter's Matilija poppies within the slope area south of SR-91 would be removed to accommodate drainage improvements and an access road. While some or all of these individuals may not be permanently impacted by the Build Alternative, even the complete removal of these populations is not expected to substantially affect the long-term viability of this species as it is growing in marginal quality habitat adjacent to SR-91. Therefore, impacts are considered less than significant, and no mitigation is required. However, Measure PS-3, which requires barriers to be installed around the protected zone of Coulter's Matilija poppies, would further minimize permanent impacts to Coulter's Matilija poppy.

Golden and Bald Eagles. As discussed in Section 3.18, Animal Species, and Section 3.19, Threatened and Endangered Species, no golden or bald eagles were observed in the Project Area, and there is no suitable nesting habitat and limited foraging opportunities in the Project Area. Therefore, it is unlikely that golden or bald eagles

are currently foraging in the BSA or would be during construction. However, construction of the Build Alternative may temporarily redirect foraging golden or bald eagles away from the borders of the Project Area during construction. The Build Alternative is not expected to permanently impact any golden or bald eagles due to the low probability of occurrence and the lack of suitable nesting habitat in the BSA. Therefore, temporary and permanent impacts to golden and bald eagles would be less than significant, and no mitigation is required.

Special-Status Coastal Sage Scrub and Chaparral Animal Species (not federal- or State-listed as threatened or endangered). As discussed in Section 3.18, the Build Alternative would result in 32.84 ac of temporary and 14.55 ac of permanent impacts to coastal sage scrub and chaparral habitat. As discussed in Section 3.15, Natural Communities, mitigation for the loss of coastal sage scrub and chaparral species habitat for the part of the Build Alternative in the NCCP/HCP Plan Area has already been conducted as part of the NCCP Implementation Agreement. Only two special-status bird species were observed during three separate surveys (Cooper's hawk and Allen's hummingbird), and these birds could utilize adjacent open space areas. Therefore, impacts are considered less than significant, and no mitigation for impacts to coastal sage scrub or chaparral species (not federal- or State-listed as threatened or endangered) is required. However, Measures NC-1 through NC-6 in Section 3.15.4 and Measures TE-3 and TE-4 in Section 3.19 list requirements and limitations for work adjacent to coastal sage scrub habitat to further minimize any impacts. Implementation of Measures NC-1 through NC-6 and TE-3 and TE-4 would further reduce temporary impacts to special-status animal species that occupy coastal sage scrub habitat.

Bridge, Crevice, and Cavity-Dwelling Animal Species. Temporary impacts to special-status bat species and bridge-nesting birds could include temporary disturbance during construction (such as noise, dust, night lighting, and human encroachment). In addition, construction could temporarily impede access to roost sites (existing and future) in the crevices of bridges and overhead structures, and alternate crevices would be utilized by these species. These potential temporary impacts are considered less than significant, and no mitigation is required. Measures AS-1 and AS-2 through AS-5, provided in Section 3.18.4, require construction activity restrictions with regards to nesting birds, preconstruction and construction bat surveys, and limit construction work in the vicinity of bridges and overhead structures, and would serve to further minimize any impacts.

The Build Alternative is not expected to permanently impact any special-status bat species or bridge-nesting birds because the bridge structures and roosting areas would not be directly impacted (e.g., no roosting sites would be removed). However, there is potential for the Build Alternative to result in indirect permanent impacts to bats through habitat loss from modifications to structures that may permanently exclude the future use of those structures by bridge and crevice-dwelling species. Because of the relatively minor scope of the project, these impacts are considered less than significant, and no mitigation is required. However, Measure AS-6 in Section 3.18.4 requires existing unfilled expansion joints to remain unfilled and newly created expansion joints to not be rubberized if possible in order to be available to bats for day roosting. The implementation of Measures AS-2 through AS-6, potential impacts to special-status bat species would be further minimized.

Special-Status Grassland and Open Habitat Animal Species. Because no special-status grassland and open habitat animal species were observed during the field surveys, the Build Alternative is not anticipated to result in temporary or permanent direct impacts to special-status grassland and open habitat animal species. However, the Build Alternative would result in indirect impacts to these species through the temporary loss of approximately 14.1 ac and the permanent loss of approximately 5.2 ac of potential habitat (grasslands and open space). Because the temporary acreage loss would be restored following construction, and the permanent acreage losses are not classified as special-status, impacts are considered less than significant, and no mitigation is required. Measure AS-1 requires vegetation removal or tree-trimming activities to occur outside of the nesting season and preconstruction surveys for nesting birds if vegetation removal or tree-trimming activities were to occur during the nesting season, and would serve to further minimize impacts.

Burrowing Owl. As discussed in Section 3.18, Animal Species, limited suitable wintering habitat for burrowing owl is present along the roadsides, but suitably sized breeding habitat is lacking in the Project Area. Burrowing owls were not observed during field surveys; however, the burrowing owl is a mobile species and may colonize potentially suitable habitat in the BSA prior to the start of construction. Due to lack of habitat within the Project Area, potential impacts would be less than significant, and no mitigation is required. As specified in Measure AS-7, preconstruction surveys would be required to ensure that burrowing owls are not occupying potentially suitable habitat within the project disturbance limits, and would serve to avoid any potential impacts.

Migratory Birds. As discussed in Section 3.18, Animal Species, vegetation clearing, grading, and tree removal associated with the Build Alternative also has the potential to directly and indirectly impact nesting birds by disturbing habitat occupied by nesting birds protected under the Migratory Bird Treaty Act and the California Fish and Game Code. The Build Alternative may result in permanent indirect impacts to nesting birds through the loss of foraging and nesting habitat due to permanent loss of vegetation or changes in habitat types. However, permanent loss of habitat resulting from the Build Alternative would be minimal. In addition, migratory birds are mobile and are anticipated to find nearby habitat for foraging and nesting. It is not anticipated that the Build Alternative would result in permanent direct impacts to migratory birds through loss of individual birds. Impacts to migratory birds are considered less than significant, and no mitigation is required. Measure AS-1 requires vegetation removal or tree-trimming activities to occur outside of the nesting season as well as preconstruction surveys for nesting birds if vegetation removal or tree-trimming activities were to occur during the nesting season, and would serve to further minimize impacts. Furthermore, Measure NC-1 applies year-round to areas of coastal sage scrub habitat that are to be avoided and identified with temporary exclusionary fencing, and surveys for California gnatcatcher and cactus wren shall be conducted within 100 ft of soil disturbances and identified on the grading plans and would also serve to further minimize impacts.

Braunton's Milk-Vetch. The disturbance limits of the Build Alternative are adjacent to Braunton's milk-vetch-designated critical habitat. The Build Alternative would not result in temporary or permanent direct impacts to Braunton's milk-vetch-designated critical habitat. However, the Build Alternative may result in temporary indirect impacts during construction through the accumulation of dust on the leaves of any Braunton's milk-vetch plants in the critical habitat. As discussed in Section 3.19, Threatened and Endangered Species, Caltrans has made a determination of "No effect" on Braunton's milk-vetch, but a determination of "May affect, not likely to adversely affect" on its designated critical habitat with regards to Section 7 consultation, and USFWS has concurred with this determination. These temporary indirect impacts to Braunton's milk-vetch and designated critical habitat are considered to be less than significant, and no mitigation is required. However, Measure TE-1 in Section 3.19.4 would limit construction activities in proximity to the critical habitat and serve to further avoid potential impacts to Braunton's milk-vetch.

Thread-leaved Brodiaea. Despite direct temporary and permanent impacts to approximately 53 ac of chaparral openings, CSS, and grassland vegetation in the

Project Area, any potentially suitable habitat impacts may be minimal for this species. Because this species is considered absent or unlikely within the BSA, the Proposed Project is not expected to substantially impact this species. As discussed in Section 3.19, Threatened and Endangered Species, Caltrans has made a determination of "May affect, not likely to adversely affect" with regards to Section 7 consultation and USFWS has concurred with this determination. Impacts are considered less than significant, and no mitigation is required. Measure TE-2 would provide for preconstruction surveys and the implementation of Environmentally Sensitive Area (ESA) fencing should thread-leaved brodiaea be present in the Project Area, and would serve to further avoid and minimize potential impacts.

Santa Ana Sucker. There is some potential for the aquatic Santa Ana sucker to be indirectly impacted as a result of runoff from the Proposed Project. Caltrans has made a determination of "May affect, not likely to adversely affect" on the Santa Ana sucker and its designated critical habitat for purposes of Section 7 consultation and USFWS has concurred with this determination. During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion compared to existing conditions. Furthermore, chemicals, liquid products, and petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste may be spilled or leaked during construction and thereby have the potential to be transported via storm runoff into the Santa Ana River. During operation, the Proposed Project would result in an increase in impervious surface area and potentially an increase in total stormwater runoff to the Santa Ana River. However, the potential for these impacts is less than significant, and no mitigation is required.

Coastal California Gnatcatcher and Coastal California Gnatcatcher Designated Critical Habitat. Coastal California gnatcatcher is likely to occur within or near the disturbance limits at the time of construction and would potentially experience indirect temporary impacts due to construction activities, including increased exposure to noise, vibration, dust, nighttime lighting, and human presence. However, the Project would adhere to Caltrans standard specifications and provisions, which include construction best management practices to minimize indirect construction impacts. These temporary indirect impacts to coastal California gnatcatcher during construction would be less than significant, and no mitigation is required. Measures NC-1 through NC-6 in Section 3.15.4 would which require preconstruction and construction surveys for California gnatcatcher and construction activities in and adjacent to coastal sage scrub, would further minimize potential impacts. Measures TE-3 through TE-6 in Section 3.19.4 would further limit construction activities in

areas of coastal sage scrub or coastal California gnatcatcher-designated critical habitat and further avoid potential impacts.

Indirect permanent impacts to coastal California gnatcatcher and critical habitat could occur as a result of increased exposure to noise, vibration, and dust during operation of the Build Alternative. However, as the scope of the project is relatively minor, and would not introduce a significant new source of noise, vibration, and/or dust over existing conditions, indirect permanent impacts would be less than significant, and no mitigation is required. Measures WQ-2, WQ-3, and WQ-4 in Section 3.8 and IS-1 in Section 3.20, would require compliance with the Caltrans Water Quality Permit, implementation of Design Pollution Prevention and Treatment BMPs, and implementation of a Weed Abatement Program/Non-Standard Special Provisions, would further minimize or avoid impacts to coastal California gnatcatcher habitat.

Direct temporary and permanent impacts to California gnatcatcher occupied habitat and designated critical habitat would occur within and outside the NCCP/HCP Plan Area. Take of coastal California gnatcatcher in the NCCP/HCP Plan Area is expected to occur through the temporary loss of 11.85 ac (11.47 ac of coastal sage scrub and 0.38 ac of nonnative grassland) and the permanent loss of 2.98 ac (2.61 ac of coastal sage scrub and 0.37 ac of nonnative grassland) of occupied habitat in the median of the existing SR-241/SR-91 interchange. In addition, the Build Alternative would result in 12.80 ac of temporary impacts and 19.72 ac of permanent impacts to designated critical habitat in the NCCP/HCP Plan Area, as well as 7.96 ac of temporary impacts and 1.18 ac of permanent impacts outside the NCCP/HCP Plan Area.

As discussed in detail in Section 3.15, Natural Communities, mitigation for the segment of the Build Alternative in the NCCP/HCP Plan Area was conducted as part of the NCCP Implementation Agreement. Therefore, no further mitigation would be required for the impacts to critical designated habitat within the NCCP/HCP Plan Area.

Although most of the Project Area may have prior take authorization through the Biological Opinion issued in 1994 for the ETC, and parts of the Build Alternative are considered a development activity addressed by the NCCP/HCP, formal Section 7 consultation with the United States Fish and Wildlife Service (USFWS) was required to ensure the project improvements covered by these documents is consistent with the Biological Opinion and the NCCP/HCP, and that take authorization for potentially

significant additional Project impacts that are not authorized by the NCCP/HCP were covered.

The requirements for Section 7 consultation with the USFWS was specified in Mitigation Measure TE-7 in Section 3.19.4 of the Draft Supplemental EIR/EIS. As discussed in Section 3.19, Threatened and Endangered Species, Caltrans has made a determination of "May affect, likely to adversely affect" for the California gnatcatcher and "May affect, not likely to adversely affect" for designated critical habitat for California gnatcatcher for purposes of Section 7 consultation.

Impacts to non-NCCP/HCP areas within Caltrans right-of-way are addressed through conservation measures and terms and conditions in the new Biological Opinion for the Proposed Project because the coastal California gnatcatcher critical habitat was not yet designated and was, therefore, not part of the original Biological Opinion. For coastal sage scrub impacts to coastal California gnatcatcher occupied habitat or designated critical habitat discussed in Section 3.19, Threatened and Endangered Species, and shown in Table 3.19.1 and Table 3.19.2, the mitigation ratio is 1:1 for temporary impacts and 2:1 for permanent impacts. Measure TE-7 includes the following requirements: acres of restoration required to offset impacts to CAGN designated critical habitat; project-specific conservation measures to be implemented during design, vegetation clearing, and construction; and measures to offset impacts to CAGN and its habitat. With implementation of Mitigation Measure TE-7, the potentially significant impacts to coastal California gnatcatcher would be reduced to a less than significant level.

Least Bell's Vireo and Southwestern Willow Flycatcher. Least Bell's vireo and Southwestern willow flycatcher were not observed in the Project Area during the various field surveys in 2011, 2013, or 2014, and there is a limited amount of suitable foraging habitat present for these species in the Project Area. No suitable nesting habitat is located in the Project Area, but suitable habitat is present in the Santa Ana River to the north and the Prado Basin to the northeast. As discussed in Section 3.19, Threatened and Endangered Species, Caltrans has made a determination of "May affect, not likely to adversely affect" for both least Bell's vireo and Southwestern willow flycatcher for purposes of Section 7 consultation.

The Build Alternative may temporarily redirect foraging least Bell's vireo and southwestern willow flycatcher away from the Project Area during construction. However, due to the lack of suitable nesting habitat, no significant temporary impacts

to special-status riparian birds would occur, and no mitigation is required. Measure AS-1 would provide for further avoidance and minimization of potential impacts to foraging special-status riparian birds by providing for preconstruction surveys and avoidance should species be present. The Build Alternative would result in the loss of a small amount (approximately 1 ac of chaparral) of potential foraging habitat for special-status riparian birds, but due to this relatively small amount, impacts are less than significant, and no mitigation is required.

IV(b) Would the project 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 the U.S. Fish and Wildlife Service?

As discussed in Section 3.15, two primary plant communities considered important by State and/or local agencies were identified in the BSA: oak woodland/tree species and coastal sage scrub. The Build Alternative would temporarily impact 8 coast live oak and 15 sycamore trees and permanently impact 6 coast live oak trees. However, when considered within the context of the oak woodland that is permanently preserved in the surrounding area, including 2,500 ac of open space that includes oak woodlands permanently dedicated to the County,[1] this impact is less than significant, and no mitigation is required. Implementation of Measure NC-7, provided in Section 3.15.4, would require the installation of visible barriers around the protected zones of oak trees and/or habitat. Measure AS-1, provided in Section 3.18.4, would prohibit trimming of oak trees during the nesting bird season. Measure NC-8, provided in Section 3.15.4, requires implementation of a revegetation program including replacement of permanently impacted trees at approved ratios. These measures would serve to further minimize this impact.

The Build Alternative would result in approximately 29.70 ac of temporary impacts and 10.41 ac of permanent impacts to coastal sage scrub. Compensatory mitigation for project impacts in the NCCP/HCP Plan Area has already been completed pursuant to the NCCP Implementation Agreement, and no further mitigation for impacts to coastal sage scrub is required. Measures NC-1 through NC-6, detailed in Section 3.14.4, would be implemented to address construction activities in and adjacent to coastal sage scrub and further minimize impacts.

[1] Biological Assessment. 2016. City of Anaheim, Susan Kim, Acting Principal Planner, April 13, 2015. Response letter to the Notice of Preparation/Notice of Intent for the SR-241/SR-91 Express Lanes Connector Supplemental EIR/EIS.

Impacts to non-NCCP/HCP areas within Caltrans right-of-way are covered through conservation measures and terms and conditions in the new Biological Opinion for the Proposed Project because the coastal California gnatcatcher critical habitat was not yet designated and was, therefore, not part of the original Biological Opinion. For coastal sage scrub impacts to coastal California gnatcatcher occupied habitat or designated critical habitat, the mitigation ratio is 1:1 for temporary impacts and 2:1 for permanent impacts as described in Mitigation Measure TE-7. With implementation of Mitigation Measure TE-7, potentially significant impacts to coastal California gnatcatcher critical habitat would be reduced to a less than significant level.

4.2.3.2 Cultural Resources

Checklist Question: V(c) Paleontological Resources

V(c) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

As discussed in Section 3.10, Paleontology, the Build Alternative is anticipated to disturb sediments in the Area of Potential Disturbance (APD), which have a high potential to contain significant, nonrenewable paleontological resources. As specified in Mitigation Measure PAL-1, because of the areas of high paleontological sensitivity of formation in the APD, preparation of a Caltrans Paleontological Mitigation Plan (PMP) would be required prior to completion of final design. Mitigation Measure PAL-1, provided in Section 3.10 and summarized below in Section 4.4, requires preparation and implementation of a PMP, which would provide the specific procedures to mitigate impacts to paleontological resources during construction of the Proposed Project. Therefore, potential significant impacts to paleontological resources, including impacts to resources that may be encountered within the NNL, would be reduced to a less than significant level with implementation of Mitigation Measure PAL-1.

4.2.3.3 Mandatory Findings of Significance

Checklist Questions: XVIII(a) and (b) Degradation of Environmental Quality and Cumulative Impacts

XVIII(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?

As discussed above under Biological Resources (Sections 4.2.1.4, 4.2.2.3, and 4.2.3.1) and Cultural Resources (Sections 4.2.1.5, 4.2.2.4, and 4.2.3.2), the project-related adverse impacts to cultural, paleontological, and biological resources can be reduced and/or mitigated to below a level of significance based on implementation of the measures identified for the Proposed Project. Therefore, with implementation of avoidance, minimization, and/or mitigation measures, the Build Alternative does not have the potential to directly or indirectly impact cultural or biological resources in a way that would eliminate examples of California history or prehistory, or jeopardize the health of wildlife populations.

XVIII(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)?

The Build Alternative does not have impacts that are individually limited but cumulatively considerable because the only project impacts that require mitigation are related to biological and paleontological resources. These impacts can be reduced to a less than significant level through compliance with regulatory requirements and project-specific mitigation measures coordinated with Caltrans and the applicable natural resource permitting agencies. Therefore, cumulative impacts would be less than significant. Refer to Section 3.23 for a detailed discussion.

4.2.4 Significant and Unavoidable Impacts of the Proposed Project

The Build Alternative would not result in any unavoidable significant adverse impacts under CEQA that would require overriding considerations.

4.2.5 Significant Irreversible Environmental Changes

Sections 3.21, Relationship between Local Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity, and 3.22, Irreversible and Irretrievable Commitments of Resources That Would Be Involved in the Proposed Project, describe the potential long-term commitments of resources if a Build Alternative is implemented. The construction of the Build Alternative would result in long-term and permanent commitments of natural, physical, human, and fiscal resources to the Proposed Project. Land used in the

construction of the Build Alternative would be considered to result in an irreversible commitment of the land used for the highway facilities. In addition, the Build Alternative would result in an irreversible commitment of biological resource habitat areas to transportation uses. Fossil fuels, labor, public capital, and construction materials would be expended for construction of the Build Alternative, and these resources would not be retrievable. Additionally, large amounts of labor and natural resources would be used in the production of construction materials, which are generally non-retrievable as well. Construction and maintenance of the Build Alternative would also require substantial expenditures of anticipated funds from local, State, and federal sources.

The commitment of these resources to the Build Alternative is based on the concept that residents, workers, travelers, and others in the immediate area and region, would benefit from the improved quality of the regional transportation system that connects the counties of Orange, Riverside, and San Bernardino. These benefits would consist of improved accessibility, travel time, and safety, and a potentially reduced demand for fossil fuels to operate vehicles on the corridor between SR-241 and SR-91. These benefits of the Build Alternative are expected to offset the commitment of these resources to this Proposed Project.

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

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), and various hydrofluorocarbons (HFCs). CO_2 is the most abundant GHG; while it is a naturally occurring component of Earth’s atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO_2.

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 GHG emissions to limit or "mitigate" the impacts of climate change. Adaptation, on the other hand, is concerned with planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels). This analysis will include a discussion of both.

4.3.1 Regulatory Setting

This section outlines federal and State efforts to comprehensibly reduce GHG emissions from transportation sources.

Federal

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

The National Environmental Policy Act (NEPA) (42 United States Code [USC] 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 (FHWA) 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. FHWA 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 (FHWA 2019).[1] This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—"the triple bottom line of sustainability" (FHWA n.d.).[2] Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life. Various efforts have been promulgated at the federal level to

[1] Federal Highway Administration. 2019. *Sustainability.* Website: https://www.fhwa.dot.gov/environment/sustainability/resilience/. Last updated February 7, 2019 (accessed August 21, 2019).

[2] FHWA. No date. *Sustainable Highways Initiative*. Website: https://www.sustainablehighways.dot.gov/overview.aspx (accessed August 21, 2019).

improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the Energy Policy and Conservation Act of 1975 (42 USC Section 6201) and Corporate Average Fuel Economy (CAFE) Standards. This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the 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.

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

The U.S. EPA[1] in conjunction with the National Highway Traffic Safety Administration (NHTSA) is responsible for setting GHG emission standards for new cars and light-duty vehicles to significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. The current standards require vehicles to meet an average fuel economy of 34.1 miles per gallon by 2016. The EPA and the NHTSA are currently considering appropriate mileage and GHG emissions standards for 2022–2025 light-duty vehicles for future rulemaking.

NHTSA 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

[1] United States Environmental Protection Agency (EPA). 2009. *Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Section 202(a) of the Clean Air Act*. Website: https://www.epa.gov/ghgemissions/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a-clean (accessed August 21, 2019). The EPA's authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts vs. EPA* (2007). The Supreme Court ruled that GHGs 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 EPA finalized an endangerment finding in December 2009. Based on scientific evidence, it found that six GHGs constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Act and the EPA's assessment of the scientific evidence that form the basis for the EPA's regulatory actions (EPA 2009).

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.

State

California has been innovative and proactive in addressing GHG emissions and climate change by passing multiple Senate and Assembly bills and executive orders (EOs) including, but not limited to, the following:

EO S-3-05 (June 1, 2005): The goal of this EO is to reduce California's GHG 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 (AB) 32 in 2006 and Senate Bill (SB) 32 in 2016.

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

EO S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. ARB 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 GHG reduction goals.

SB 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires ARB 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.

SB 391, Chapter 585, 2009, California Transportation Plan: This bill requires the State's long-range transportation plan to identify strategies to address California's climate change goals under AB 32.

EO B-16-12 (March 2012) orders State entities under the direction of the Governor, including ARB, 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.

EO B-30-15 (April 2015) establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent ($MMTCO_2e$).[1] 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.

SB 32, Chapter 249, 2016, codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

SB 1386, Chapter 545, 2016, declared "it to be the policy of the state that the protection and management of natural and working lands … is an important strategy in meeting the state's greenhouse gas reduction goals, and would require all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies, regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands."

AB 134, Chapter 254, 2017, allocates Greenhouse Gas Reduction Funds and other sources to various clean vehicle programs, demonstration/pilot projects, clean vehicle rebates and projects, and other emissions-reduction programs statewide.

[1] GHGs differ in how much heat each trap in the atmosphere (global warming potential, or GWP). CO_2 is the most important GHG, so amounts of other gases are expressed relative to CO_2, using a metric called "carbon dioxide equivalent" (CO_2e). The global warming potential of CO_2 is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO_2.

Senate Bill 743**,** Chapter 386 (September 2013): This bill changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on vehicle miles travelled, to promote the state's goals of reducing greenhouse gas emissions and traffic related air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.

Senate Bill 150**,** Chapter 150 2017, Regional Transportation Plans: This bill requires ARB to prepare a report that assesses progress made by each metropolitan planning organization in meeting their established regional greenhouse gas emission reduction targets.

Executive Order B-55-18, (September 2018) sets a new statewide goal to achieve and maintain carbon neutrality no later than 2045. This goal is in addition to existing statewide targets of reducing GHG emissions.

4.3.2 Environmental Setting

The proposed Project traverses the cities of Anaheim, Yorba Linda, and Corona, and portions of unincorporated Orange and Riverside counties. Land uses in the project corridor are primarily open space and recreation, with areas of residential, commercial, and industrial uses, as described in Section 3.1, *Land Use*. In the Project Area, peak hour congestion results from queuing and weaving caused by lack of access from northbound SR-241 to eastbound SR-91 express lanes, and westbound SR-91 express lanes to southbound Sr-241. Current demand exceeds capacity on the existing connectors. The SCAG RTP/SCS guides transportation development in the Project Area.

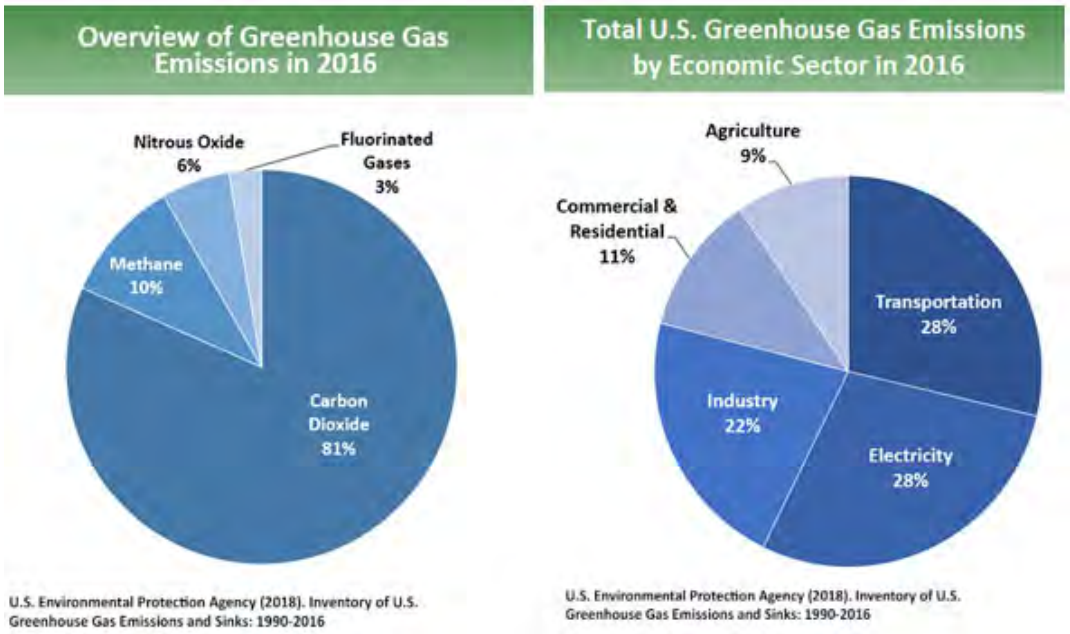
A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and the ARB does so for the state, as required by H&SC Section 39607.4.

4.3.2.1 National GHG Inventory

The U.S. EPA prepares a national GHG inventory every year and submits it to the United Nations in accordance with the Framework Convention on Climate Change. The inventory provides a comprehensive accounting of all human-produced sources of GHGs in the United States, reporting emissions of CO_2, CH_4, N_2O, HFCs,

perfluorocarbons, SF_6, and nitrogen trifluoride. It also accounts for emissions of CO_2 that are removed from the atmosphere by "sinks" such as forests, vegetation, and soils that uptake and store CO_2 (carbon sequestration). The 1990–2016 inventory found that of 6,511 $MMTCO_2e$ GHG emissions in 2016, 81 percent consists of CO_2, 10 percent consists of CH_4, and 6 percent consists of N_2O; the balance consists of fluorinated gases (EPA 2018a).[1] In 2016, GHG emissions from the transportation sector accounted for nearly 28.5 percent of U.S. GHG emissions. See Figure 4.1, below.

Figure 4.1 U.S. 2016 Greenhouse Gas Emissions



4.3.2.2 State GHG Inventory

ARB collects GHG emissions data for transportation, electricity, commercial/ residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the State's progress in meeting its GHG reduction goals. The 2019 edition of the GHG emissions inventory found total California emissions of 424.1 $MMTCO_2e$ for 2017, with the transportation sector responsible for 41 percent of total GHGs. It also found

[1] U.S. Environmental Protection Agency (U.S. EPA). 2018. *Inventory of U.S. Greenhouse Gas Emissions and Sinks.* Website: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks.

that overall statewide GHG emissions declined from 2000 to 2017 despite growth in population and State economic output (ARB 2019a).[1] See Figures 4.2 and 4.3, below.

Figure 4.2 California 2017 Greenhouse Gas Emissions

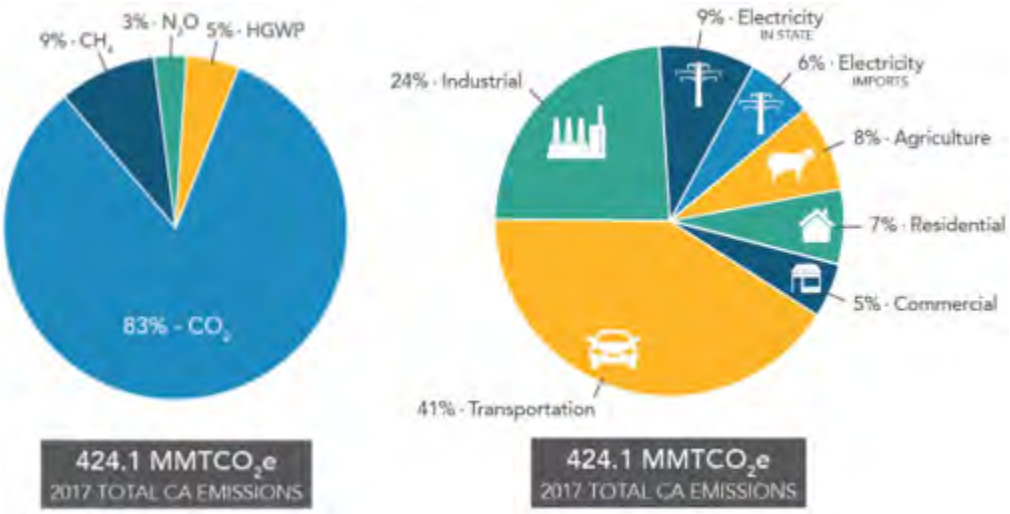
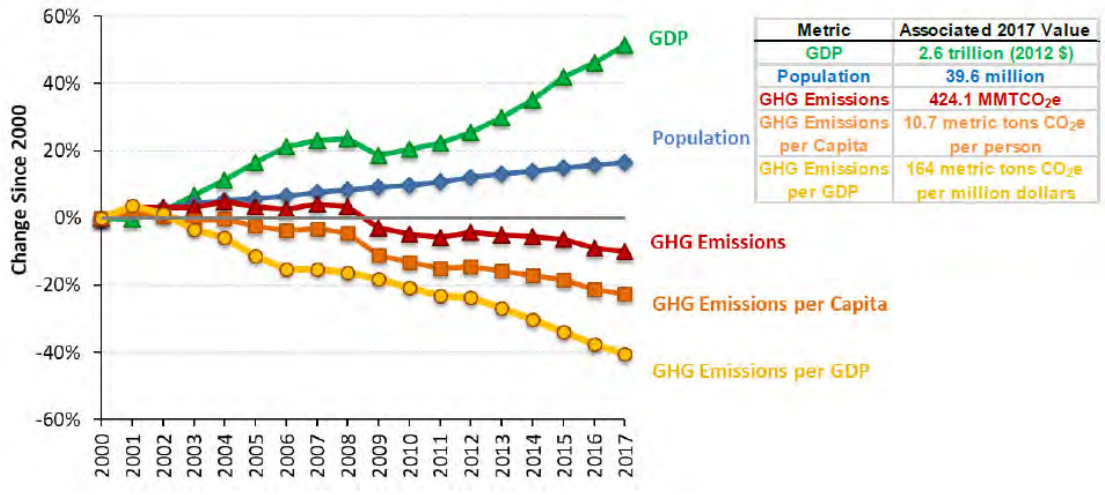


Figure 4.3 Change In California GDP, Population, and GHG Emissions Since 2000



AB 32 required ARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. ARB adopted the first scoping plan in 2008. The

[1] California Air Resources Board (ARB). 2019a. *California Greenhouse Gas Emissions Inventory–2019 Edition*. Website: https://ww3.arb.ca.gov/cc/inventory/data/data.htm (accessed August 21, 2019).

second updated plan, *California's 2017 Climate Change Scoping Plan*, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions.

4.3.2.3 Regional Plans

ARB sets regional targets for California's 18 MPOs to use in their RTP/SCSs to plan future projects that will cumulatively achieve GHG reduction goals. Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. The proposed Project is included in the RTP/SCS for SCAG. See Table 4.1, below. The regional reduction target for SCAG is 8 percent by 2020 and 19 percent by 2035 (ARB 2019c).[1] Orange County has its own SCS and Riverside County and the Western Riverside Council of Governments have climate action plans that address GHG emissions in the Project region. Anaheim, Yorba Linda, and Corona general plans also contain green or sustainability goals and policies with which the proposed Project would be consistent.

4.3.3 Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation of the SHS and those produced during construction. The primary GHGs produced by the transportation sector are CO_2, CH_4, N_2O, and HFCs. CO_2 emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of CH_4 and N_2O are emitted during fuel combustion. In addition, a small amount of HFC emissions are included in the transportation sector.

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Pub. Resources Code, § 21083(b)(2)). As the California Supreme Court explained, "because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself." (Cleveland National Forest Foundation *v.* San Diego Assn. of Governments [2017] 3 Cal.5th 497, 512.) In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines Sections 15064(h)(1) and 15130).

[1] California Air Resources Board (ARB). 2019c. *SB 375 Regional Plan Climate Targets.* Website: https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets (accessed August 21, 2019).

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

Guidance for determining the significant of impacts from greenhouse gas emissions is already provided in the CEQA Guidelines Section 15064.4. The guidance states that the lead agency may consider the following: (1) the extent to which the project may reduce greenhouse gas emissions to the existing setting, (2) whether the project emissions exceed a threshold of significance the lead agency determines applies, and (3) the extent to which the project compiles with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.

Table 4.1 GHG Reduction Policies in Regional Plans

Title	GHG Reduction Policies or Strategies
Southern California Association of Governments (SCAG) *2016–2040 Regional Transportation Plan/Sustainable Communities Strategy* (adopted April 7, 2016)	• Congestion Management Process • Integrated multi-modal network • Expand the public transit network • Strategic capacity and technology enhancements to existing highways • Transportation Systems Management and Transportation Demand Management • New Infrastructure • Livable Corridors/Neighborhood Mobility Areas • High Quality Transit Areas and Transit-Oriented Development
City of Anaheim General Plan	**Green Element Goal 8.1:** Reduce locally generated emissions through improved traffic flows and construction management practices.
City of Yorba Linda General Plan	**Circulation Element Policy CR-2.3:** Continue to support the addition of capacity enhancements improvements such as high occupancy vehicle lanes, general purpose lanes and auxiliary lanes to the Riverside Freeway (SR-91). **Policy CR-3.5:** Effectively operate and maintain transportation facilities and infrastructure to improve system capacity and meet traffic demand.
City of Corona General Plan	**Circulation Element Goal 6.3:** Maximize the efficiency of the circulation system through the use of transportation system management strategies. Reduce total vehicular miles traveled in Corona, including the development and improvement of

Table 4.1 GHG Reduction Policies in Regional Plans

Title	GHG Reduction Policies or Strategies
	alternative transportation modes, the reduction in the number of trips generated, and the reduction in trip distances. **Policy 6.3.2:** Implement intersection capacity improvements where feasible and justified by traffic demands. **Air Quality Element Policy 10.20.8:** Reduce particulate emission from paved and unpaved roads, parking lots, and road and building construction, as required by the Southern California Air Quality Management District. Methods include but are not limited to: • Maintaining construction equipment engines in good condition and in proper tune per manufacturers' specification for the duration of construction. Turning off construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, when not in use for more than five minutes • Encourage contractors to utilize alternative fuel construction equipment (i.e., compressed natural gas, liquid petroleum gas, and unleaded gasoline) and low-emission diesel construction equipment to the extent that the equipment is readily available and cost effective • Using the electricity infrastructure surrounding construction sites rather than electrical generators powered by internal combustion engines to the extent feasible.
Orange County Sustainable Communities Strategy	**Congestion Management Program** **Sustainability Strategy I**: Eliminate bottlenecks and reduce delay on freeways, toll roads, and arterials.
Riverside County Climate Action Plan	**R2-T5:** Roadway Improvements including signal Synchronization and transportation Flow Management.
Western Riverside Council of Governments Subregional Climate Action Plan	**Measure SR-8: Express Lanes:** Additional express lanes added along major freeways in Western Riverside County.

Sources:

City of Anaheim. 2004. *General Plan Green Element.* Revised June 2018. Website: http://www.anaheim.net/712/General-Plan (accessed September 11, 2019).

City of Yorba Linda. 2016. *General Plan.* Adopted October 2016. Website: https://www.yorbalindaca.gov/337/General-Plan (accessed September 11, 2019).

EIP Associates. 2004. *City of Corona General Plan.* Adopted March 17. Website: https://www.coronaca.gov/government/departments/community-development/planning-division/ general-plan-2004 (accessed September 11, 2019).

Burke Consulting, LSA Associates Inc., and Orange County Business Council. 2011. Orange County Sustainable Communities Strategy. June 14. Website: http://www.fullerton.edu/cdr/resources/pdf/OCSCS20110614.pdf (accessed: September 11, 2019).

County of Riverside. 2018. *Climate Action Plan*. July. Website: https://planning.rctlma.org/CAP (accessed September 11, 2019).

Western Riverside Council of Governments. 2014. *Subregional Climate Action Plan.* Final Report. Website: http://www.wrcog.cog.ca.us/172/Planning (accessed: September 11, 2019).

4.3.3.1 Operational Emissions

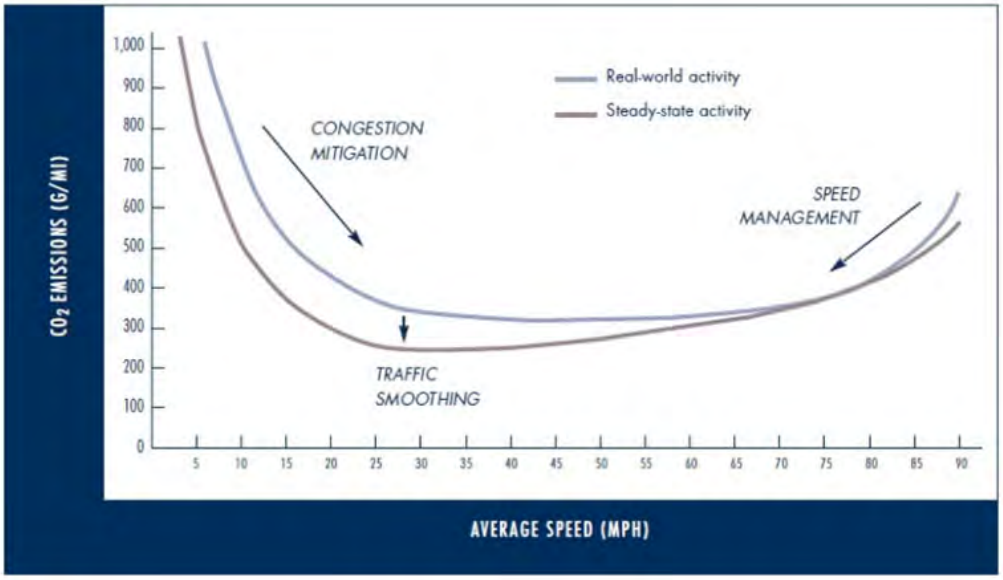
CO_2 accounts for 95 percent of transportation GHG emissions in the U.S. The largest sources of transportation-related GHG emissions are passenger cars and light-duty trucks, including sport utility vehicles, pickup trucks, and minivans. These sources account for over half of the emissions from the sector. The remainder of GHG emissions comes from other modes of transportation, including freight trucks, commercial aircraft, ships, boats, and trains, as well as pipelines and lubricants. Because CO_2 emissions represent the greatest percentage of GHG emissions it has been selected as a proxy within the following analysis for potential climate change impacts generally expected to occur.

The highest levels of 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 4.4). To the extent that a project relieves congestion by enhancing operations and improving travel times in high-congestion travel corridors, GHG emissions, particularly CO_2, may be reduced.

Four primary strategies can reduce GHG emissions from transportation sources: (1) improving the transportation system and operational efficiencies, (2) reducing travel activity, (3) transitioning to lower GHG-emitting fuels, and (4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued concurrently. Table 4.1 above lists greenhouse gas emissions strategies being implemented by applicable local jurisdictions. The Build Alternative would help implement these strategies and is therefore consistent with the plans listed in Table 4.1. In addition, as shown in Table 4.2 below, the Build Alternative includes strategies that would result in a reduction of greenhouse gas emissions compared to the existing environmental setting.

SCAG included an SCS as part of its 2016 RTP, which included the Proposed Project in its list of financially constrained projects. Under SB 375, the primary goal of the SCS is to provide a vision for future growth that will decrease per capita GHG emissions from automobiles and light trucks. By providing improved freeway connections, the Build Alternative would help achieve the improved access and mobility goals of SCAG's 2016 RTP/SCS. Therefore, the Build Alternative is consistent with the GHG reduction strategies outlined in the 2016 RTP/SCS.

Figure 4.4. Possible Use of Traffic Operation Strategies in Reducing On-Road CO_2 Emissions



Source: Barth and Boriboonsomsin 2010. Barth, Matthew and Kanok Boriboonsomsin. 2010. *Real-World Carbon Dioxide Impacts of Traffic Congestion*. Berkeley, CA: University of California Transportation Center. UCTC-FR-2010-11. Website: https://www.researchgate.net/publication/46438207.

As described in Chapter 1, the MIS LPS requires all transportation improvements to maximize transit components. Caltrans, OCTA, and RCTC are evaluating transit improvements in the Project Area through coordination with elected officials, interested stakeholders, and other public outreach. Buses would benefit from the lack of congestion on tolled lanes. The increase in vehicle throughput with the Proposed Project would substantially improve conditions on the tolled lanes and both improve existing bus service and provide opportunities for expansion of future bus services.

The addition of a median-to-median toll connector in the Build Alternative is a transportation demand management feature in and of itself because it would provide additional capacity for HOVs and buses. The Build Alternative would improve travel time, increase the efficiency of the freeway system within the traffic Study Area, and reduce congestion and delay.

TSM and TDM strategies alone do not satisfy the project Purpose of build out of the ETC, attaining of compatibility with the SR-91 mainline and express lanes, improving operations and traffic flow between the *91 Express Lanes* and the SR-241 general-purpose connectors, helping achieve the Regional Mobility Plan goals of

reducing emissions from transportation sources, and enhancing the efficiency of the tolled system, thereby reducing congestion on the non-tolled system on the SR-91. TSM/TDM alternatives on their own would not meet the Need for the Proposed Project because the Proposed Project would not provide a direct connection between SR-241 and the *91 Express Lanes*. As a result, TSM/TDM alternatives were eliminated from further consideration.

Quantitative Analysis

The *Traffic Analysis Report* (July 2015) calculated peak hour vehicle miles traveled (VMT) and vehicle hours traveled (VHT) for all vehicle trips within the Project Area in 2013 (existing condition), 2017 (opening year), and 2040 (horizon year). PM peak period VMT was converted to total VMT per day using the industry-standard factor of 10. The traffic data, in conjunction with the EMFAC2014 emission model, were used to calculate the regional CO_2 emissions for the 2013, 2017, and 2040 conditions. Table 4.2, below, presents the project-related regional GHG emissions.

Table 4.2 Modeled Regional GHG Emissions and Vehicle Miles Traveled, by Alternative

Year and Condition	CO_2 Emissions (metric tons/year)	CH_4 Emissions (metric tons/year)	CO_2e Emissions (metric tons/year)	Percent Reduction from Existing CO_2e Emissions	Annual Vehicle Miles Traveled[1]	Percent Increase from Existing VMT
2013 Existing Condition	1,444,221	43	1,445,287	-	8,831,450	-
Opening Year 2017						
No Build	1,340,286	38	1,341,245	-7.20%	10,140,010	+14.28%
Build Alternative	1,370,780	34	1,371,623	-5.10%	10,369,670	+17.42%
Horizon/Design-Year 2040						
No Build	1,157,066	37	1,157,986	-19.88%	11,737,270	+32.90%
Build Alternative	1,176,806	33	1,177,627	-18.53%	11,936,350	+35.16%

Source: EMFAC (2014); emissions compiled by LSA Associates, Inc. (2017).

Notes: EMFAC2014 does not produce official GHG emissions. CO_2 and CH_4 emission rates are available in EMFAC2014. Total CO_2e emission is the sum of CO_2 emissions x GWP of 1 and CH_4 emissions x GWP of 25 (i.e., CH2e = {CO_2 x 1} + {CH_4 x 25}). The Project length for the State Route 241 and State Route 91 segments was assumed to be 0.78 mile each.

[1] Annual vehicle miles traveled (VMT) values derived from Daily VMT values multiplied by 347, per ARB methodology (California Air Resources Board (ARB). 2008. Climate Change Scoping Plan Appendices. Volume II: Analysis and Documentation. Appendix I, page I-19. December. Website: https://www.arb.ca. gov/cc/ scopingplan/document/scopingplandocument.htm.).

CO_2 = carbon dioxide
GHG = greenhouse gas
VMT = vehicle miles traveled

While CT-EMFAC has a rigorous scientific foundation and has been vetted through multiple stakeholder reviews, its GHG emission rates are based on tailpipe emission test data. Moreover, the model does not account for factors such as the rate of

acceleration and vehicle aerodynamics, which influence the amount of emissions generated by a vehicle. GHG emissions quantified using CT-EMFAC are, therefore, estimates and may not reflect actual physical emissions. Though CT-EMFAC is currently the best available tool for calculating GHG emissions from mobile sources, it is important to note that the GHG results are only useful for a comparison among alternatives.

As shown in Table 4.2, both the future with Project and future No Build conditions (2017 and 2040) show decreases in CO_2 emissions compared to existing condition (2013) levels, despite an anticipated 50 percent increase in vehicles on the road by 2035 (Chapter 1). This is due to reduced congestion associated with the SR-91 CIP improvements with and without the Build Alternative in conjunction with improvements in vehicle technology. The future Build Alternative CO_2 emissions are slightly higher than the future No Build Alternative emissions and would not substantially alter the long-term GHG emissions in the region. Although VMT would increase in the future with the Project providing increased vehicle throughput, the decrease in average delay and increased average speed would contribute to more fuel-efficient traffic operations and improved system efficiency. Because there is a reduction in future emissions with the Project (2017 and 2040) compared to existing condition (2013) emissions, there is still evidence of substantial progress in reducing emissions and the air quality impact would be considered less than significant.

Construction Emissions

Construction GHG emissions would 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 GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

During construction of the project, GHGs would be emitted through the operation of construction equipment and from worker and vendor vehicles, each of which typically uses fossil-based fuels to operate. The Proposed Project is anticipated to take approximately 18 months to construct.

Construction emissions were modeled using the Road Construction Emission Model, Version 7.1.5.1. Construction CO_2e emissions (CO_2, CH_4, and N_2O) were estimated to be 1,778 metric tons over the 18-month construction period. Table 4.3 presents the estimated construction GHG emissions for the Build Alternative.

All construction contracts include Caltrans Standard Specifications Section 7-1.02A and 7-1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all ARB emission reduction regulations; and Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling

Table 4.3: Estimated Construction GHG Emissions, Build Alternative

Emission Source	CO_2 Emissions (Short Ton/Year)	CH_4 Emissions (Short Ton/ Year)	N_2O Emissions (Short Ton/ Year)	CO_2e Emissions (Metric Tonnes/Year)
Construction Vehicle and Equipment Activities	1,937.60	0.46	0.04	1,777.85

Source: Roadway Construction Model Compiled by LSA Associates, Inc. (2017).
Total CO_2e emission is the sum of CO_2 emissions x GWP of 1, CH_4 emissions x GWP of 25, and N_2O emissions x GWP 298 (i.e., CH_2e = {CO_2 x 1} + {CH_4 x 25} + {N_2O x 298}).
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
GHG = greenhouse gas
N_2O = nitrous oxide

restrictions, that reduce construction vehicle emissions also help reduce GHG emissions. A construction transportation management plan would minimize circulation and delay impacts for all travelers.

4.3.3.2 CEQA Conclusion

Both 2040 Build and No-Build alternatives would result in a reduction in annual GHG emissions compared to 2013 levels and both 2017 Build and No Build levels. Although future GHG emissions with the Project would likely be somewhat more than without it, the reduction from existing levels demonstrates progress towards meeting statewide GHG reduction goals. Furthermore, the Project is consistent with applicable plans, policies, and regulations established for the purpose of reducing GHGs. Accordingly, the impact would be less than significant.

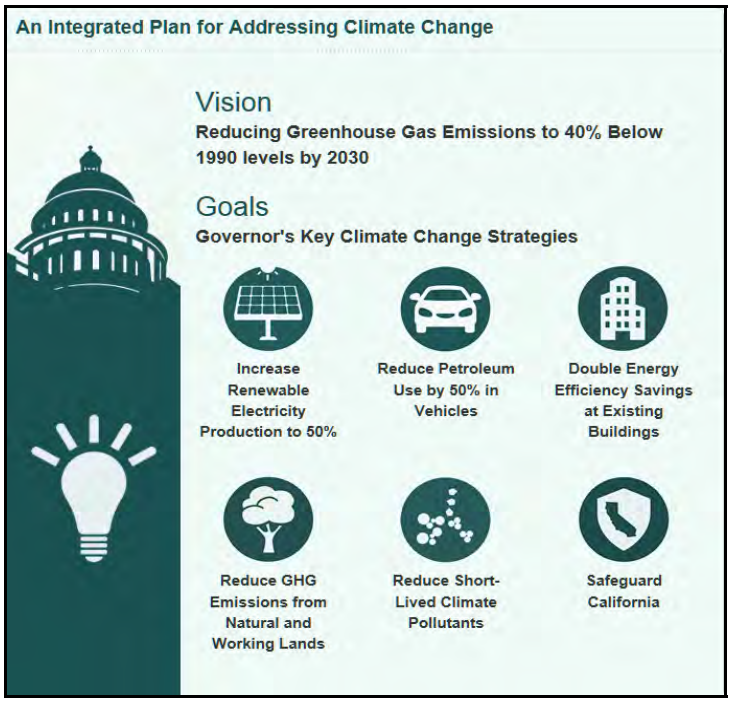
Caltrans is firmly committed to implementing strategies to help reduce the potential effects of the Proposed Project. These strategies are outlined in Section 4.3.3.3.

4.3.3.3 Greenhouse Gas Reduction Strategies

Statewide Efforts

Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 GHG emissions targets. Former Governor Edmund G. Brown promoted GHG reduction goals that involved (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing the State's electricity derived from renewable sources from one-third to 50 percent; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farms and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, Safeguarding California. See Figure 4.5, below.

Figure 4.5 California Climate Strategy



The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled (VMT). A key state goal for reducing

greenhouse gas emissions is to reduce today's petroleum use in cars and trucks by up to 50 percent by 2030 (State of California 2019).[1]

In addition, SB 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forests, rangelands, farms, and wetlands remove carbon dioxide from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the ARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016), set a new interim target to cut GHG 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 GHG emissions. The CTP 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 CTP to meet California's climate change goals under AB 32. Accordingly, the CTP 2040 identifies the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the State's transportation needs. While MPOs have primary responsibility for identifying land use patterns to help reduce GHG 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 GHG emissions, among other

[1] State of California. 2019. *California Climate Strategy*. https://www.climatechange.ca.gov/ (accessed August 21, 2019).

goals. Specific performance targets in the plan that will help to reduce GHG emissions include:

- Increasing percentage of non-auto mode share
- Reducing VMT
- Reducing Caltrans' internal operational (buildings, facilities, and fuel) GHG emissions

Funding and Technical Assistance Programs

In addition to developing plans and performance targets to reduce GHG emissions, Caltrans also administers several sustainable transportation planning grants. These grants encourage local and regional multimodal transportation, housing, and land use planning that furthers the region's RTP/SCS; contribute to the State's GHG reduction targets and advance transportation-related GHG emission reduction project types/strategies; and support other climate adaptation goals (e.g., Safeguarding California).

Caltrans Policy Directives and Other Initiatives

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. *Caltrans Activities to Address Climate Change* (April 2013) provides a comprehensive overview of Caltrans' statewide activities to reduce GHG emissions resulting from agency operations.

Project-Level GHG Reduction Strategies

The following measures will also be implemented in the project to reduce GHG emissions and potential climate change impacts from the project.

- Landscaping reduces surface warming, and through photosynthesis, decreases CO_2. Landscaping would be provided where necessary within the corridor to provide aesthetic treatment, replacement planting, or mitigation planting for the Proposed Project. The landscape planting would help offset any potential CO_2 emissions increase. The project will plant native trees and shrubs within the project area and right of way; see visual measure V-7.
- The Proposed Project would specify the use of energy-efficient lighting, such as light-emitting diode (LED) traffic signals. LED bulbs consume 10 percent of the electricity of traditional lights, which will also help reduce the Proposed Project's operational CO_2 emissions.

- According to Caltrans Standard Specifications, idling time for lane closure during construction is restricted to 10 minutes in each direction. In addition, the contractor must comply with Title 13, California Code of Regulations (CCR) Section 2449(d)(3) that was adopted by the ARB on June 15, 2008. This regulation restricts idling of construction vehicles to no longer than five consecutive minutes. Compliance with this regulation reduces harmful emissions from diesel-powered construction vehicles.
- Transportation System Management (TSM)/Transportation Demand Management (TDM) elements, described more fully in Section 2.2.1.2, are included in the scope of the Build Alternative.
- Measure AQ-2: Construction equipment vehicles engines will be maintained in good condition and in proper tune per manufacturers' specifications to minimize emissions.
- Measure AQ-4: The contractor will adhere to Caltrans Standard Specifications for Construction (Sections 14-9.02 and 14-9.03).
- Measure AQ-5: All construction vehicles both on- and off-site shall be prohibited from idling in excess of 5 minutes.
- Measure TR-1: Transportation Management Plan will be implemented during construction to minimize circulation and delay impacts for all travelers.
- Legally enforceable measures lanes intended to reduce GHG emissions from the 2016 SCAG RTP/SCS will be included in the Plans, Specifications, and Estimates package prepared for the Project. For example, the new toll lanes would be available for high occupancy vehicles such as buses and vehicles with three or more persons.

Adaptation

Reducing GHG emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the State's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; storm surges combined with a rising sea level can inundate highways. Wildfire can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Accordingly, Caltrans must

consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

Federal Efforts

Under NEPA assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance.

The U.S. Global Change Research Program (USGCRP) delivers a report to Congress and the president every 4 years, in accordance with the Global Change Research Act of 1990 (15 U.S.C. Ch. 56A § 2921 et seq). The *Fourth National Climate Assessment*, published in 2018, presents the foundational science and the "human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways." Chapter 12, "Transportation," presents a key discussion of vulnerability assessments. It notes that "asset owners and operators have increasingly conducted more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime" (USGCRP 2018).[1]

U.S. DOT Policy Statement on Climate Adaptation in June 2011 committed the federal Department of Transportation to "integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of 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" (U.S. DOT 2011).[2]

FHWA order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events,* December 15, 2014) established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. FHWA has developed guidance and tools for

[1] U.S. Global Change Research Program (USGCRP). 2018. Fourth National Climate Assessment. Website: https://nca2018.globalchange.gov/ (accessed August 21, 2019).

[2] U.S. Department of Transportation (U.S. DOT). 2011. *Policy Statement on Climate Change Adaptation*. June. Website: https://www.fhwa.dot.gov/environment/sustainability/resilience/policy_and_guidance/usdot.cfm (accessed August 21, 2019).

transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels (FHWA 2019).[1]

State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. *California's Fourth Climate Change Assessment* (2018) is the State's effort to "translate the state of climate science into useful information for action" in a variety of sectors at both statewide and local scales.[2] It adopts the following key terms used widely in climate change analysis and policy documents:

- *Adaptation* to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
- *Adaptive capacity* is the "combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities."
- *Exposure* is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.
- Resilience is the "capacity of any entity – an individual, a community, an organization, or a natural system – to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience." Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.
- *Sensitivity* is the level to which a species, natural system, or community, government, etc., would be affected by changing climate conditions.
- *Vulnerability* is the "susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt." Vulnerability can increase because of physical (built and environmental), social, political, and/or economic factor(s). These factors include, but are not limited to, ethnicity, class, sexual orientation and identification, national origin, and income

[1] Federal Highway Administration. 2019. *Sustainability.* Website: https://www.fhwa.dot.gov/environment/sustainability/resilience/. Last updated February 7, 2019 (accessed August 21, 2019).

[2] State of California. 2019. *California's Fourth Climate Change Assessment*. Website: http://www.climateassessment.ca.gov/ (accessed August 21, 2019).

inequality. Vulnerability is often defined as the combination of sensitivity and adaptive capacity as affected by the level of exposure to changing climate.

Several key State policies have guided climate change adaptation efforts to date. Recent State publications produced in response to these policies draw on these definitions.

EO S-13-08, issued by then-governor Arnold Schwarzenegger in November 2008, focused on sea-level rise and resulted in the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan). The Safeguarding California Plan offers policy principles and recommendations and continues to be revised and augmented with sector-specific adaptation strategies, ongoing actions, and next steps for agencies.

EO S-13-08 also led to the publication of a series of sea-level rise assessment reports and associated guidance and policies. These reports formed the foundation of an interim *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance) in 2010, with instructions for how State agencies could incorporate "sea-level rise (SLR) projections into planning and decision making for projects in California" in a consistent way across agencies. The guidance was revised and augmented in 2013. *Rising Seas in California – An Update on Sea-Level Rise Science* was published in 2017 and its updated projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018.

EO B-30-15, signed in April 2015, requires State agencies to factor climate change into all planning and investment decisions. This EO recognizes that effects of climate change other than sea-level rise also threaten California's infrastructure. At the direction of EO B-30-15, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies* in 2017, to encourage a uniform and systematic approach. Representatives of Caltrans participated in the multi-agency, multidisciplinary technical advisory group that developed this guidance on how to integrate climate change into planning and investment.

AB 2800 (Quirk 2016) created the multidisciplinary Climate-Safe Infrastructure Working Group, which in 2018 released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*. The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent

uncertainties still posed by the best available science on climate change. It also examines how State agencies can use infrastructure planning, design, and implementation processes to address the observed and anticipated climate change impacts.

Caltrans Adaptation Efforts

Caltrans Vulnerability Assessments

Caltrans is conducting climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects including precipitation, temperature, wildfire, storm surge, and sea-level rise. The approach to the vulnerability assessments was tailored to the practices of a transportation agency, and involves the following concepts and actions:

- *Exposure* – Identify Caltrans assets exposed to damage or reduced service life from expected future conditions.
- *Consequence* – Determine what might occur to system assets in terms of loss of use or costs of repair.
- *Prioritization* – Develop a method for making capital programming decisions to address identified risks, including considerations of system use and/or timing of expected exposure.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments will guide analysis of at-risk assets and development of adaptation plans to reduce the likelihood of damage to the State Highway System, allowing Caltrans to both reduce the costs of storm damage and to provide and maintain transportation that meets the needs of all Californians.

Project Adaptation Analysis

Future climate conditions in the planning and design decisions were considered for the Proposed Project 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.

Sea Level Rise

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.

Floodplains

Drainage from the project area flows to the Santa Ana River, which runs parallel to SR-91 in a FEMA 100-year flood zone AE. No project improvements, however, would occur within the river's current FEMA 100-year flood hazard area. The Build Alternative would increase impervious area by about 20.5 acres, which would incrementally increase runoff. The Caltrans Draft Climate Change Vulnerability Assessment for District 12 mapping indicates a positive change of up to 4.9 percent in 100-year storm precipitation depth through 2085 in the Project Area (Caltrans 2018: 30–34).[1] The 100-year design standard is often used in the design of transportation facilities and is cited as a consideration in the Caltrans Highway Design Manual. The application of current Caltrans drainage design standards to upgraded and new facilities and pollution prevention and treatment BMPs would manage runoff and treat approximately 135 percent of the net new surface area, an improvement over existing conditions (see Sections 3.8 and 4.2.2.7). The hydrology analysis in Section 4.2.2.7 also recognizes the presence of erosion on an adjacent slope that the Project would modify, and the potential for mudflows during a future heavy rain event. This slope would be evaluated during final design and if necessary remediated to stabilize it and protect Project infrastructure from mudflows.

Wildfire

CalFire's mapping of most of the Project Area as a high fire hazard severity zone (CalFire 2018)[2] is reflected in the safety elements of the general plans for Anaheim, Yorba Linda, Corona, and Orange County, which place the Project location in an area at high risk of wildfires (see Section 4.2.2.6). The District 12 Draft Climate Change Vulnerability Assessment shows the Project location as exposed roadway in an area of medium level of wildfire concern thorough 2085, with high agreement among models (Caltrans 2018: 40–42). The Project would be constructed within a built-up urban area, where Caltrans regularly mows and trims roadside vegetation within its right-of-way; these practices would be extended to County land that would be graded to accommodate the Build Alternative. Caltrans standard specifications for the maintenance and operation of construction vehicles would minimize the potential for sparks or other activities that could ignite a fire. Measure NC-15 requires compliance with of the Western Riverside County Multiple Species Habitat Conservation Plan

1 California Department of Transportation. 2018. *Caltrans Climate Change Vulnerability Assessments. District 12 Technical Report Draft*. Prepared by WSP. December.

2 California Department of Forestry and Fire Protection. 2019. FRAP FHSZ Viewer. Map Generated September 12, 2019. Website: https://egis.fire.ca.gov/FHSZ/.

construction guidelines, which include measures for fire prevention, training, and response during fire season. Watering for dust control (Measures AQ-1 and NC-6) will further reduce fire risk. These practices should reduce the risk of wildfire effects on Project infrastructure during operation and construction.

4.4 Mitigation Measures for Impacts that are "Less Than Significant with Mitigation Incorporated" Under CEQA

Table 4.3 lists the mitigation measures included regarding the Build Alternative to address the potentially significant impacts on the resources as described earlier in this section. As discussed in Section 4.2.3 above, impacts would be less than significant with the incorporation of these mitigation measures. There are no significant and unavoidable impacts associated with the Proposed Project. The complete text of each measure is provided in the appropriate sections of Chapter 3.0, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures, and in Appendix D, Avoidance, Minimization, and/or Mitigation Summary.

Table 4.3 Mitigation Measures for Impacts that are "Less Than Significant with Mitigation Incorporated"

Mitigation Measure No.	Measure Description
Paleontological Resources	
PAL-1	Preparation of a Paleontological Mitigation Plan, implementation of the Paleontological Mitigation Plan, and preparation of a Paleontological Mitigation Report.
Biological Resources	
TE-7	**Section 7 Consultation and Biological Opinion.** Section 7 consultation was conducted with the United States Fish and Wildlife Service (USFWS) to address effects to coastal California gnatcatcher and coastal California gnatcatcher occupied and/or designated critical habitat outside the Natural Communities Conservation Plan (NCCP) Area. Requirements from the 2019 Biological Opinion are as listed below: Temporary impacts to coastal sage scrub and native plant restoration will be offset through restoration of 6.84 ac with coastal sage scrub (not as mitigation slopes, coastal sage scrub will be the baseline condition for future consultations). Temporary impacts to chaparral, oak woodland, nonnative grassland, and ruderal in designated critical habitat will be offset through restoration of 7.31 ac with native fuel modification zone species (not mitigation slopes). Permanent impacts to coastal sage scrub and native plant restoration will be offset through: onsite restoration of 8.73 ac (6.98 ac with coastal sage scrub and 1.75 ac with native fuel modification zone species [not mitigation slopes]); offsite mitigation of 19.63 ac including advance restoration of 13.3 ac at Strawberry Farms (9.75 ac of coastal sage scrub restoration, 1.86 ac of coastal sage scrub and prickly pear cactus restoration, 0.39 ac of native perennial grassland restoration, and 1.3 ac of coastal sage scrub enhancement); and offsite mitigation of 6.33 ac at the Saddle Club (2.63 ac of coastal sage scrub and 3.7 ac of coastal sage scrub/chaparral mix). Permanent impacts to chaparral, oak woodland, nonnative grassland, and ruderal in designated critical habitat will be offset through: onsite restoration of 7.31 ac with

Table 4.3 Mitigation Measures for Impacts that are "Less Than Significant with Mitigation Incorporated"

Mitigation Measure No.	Measure Description
	native fuel modification zone species (not mitigation slopes); onsite restoration of 0.28 ac with native fuel modification zone species, with maintenance activities within 14 feet from edge of pavement (not mitigation slopes); and offsite mitigation of 4.24 ac at the Saddle Club with coast live oak woodland. The conservation measures included in the 2019 Biological Opinion that will be implemented as part of the Proposed Project to avoid and minimize impacts to gnatcatchers are as follows: ***Avoidance and Minimization through Project Design*** ***CM 1.*** *If feasible, the Soil Nail Wall Design Option will be selected to minimize permanent impacts to approximately 5 acres of land located within the Gypsum Canyon Nature Preserve. The final engineering design for this area will be reported to the CFWO at least 15 working days prior to initiating project impacts.* ***CM 2.*** *Permanent project lighting will be of the lowest illumination necessary for safety and will be directed toward the roadway and away from sensitive habitats and wildlife crossing areas. Light glare shields will be used to reduce the extent of illumination into sensitive habitats. The Caltrans Project Biologist[1] will review the permanent lighting plans and then submit them to the CFWO for review and approval at least 15 working days prior to initiating project impacts.* ***CM 3.*** *A wildlife connectivity plan will be developed and implemented to ensure that ecosystem functions[2] are maintained by the project for the benefit of listed species. The plan will be provided to the CFWO for review and approval at least 60 days prior to initiating project impacts. The plan will include the following requirements:* *a. Animals may not be able to navigate steep vertical bends and they may not utilize culverts or crossing structures that have horizontal bends that limit visibility. The culvert at drainage feature 4 will be lengthened by the project but no vertical or horizontal bends will be constructed in the culvert extension;* *b. To the maximum extent feasible, rock slope protection will be avoided at culvert and wildlife crossing openings. If rock slope protection is required, modifications (e.g., small pebble, dirt, or grouted movement pathways) will be made such that animals of all sizes can access culverts and wildlife crossings;* *c. If stream bank reinforcements are required at wildlife crossing and culvert areas, project proponents will design them in the manner most conducive to wildlife movement. If stream bank reinforcements of ungrouted riprap gabions or other material are required, they will be constructed at the shallowest possible slope (2:1 or less), and will be covered with soil and revegetated with native riparian plant species in a manner that will allow for the movement of wildlife of all sizes. Project proponents will ensure that soil placement on top of stream bank reinforcements will occur in a manner that does not result in erosion holes in the soil surface over time;* *d. Restoration of temporary impact areas at wildlife crossings will be planned in a manner that will encourage wildlife use and movement. Project proponents will ensure that plantings will not obscure culvert or wildlife crossing openings. Native*

1 The Caltrans Project Biologist will be a Caltrans biologist familiar with the federally listed species potentially affected by the Project and with the habitats that support these species; he/she will be the primary contact for the CFWO during Project implementation.

2 For example, dispersal of top predators to control meso-predators that prey on avifauna, such as gnatcatchers (e.g., Crooks and Soule 1999).

Table 4.3 Mitigation Measures for Impacts that are "Less Than Significant with Mitigation Incorporated"

Mitigation Measure No.	Measure Description
	vegetation may be used to funnel wildlife toward the crossings and create a visual barrier between the roadway and habitat in a manner that will encourage wildlife movement; *e. Culvert openings will be flush with the road slope and ground to allow animals to easily find and access the culverts. Culvert openings that provide for wildlife movement under the roadway will not be blocked with grates, with the exception of openings from culverts to those portions of the roadway median that are not intended for wildlife access or movement;* *f. Where the project will result in new roadside fencing, project proponents will ensure that fencing ties into culvert and wildlife crossing openings such that animals following the fencing can easily find and access culverts and crossings. Any new roadside fencing will be 10 to 12-foot high chain link fence with an 18-inch "outrigger" (three strands of barbed wire) angled away from the road, located within the Caltrans right-of-way, subject to the Biological Monitor's[1] recommendations, and will be buried 24 inches into the ground to discourage wildlife from digging under the fence. In areas where new fencing is installed, old fencing that blocks access to culverts and crossings will be removed. Any new fencing constructed by the project at the SR-241/SR-91 interchange will incorporate recommendations on page 194 of USGS 2013;* *g. Project proponents will coordinate with the Orange County Transportation Authority (OCTA) to ensure that the project will not negatively affect the camera study and native plantings planned by OCTA at the Coal Canyon Undercrossing;* *h. Equipment maintenance, lighting, and staging for the project will be in designated areas, away from the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing. Construction in the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing will be limited to daylight hours. These areas will be kept clear of all equipment or structures that could potentially serve as barriers to wildlife passage. Structures required for bridgework at the Windy Ridge Wildlife Undercrossing will be erected so as not to block the main underpass, and scaffolding and false work will be restricted to the side of the underpass to maintain the functionality of the crossing for wildlife movement. Construction access to the SR- 91 median at Coal Canyon will be provided within the fenced access area at Coal Canyon Road, and no project work or access will take place beyond the fencing within the existing dirt wildlife crossing area at Coal Canyon;* *i. Freeway signage with lighting, including changeable message signs, will be located in areas away from the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing;* *j. Construction noise at the Coal Canyon Undercrossing will be limited to no more than 5 dBA hourly Leq above ambient levels beyond 100 feet from the edge of the roadway to avoid noise disturbance to wildlife within the crossing;* *k. A new turnaround has been constructed in the SR-91 median west of Coal Canyon that benefits both wildlife connectivity and human safety by providing a more accessible and rapid turnaround location that is outside of the wildlife undercrossing. This turnaround is not large enough to accommodate construction vehicles and will continue to be accessible to emergency vehicles during project work, maintaining the recent benefits to wildlife movement that the turnaround provides; and*

[1] See CM 14 for a description of the Biological Monitor.

Table 4.3 Mitigation Measures for Impacts that are "Less Than Significant with Mitigation Incorporated"

Mitigation Measure No.	Measure Description
	I. Subject to approval by California Highway Patrol (CHP) and Orange County Fire Authority (OCFA), install a permanent access control gate near the top of the eastbound off-ramp at Coal Canyon, leaving enough room in front of the gate for personnel in authorized vehicles to exit SR-91 and open the gate, but encouraging unauthorized vehicles to use the new median turnaround. Signage will be posted and maintained at the gate to inform the public about adjacent sensitive habitats and species as well as access restrictions (e.g., wildlife crossing, no unauthorized access, no night access). The gate and signage will be installed prior to completion of project construction. If installation of the gate is not approved, Caltrans and TCA will coordinate with the CFWO to identify an alternative measure to enhance connectivity or improve safety for dispersing wildlife to offset temporal impacts resulting from the substantially degraded functioning of Coal Canyon as a wildlife undercrossing during the 2-year construction period. If enhancing connectivity at Coal Canyon itself isn't practicable, then improvements may occur at a different location identified in coordination with the CFWO. ***Avoidance and Minimization during Vegetation Clearing/Project Construction*** ***CM 4.*** *The clearing and grubbing of native upland habitats for the project will occur between September 1 and February 14, to avoid the gnatcatcher breeding season (or sooner than September 1, if a biologist knowledgeable of gnatcatcher biology and ecology approved by the CFWO demonstrates to the satisfaction of the CFWO that all gnatcatcher nesting is complete). The project proponents will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO at least 15 working days prior to initiating project impacts.* ***CM 5.*** *All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will be restricted to designated staging areas that are a minimum of 100 feet from sensitive habitats and drainages.* ***CM 6.*** *All lighting used at night for project construction will be selectively placed and directed at the immediate work area and away from adjacent sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats.* ***CM 7.*** *Erosion and sediment control devices used for the project, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.* ***CM 8.*** *The project site will be kept as clear of debris as possible. All food-related trash items will be enclosed in sealed containers and regularly removed from the site. All spoils and material disposal will be disposed of properly.* ***CM 9.*** *If fill must be borrowed from or disposed of offsite, the construction contractor will identify any necessary borrow and disposal sites and provide this information to Caltrans for review. Caltrans will review borrow and disposal site information and if borrow or disposal activities may affect a listed species or critical habitat, Caltrans will reinitiate Section 7 consultation.* ***CM 10.*** *Impacts from fugitive dust will be avoided and minimized through watering and other appropriate measures.* ***CM 11.*** *Project personnel will be prohibited from bringing domestic pets to construction sites to avoid disturbance and depredation of wildlife by domestic pets in adjacent habitats.* ***CM 12.*** *During project construction all invasive species included on the National*

Table 4.3 Mitigation Measures for Impacts that are "Less Than Significant with Mitigation Incorporated"

Mitigation Measure No.	Measure Description
	Invasive Species Management Plan, the State of California Noxious Weed List, and the California Invasive Plant Council's Invasive Plant Inventory list (Cal-IPC 2006) found growing within the project impact area will be removed. Special care will be taken during transport, use, and disposal of soils containing invasive weed seeds and all weedy vegetation removed during construction will be properly disposed of to prevent spread into areas outside of the construction area. ***CM 13.*** *All native or sensitive habitats outside and adjacent to the construction limits will be designated as Environmentally Sensitive Areas (ESAs) on project maps. ESAs will be temporarily fenced during construction with orange plastic snow fence, orange silt fencing, or in areas of flowing water, with stakes and flagging. No personnel, equipment, or debris will be allowed within the ESAs. Temporary ESA fencing and flagging will be installed in a manner that does not impact habitats to be avoided and such that it is clearly visible to personnel on foot and operating heavy equipment. The project proponents will submit to the CFWO, at least 5 days prior to initiating project impacts (except for impacts resulting from clearing to install temporary fencing), the final plans for initial clearing and grubbing of habitat and project construction. These final plans will include photographs that show the fenced and flagged limits of impact and all areas to be impacted or avoided. Field maps indicating the location of temporary ESA fencing and/or staking will also be provided. If work occurs within gnatcatcher habitat beyond the fenced or demarcated limits of impact, all work will cease until the problem has been remedied to the satisfaction of the CFWO. Temporary ESA fencing and markers will be maintained in good repair until the completion of project work adjacent to each ESA and removed upon completion of project work adjacent to each ESA.* ***CM 14.*** *A CFWO-approved biologist (Biological Monitor)[1] will be on site during all initial vegetation clearing/grubbing and weekly during project construction within 500 feet of gnatcatcher habitat to monitor compliance with all conservation measures. The project proponents will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO at least 15 working days prior to initiating project impacts. The contract of the Biological Monitor will allow direct communication with the CFWO at any time regarding the proposed project. The Biological Monitor will be provided with a copy of this consultation. The Biological Monitor will be available during pre-construction and construction phases to address protection of sensitive biological resources, monitor ongoing work, and maintain communications with construction personnel to facilitate the appropriate and lawful management of issues relating to biological resources. The Biological Monitor will perform the following duties:* *a. Perform a minimum of three focused preconstruction surveys, on separate days, to determine the presence of gnatcatchers in the upland project impact footprint. Surveys will begin a maximum of 30 days prior to performing vegetation clearing/grubbing, and one survey will be conducted the day immediately prior to the initiation of vegetation clearing. If any gnatcatchers are found in the upland project impact footprint, the Biological Monitor will direct construction personnel to begin vegetation clearing/grubbing in an area away from the gnatcatchers. It will be the responsibility of the Biological Monitor to implement measures (e.g., direct vegetation surveys, on separate days, to determine the presence of gnatcatchers in the upland project impact footprint. Surveys will begin a maximum of 30 days prior to performing vegetation clearing/grubbing, and one survey will be conducted the day immediately prior to the initiation of vegetation clearing. If any gnatcatchers are found in the upland project impact footprint, the Biological Monitor will direct construction*

[1] The Biological Monitor will be familiar with the federally listed species potentially affected by the project (i.e., gnatcatcher) and with the habitats that support this species.

Table 4.3 Mitigation Measures for Impacts that are "Less Than Significant with Mitigation Incorporated"

Mitigation Measure No.	Measure Description
	personnel to begin vegetation clearing/grubbing in an area away from the gnatcatchers. It will be the responsibility of the Biological Monitor to implement measures (e.g., direct vegetation clearing away from gnatcatchers, flush gnatcatchers out of the active work area) to avoid death and injury of gnatcatchers by vegetation clearing/grubbing. The Biological Monitor will also record the number and location of gnatcatchers disturbed by vegetation clearing/grubbing. Caltrans will notify the CFWO at least 7 days prior to vegetation clearing/grubbing to allow the CFWO to coordinate with the Caltrans Project Biologist on potential bird flushing activities; *b. Perform a minimum of three focused surveys, on separate days, to determine the presence of gnatcatcher nest building activities, egg incubation activities, or brood rearing activities within 500 feet of project construction that is initiated during the February 15 to August 31 breeding season for the gnatcatcher. Surveys will begin a maximum of 7 days prior to performing construction within 500 feet of gnatcatcher habitat during the breeding season, and one survey will be conducted the day immediately prior to the initiation of construction within 500 feet of gnatcatcher habitat during the breeding season. Additional surveys will be done once a week during project construction within 500 feet of gnatcatcher habitat during the breeding season. These additional surveys may be suspended as approved by the CFWO;* *c. If active gnatcatcher nests are identified within 500 feet of noise generating construction activities and noise is in excess of 60 dBA hourly Leq or if noise is in excess of ambient noise levels if ambient noise levels exceed 60 dBA hourly Leq, noise attenuation structures will be installed at the noise source to reduce noise levels to 60 dBA hourly Leq or to ambient noise levels if ambient noise levels exceed 60 dBA hourly Leq at the nest location. Noise monitoring will occur during the breeding season and be reported monthly to the CFWO. If the Biological Monitor suspects that avoidance and minimization measures are ineffective, and project activities may be adversely affecting the gnatcatcher, culpable activities will be suspended within 500 feet of active nests until nesting activity is completed and fledglings are no longer in the area or until effective avoidance and minimization measures can be identified, implemented, and demonstrated to be effective. If the specified noise targets cannot be met or the Biological Monitor observes potential adverse effects to gnatcatchers from project-related noise, activities that are resulting in potential adverse effects will be halted, and the CFWO will be contacted to determine if reinitiation of consultation is necessary;* *d. Oversee installation of and inspect erosion control measures a minimum of once per week to document and bring to the attention of the contractor any breaks in erosion control measures such that they are repaired immediately;* *e. Oversee installation of and inspect ESA fencing a minimum of once per week to document and bring to the attention of the contractor any breaks in the fence such that they are repaired immediately;* *f. Train contractors and construction personnel expected to be in the project impact area on the biological resources associated with the project and document that training is implemented by construction personnel. At a minimum, training will include:* *i. The purpose for resource protection;* *ii. A description of the gnatcatcher and its habitats;* *iii. The CMs that should be implemented during project construction to conserve the gnatcatcher, including strictly limiting activities, vehicles, equipment, and construction materials to the project footprint to avoid adjacent sensitive resource areas;* *iv. Environmentally responsible construction practices;* *v. the protocol to resolve conflicts that may arise at any time during the*

Table 4.3 Mitigation Measures for Impacts that are "Less Than Significant with Mitigation Incorporated"

Mitigation Measure No.	Measure Description
	construction process; and *vi. The general provisions of the Act, the need to adhere to the provisions of the Act, and the penalties associated with violating the Act;* *g. Monitor the project site immediately prior to and during construction to identify the presence of invasive weeds and recommend measures to avoid their inadvertent spread in association with the project. Such measures may include inspection and cleaning of construction equipment and use of eradication strategies;* *h. Periodically monitor the work area to document that work activities do not generate excessive amounts of dust;* *i. Submit monthly email reports (including photographs of impact areas) to the CFWO during clearing of, and construction within, 500 feet of gnatcatcher habitat. The monthly reports will document that authorized impacts were not exceeded and general compliance with all conditions. The reports will also outline the location of construction activities, the type of construction that occurred, and equipment used. These reports will specify numbers and locations of gnatcatchers (if observed), their observed behavior (especially in relation to construction activities), and remedial measures employed to avoid and minimize impacts to these species. Raw field notes should be available upon request by the CFWO; and* *j. Submit a final report to the CFWO within 120 days of the completion of construction for the project that includes: photographs of habitat areas that were to be avoided and other relevant summary information documenting that authorized impacts were not exceeded and that general compliance with all conservation measures was achieved.* ***Measures to Offset Impacts to Gnatcatcher and its Habitat*** ***CM 15.*** *Areas of temporary impact, as quantified in Tables 1 and 3, will be revegetated and restored with native species as specified in Tables 4 and 5. These areas will be returned to original grade, as feasible. Prior to initiating project impacts, a restoration plan will be developed for the temporary impact areas. The plan will be submitted to the CFWO for review and approval at least 15 working days prior to initiating project impacts. This plan will include a detailed description of restoration methods, slope stabilization, and erosion control, criteria for restoration to be considered successful, and monitoring protocol(s). Following the completion of construction activities within each area of impact, the restoration plan will be implemented for a minimum of 5 years, unless success criteria are met earlier and all artificial water has been off for at least 2 years. Temporary impact areas will be planted as soon as possible, with consideration of seasonal timing, following re-grading after completion of construction to prevent encroachment by nonnative plants.* ***CM 16.*** *Some permanent impact cut and fill slopes for the project will be revegetated with native species as specified in Table 4. Duff and rare plants may be salvaged from the project impact footprint to aid in revegetating slopes with native habitats. The revegetated areas will have temporary irrigation and will be planted with native container plants and seeds. At least 3 years of plant establishment/ maintenance on these slopes will be conducted to control nonnative plants. These areas will be planted as soon as possible, with consideration of seasonal timing, following the completion of construction to prevent encroachment by nonnative plants.*

Table 4.3 Mitigation Measures for Impacts that are "Less Than Significant with Mitigation Incorporated"

Mitigation Measure No.	Measure Description
	CM 17. *If maintenance of a coastal sage scrub restoration area is necessary between February 15 and August 31, a CFWO approved biologist[1] will survey for gnatcatchers within the restoration area, access paths to it, and other areas susceptible to disturbances by site maintenance. Surveys will consist of three visits separated by 2 weeks starting March 1 of each maintenance/monitoring year. Work will be allowed to continue on the site during the survey period. However, if gnatcatchers are found during any of the visits, the applicant will notify and coordinate with the CFWO to identify measures to avoid and/or minimize effects to the gnatcatcher (e.g., nests and an appropriate buffer will be flagged by the biologist and avoided by the maintenance work).* ***CM 18.*** *Permanent and temporary impacts to the gnatcatcher and its habitat[2] (as summarized in Tables 1, 2, and 3) will be offset as specified in Tables 4 and 5.* ***CM 19.*** *Portions of the Saddle Club property used to offset project-related impacts will be conserved and managed in perpetuity. Each of the sub-measures below will be implemented prior to initiating project-related impacts:* *a. A CFWO-approved conservation easement will be recorded over conserved land in favor of a CFWO-approved entity (e.g., a non-profit environmental organization or government agency). The conservation easement will prohibit all activities that significantly disturb wildlife or detrimentally impact habitat for the gnatcatcher. Potential recreation uses that do not impact habitat or result in significant disturbance to gnatcatchers (e.g., hiking along existing trails) may be proposed in a CFWO-approved habitat management plan for the property provided that the management plan includes sufficient measures and funding to ensure that these activities are appropriately monitored and managed;* *b. A CFWO-approved habitat management plan will be prepared that addresses potential threats to the conserved habitat, such as unauthorized human access, monitoring and management of any authorized recreational activities, control of non-native invasive plant species, and habitat degradation from fire;* *c. A CFWO-approved land manager will be identified to implement the habitat management plan; and* *d. A CFWO-approved non-wasting endowment or endowments will be established with sufficient funds to implement the habitat management plan and to monitor and enforce the conservation easement. The funding for the endowment(s) will be determined through a Property Analysis Record (PAR) or equivalent analysis.* *The terms and conditions of the 2019 Biological Opinion are as follows:* ***Coastal California Gnatcatcher*** *1.1 Prior to initiating project work, three preconstruction surveys will be conducted within all suitable gnatcatcher habitat within the project footprint, within 30 days prior to initiation of vegetation removal activities, to verify that no more than 1 pair of gnatcatchers will be harmed as a result of the project.*

[1] The biologist for this measure will be a trained ornithologist with at least 40 hours of observing gnatcatchers in the field and documented experience locating and monitoring nests of the target species.

[2] Permanent and temporary impacts to 3.81 ac and 26.63 ac of habitat, respectively, have already been offset in accordance with the requirements of Biological Opinion 1-6-94-F-17.

Table 4.3 Mitigation Measures for Impacts that are "Less Than Significant with Mitigation Incorporated"

Mitigation Measure No.	Measure Description
	1.2 Prior to initiating project work, Caltrans will provide to the CFWO a map showing the distribution of gnatcatchers relative to the project footprint and an estimate of the number of gnatcatcher territories that will be impacted by the project, or confirm in writing that maps, distribution information, and the number of territories that will be impacted by the project remain correct. *1.3 Prior to project construction, the project proponent will submit to the CFWO Geographic Information System (GIS) shapefiles in UTM, Zone 11N (meters), NAD 83 coordinate system that show the following: anticipated permanent impacts, temporary impacts, habitat restoration sites, and habitat conservation sites. Please note that these polygons may overlap. For example, one location could be temporarily impacted and subsequently restored and conserved. Include the following metadata for each shapefile: summary/description of the data, attribute definitions, coordinate system/projection information or any other pertinent information. If there are any changes to the boundaries anticipated impacts, restoration, or conservation sites, such changes must be addressed consistent with the Reinitiation Notice below. In addition, updated GIS shapefiles will be submitted to the CFWO.* *1.4 Caltrans will notify the CFWO within 30 days of completing removal of gnatcatcher occupied habitat. The purpose of this notification is to ensure that impacts to gnatcatcher-occupied habitat from the proposed project do not exceed the take thresholds.*

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Chapter 5 Comments and Coordination

5.1 Introduction

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the necessary scope of environmental documentation, the level of analysis, potential impacts and mitigation measures, and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including monthly Project Development Team (PDT) meetings, interagency coordination meetings, resource agency meetings, and consultation with interested parties. This chapter summarizes the results of the California Department of Transportation's (Caltrans) and the Foothill/Eastern Transportation Corridor Agency's (F/ETCA) efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

5.2 Scoping Process

5.2.1 Notice of Preparation, Notice of Intent, Public Notice

The scoping process for the Proposed Project was initiated with the preparation and distribution of a Notice of Preparation (NOP) and the publication of a Notice of Intent (NOI) in the Federal Register. The formal scoping process period was initiated on March 13, 2015, and ended on April 13, 2015.

The NOP was posted at the State Clearinghouse (SCH No. 1989010410) and was circulated to public agencies and other interested parties in compliance with Section 15082 of the California Environmental Quality Act (CEQA) Guidelines on March 13, 2015, for a 30-day review period, which began March 13, 2015, and ended on April 13, 2015. The NOP was also posted at the Orange County Clerk-Recorder's Office on March 13, 2015. The NOP notified the public of the Supplemental Environmental Impact Report/Environmental Impact Statement (EIR/EIS) being prepared and the steps to take in providing comments on the Proposed Project.

The NOI was published on March 20, 2015, in the Federal Register in compliance with Federal Regulation 40 Code of Federal Regulations (CFR) 1508.28. The NOI included the background of the Proposed Project, the project Purpose and Need, a brief description of the Build Alternative and how to provide comments on the Proposed Project.

A public notice was prepared and distributed to inform the public that a Supplemental EIR/EIS was being prepared for the Proposed Project. The public notice, NOP, and NOI were distributed to federal, State, regional, county and local agencies; elected officials; special districts; groups and organizations; and businesses and property owners within 0.25 mile (mi) of the project footprint. The public notice requested input on the Proposed Project as well as whether or not a Public Information Meeting was desired. The public notice, NOP, and NOI were distributed to federal, State, regional, county and local agencies; elected officials; and special districts via FedEx Ground and to occupants and property owners within 0.25 mi of the project footprint via United States Mail.

Copies of the NOP, NOI, and Public Notice are provided at the end of this chapter.

5.2.2 Comments Received During Scoping

A total of 10 written comment letters were received on the NOP and NOI from federal, State, regional, and local agencies via letters. Key issues noted in the comments included, but were not limited to:

- Air Quality
- Biological Resources
- Land Use
- Utilities
- Cumulative Impacts

The comment topic, agency, and comments are provided in Table 5.1 below.

No comment letters were received from the public.

A Public Information Meeting was not held for the Proposed Project because there was a Public Scoping Meeting held for the ETC Final EIR and Final EIS; the Build Alternative for this Supplemental EIR/EIS was a component of the ETC alternatives for the EIR/EIS; and no comments were received during the NOI/NOP requesting a Public Information Meeting.

Table 5.1 Comments Received During Scoping

Topic	Agency	Comment	Response
Air Quality Traffic	USEPA	The analysis should accurately reflect how the proposed project will affect traffic distribution, congestion, and emissions in the project area in light of the changes that have occurred in the last twenty years.	The Traffic Analysis Report analyzed Study Area impacts. Refer to Section 3.5 of this document. Based on the project traffic data, the Proposed Project would result in only nominal increases in traffic volumes. Therefore, the Proposed Project would have no permanent direct or indirect regional vehicle emission impacts. Construction emissions were calculated for the Proposed Project. These are discussed in detail in Section 3.12.3 of this document.
Air Quality		The project's air quality impacts should be considered in the context of full build out of adjacent transportation infrastructure projects in the region and identifying the most stringent measures available to reduce air quality impacts during both construction and operation of the facility.	The VISSIM model developed for the *Traffic Analysis Report* was based on the SR-91 CIP Final Traffic Study Paramics model (prepared by Parsons Brinckerhoff for RCTC in 2009) and the SR-91/SR-241 Express Lane Direct Connector Traffic and Revenue Study VISSIM model (prepared by Stantec for OCTA and F/ETCA in 2011). Air quality impacts were evaluated based on the results of the *Traffic Analysis Report*.

Table 5.1 Comments Received During Scoping

Topic	Agency	Comment	Response
Transportation/ Traffic Cumulative	RCTC	The proposed project must be compatible with the under-construction SR-91 Express Lanes Project as well as the SR-91/SR-71 Interchange Improvement Project.	The Proposed Project is consistent with these projects.
Transportation/ Traffic		Analyze and quantify impacts to existing 91 Express Lanes operations and maintenance, RCTC's 91 Express Lanes operations and maintenance planned to commence in 2018, and RCTC's estimated 91 Express Lanes toll revenue need.	Construction impacts are evaluated in Chapter 3, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures. Toll operations are being coordinated between F/ETCA, OCTA, and RCTC and are evaluated in a separate Concept of Operations report.
Air Quality	SCAQMD	The lead agency should follow the SCAQMD CEQA Handbook, use the CalEEMod Model, identify air quality impacts from all phases of the project, compare impacts to SCAQMD regional LST thresholds, and identify mitigation measures if needed,	The Air Quality Analysis was prepared consistent with Caltrans/FHWA guidance.
Biological Resources	CDFW	• Analyze consistency with the WR-MSHCP; impacts to wildlife corridors; include mitigation for impacts to wetlands and riparian areas. • Prepare a Jurisdictional Delineation Report. • Comply with a Streambed Alteration Agreements. • See take authorization under CESA if required. • Include complete Purpose and Need and project alternatives. • Evaluate impacts to special status and other species and habitats on site. • Include appropriate measures to avoid, minimize, or mitigate impacts.	The Draft Supplemental EIR/EIS analysis is consistent with these comments.

Table 5.1 Comments Received During Scoping

Topic	Agency	Comment	Response
Utilities	City of Anaheim	Identify provider for temporary or permanent water service.	During construction, water would be provided by the contractor. During Final Design, irrigation supply will be coordinated between Caltrans, F/ETCA, and potential providers.
Cumulative	Riverside County Flood Control and Water Conservation District	The project may impact the United States Army Corps of Engineers Santa Ana River Mainstream Project.	The Proposed Project will not impact the Santa Ana River Mainstream Project.
Biological Resources	USFWS	• Analyze consistency with the WR-MSHCP; impacts to wildlife connectivity, wetlands and other sensitive habitat. • Include complete Purpose and Need and feasible project alternatives. • Evaluate impacts to federal special status species and habitats on site. • Include appropriate measures to avoid, minimize, or mitigate impacts.	The Draft Supplemental EIR/EIS analysis is consistent with these comments.
General	Wildlife Corridor Conservation Authority	Add to contact list.	Added to mailing list.
General	SCAG	When available, send Draft Supplemental EIR/EIS to Los Angeles office.	Added to mailing list.
General	City of Corona Fire Department	Include in contact list.	Included in mailing list.

Caltrans = California Department of Transportation
CDFW = California Department of Fish and Wildlife
CEQA = California Environmental Quality Act
CESA = California Endangered Species Act
CIP = Corridor Improvement Project
EIR/EIS = Environmental Impact Report/Environmental Impact Statement
F/ETCA = Foothill/Eastern Transportation Corridor Agency
FHWA = Federal Highway Administration
LST = Localized Significance Threshold
OCTA = Orange County Transportation Authority
RCTC = Riverside County Transportation Commission
SCAG = Southern California Association of Governments
SCAQMD = South Coast Air Quality Management District
SR-91 = State Route 91
USEPA = United States Environmental Protection Agency
USFWS = United States Fish and Wildlife Service
WR-MSHCP = Western Riverside County Multiple Species Habitat Conservation Plan

5.3 Consultation and Coordination with Agencies

5.3.1 Consultation and Coordination with Cooperating and Participating Agencies

The *Efficient Environmental Review Coordination Plan SR-241/SR-91 Express Lanes Connector* for the Proposed Project documents the coordination of public and agency participation and comments received during the environmental review process. It is the responsibility of the lead agencies to develop the coordination plan to facilitate and document the interaction among the lead agencies, the participating and cooperating agencies, and the public.

As of October 1, 2012, MAP-21 made further amendments to the efficient environmental review process added by SAFETEA-LU and is codified at 23 United States Code (USC) Section 139. In addition, as of December 4, 2015, the Fixing America's Surface Transportation Act (FAST Act), adopted a number of Administration proposals to further speed the permitting process and codified the online system to track projects and interagency coordination processes. For this process, Caltrans sent letters inviting agencies to be Cooperating and/or Participating Agencies in the environmental process for the Proposed Project on March 12, 2015 (a sample of the Caltrans invitation letter is provided at the end of this chapter). Participating Agencies are federal, State, regional, or local agencies that may have an interest in the Proposed Project. The following agencies declined to be a Participating Agency for the Proposed Project:

- United States Department of Energy
- United States Forest Service
- United States Geological Survey
- National Marine Fisheries Service
- National Park Service
- California Air Resources Board
- California Department of Conservation
- California Office of Emergency Services
- California Energy Commission
- California Department of Forestry and Fire Prevention
- California State Lands Commission
- California Transportation Commission
- California Department of Water Resources
- Riverside County Transportation and Land Management Agency

- Nature Reserve of Orange County
- Orange County Clerk-Recorder
- Orange County Local Agency Formation Commission
- City of Irvine
- City of Orange
- City of Tustin

The following agencies agreed to become Participating Agencies for the Proposed Project:

- Orange County Transportation Authority (OCTA)
- Riverside County Transportation Commission (RCTC)
- United States Army Corps of Engineers (USACE)
- United States Fish and Wildlife Service (USFWS)
- California Department of Fish and Wildlife (CDFW)
- Santa Ana Regional Water Quality Control Board (RWQCB)
- Southern California Association of Governments (SCAG)
- United States Environmental Protection Agency (U.S. EPA)
- CalRecycle
- California Highway Patrol
- California Office of Historic Preservation
- California Department of Parks and Recreation
- California Office of Planning and Research
- California Public Utilities Commission
- San Bernardino Associated Governments
- South Coast Air Quality Management District
- Orange County Flood Control District
- Orange County Parks
- Santa Ana Watershed Project Authority
- City of Anaheim
- City of Corona
- City of Yorba Linda

Copies of the acceptance letters and the declining email for participating agencies are provided as attachments to this chapter.

Cooperating Agencies are federal agencies that have jurisdiction by law or special expertise with respect to any environmental impact involved in a proposed project or project alternative. Cooperating Agencies are also Participating Agencies. The USACE agreed to be a Cooperating and Participating Agency for the Proposed Project. *Approved Jurisdictional Delineation Forms* and supplemental fieldwork documentation were submitted to the USACE for review and concurrence on December 2016. An Approved Jurisdictional Determination was made by the USACE on July 14, 2017, and is included in Appendix L.

A Coordination Plan under USC Section 139 was prepared and distributed to the Cooperating and Participating Agencies along with a draft Purpose and Need statement for the Proposed Project and a draft Project Description on May 29, 2015.

Caltrans, as the Lead Agency, specifically requested the Participating and Cooperating Agencies to provide comments and input on the following topics:

- Project Purpose and Need
- Proposed range of alternatives

On August 3, 2016, Caltrans submitted a summary cover letter, the updated Coordination Plan, and a summary matrix of the anticipated socioeconomic and environmental impacts and methodologies to Participating and Cooperating Agencies for review and comment.

5.3.1.1 Coordination Plan Comments

Coordination Plan comments were received from OCTA and U.S. EPA on the Project Description, Purpose and Need, and Range of Alternatives on May 29, 2015, and June 29, 2015, respectively. No other comments on Purpose and Need or project alternatives were received.

On September 6, 2016, U.S. EPA provided comments and recommendations on the Evaluation Methodologies related to air quality and climate change after reviewing the updated Coordination Plan. No other comments were received.

Comments and responses are provided in Table 5.2.

Table 5.2 Coordination Plan Comments

Topic	Agency	Comment	Response
Purpose	OCTA (5/29/15)	What does this mean? [bullet: Attain compatibility with the SR-91 mainline and Express Lanes]	The Proposed Project would be compatible with the existing SR-91 mainline and *91 Express Lanes* as well as the modifications that will occur as part of the SR-91 CIP.
Purpose	OCTA (5/29/15)	No access so no weaving. [bullet: To improve operations by reducing the weaving across multiple general purpose lanes between the SR-91 Express Lanes and the SR-241 general purpose lane connectors]	Weaving occurs where the *91 Express Lanes* currently end (which are being extended to I-15 as part of the SR-91 CIP).
Need	OCTA (5/29/15)	There is no access point at this location. [bullet: Northbound vehicles on SR-241 cannot access the eastbound SR-91 Express Lanes. Access from northbound SR-241 to eastbound SR-91 is provided by means of a two-lane connector that merges with the SR-91 general purpose lanes. As a result, weaving across multiple SR-91 general purpose lanes is required to access the SR-91 Express Lanes]	There is no direct access to the *91 Express Lanes* (which are being extended to I-15 as part of the SR-91 CIP) from SR-91.
Need	OCTA (5/29/15)	Connector is long enough to avoid weaving. [bullet: Westbound SR-91 Express Lane motorists cannot access southbound SR-241. Access from westbound SR-91 to southbound SR-241 is provided by means of a two-lane connector that diverges from the general purpose lanes. As a result, weaving across multiple SR-91 general purpose lanes is required to access SR-241]	There is no direct access from the *91 Express Lanes* (which are being extended to I-15 as part of the SR-91 CIP) to SR-241.
No Build Alternative	OCTA (5/29/15)	No access, no weaving. [bullet: Would maintain the existing connections to SR-241 and SR-91 in the Project Area resulting in increased weaving in both directions of SR-91 to access the SR-91 Express Lanes during peak hour traffic]	Weaving occurs where the *91 Express Lanes* currently end (which are being extended to I-15 as part of the SR-91 CIP).
Purpose and Need	U.S. EPA 6/29/15)	On bottom of Page 2, where the document discusses consistency with the General Plans of the counties and cities in the area, please add "to the extent consistent with Federal laws and regulations". Please also add this language to the end of the fifth bullet which discusses the County of Orange Master Plan. Because the proposed development identified in the General Plans and Master Plans cited have not yet demonstrated compliance with Federal laws and regulations, it is important to state the need to be consistent with local and regional planning with acknowledgement of Federal laws and regulations.	Please refer to Sections 1.2.1 and 1.2.2 of this document. The Purpose and Need was updated to focus on the Express Lanes Connector as part of the overall Eastern Transportation Corridor (ETC) project.

Table 5.2 Coordination Plan Comments

Topic	Agency	Comment	Response
Project Alternatives	U.S. EPA 6/29/15)	Under the Build Alternative (Two-lane Express Lanes Connector), Page 3 states that the Windy Ridge Wildlife Undercrossing will be widened. The EPA recommends coordinating with U.S. Fish and Wildlife and California Fish and Wildlife on the design and construction of any changes to the undercrossing to minimize impacts to wildlife that use the undercrossing. Please also include in the Coordination Plan when this coordination will occur.	The widening of Windy Ridge Wildlife Undercrossing will be minimal and consistent with the existing undercrossing. This environmental document includes several measures to ensure the viability of this wildlife undercrossing. Caltrans and F/ETCA are and will coordinate with USFWS and CDFW regarding species and habitats under the agencies' jurisdiction at or near the wildlife crossing.
No Build Alternative	U.S. EPA 6/29/15)	In the final bullet listed under the No Build Alternative, please add the phrase, "as required by NEPA" to reflect that the No Build Alternative is required to be analyzed by NEPA (CEQ regulations, 40 CFR Part 1502.14(d)).	This request is not consistent with FHWA guidelines; therefore, no change was made to the Draft Supplemental EIR/EIS.
Air Quality	U.S. EPA (9/6/16)	Since this project is located in an area that is designated as non-attainment for PM2.5 and attainment/maintenance for PM10, and the initial analysis shows that there will be short-term degradation of air quality during construction, it is critically important that impacts to air quality be accurately analyzed, disclosed, and reduced as much as possible.	Detailed construction-related PM_{10} and $PM_{2.5}$ emission analysis is presented in Table 3.12.8, under Section 3.12.3.3, Temporary Impacts, in the Draft Supplemental EIR/EIS. Measures AQ-1 through AQ-5 is included in Section 3.12 of the Draft Supplemental EIR/EIS to avoid and/or minimize short-term construction air quality effects.
Air Quality	U.S. EPA (9/6/16)	Include additional applicable Air Quality Impact Minimization Measures, including the following, that are available to reduce adverse effects during construction and operation of the project: Solicit bids that include use of energy and fuel-efficient fleets.	Additional measures to include vehicle fleet language in contractor bids are not warranted because of the existing regulations. ARB's Off-road vehicle regulation contains restrictions on adding older vehicles to a construction fleet. ARB received authorization from the U.S. EPA on September 13, 2013, to enforce the Off-Road regulation's restrictions on fleets adding vehicles with older tier engines. Effective January 1, 2016, a fleet may not add a vehicle with a Tier 0 or Tier 1 engine to its fleet. Beginning January 1, 2018, for large and medium fleets, and January 1, 2023, for small fleets, a fleet may not add a vehicle with a Tier 2 engine to its fleet. The engine tier must be Tier 3 or higher. Since fuel-efficient tier engine fleets are covered under California regulation, further fuel-efficient fleet minimization measures are not warranted.

Table 5.2 Coordination Plan Comments

Topic	Agency	Comment	Response
Air Quality	U.S. EPA (9/6/16)	Solicit construction bids that use BACT, particularly those seeking to deploy zero emission technologies.	According to the ARB's Off-road vehicle regulation in complying with BACT requirements, if a fleet cannot, or does not want to, meet the fleet Tier engine average target in a given year, it may instead choose to comply with the BACT requirements. A fleet may meet the BACT requirements each year by turning over or installing Verified Diesel Emission Control Strategies (VDECS) on a certain percentage (referred to as the BACT rate) of its total fleet horsepower. In summary, the ARB's Off-road regulation offers construction contractors two choices for complying with the off-road regulation. Since the BACT is covered under California regulation, inclusion of additional BACT minimization measures is not warranted.
Greenhouse Gas Emissions/ Climate Change/ Air Quality	U.S. EPA (9/6/16)	Employ the use of alternative fueled vehicles.	The use of alternative fueled vehicles would not be a feasible minimization measure due to the short-term 18-month duration for construction activities. Alternative fueled vehicles are available through market-based commercial vehicle sales. Several construction contractors have purchased hybrid-fueled and electric light-duty vehicles under the market-based commercial sales. Since the alternative fueled vehicle market is covered under California tax credit regulation, addition of an alternative fueled vehicle minimization measure is not warranted.
Greenhouse Gas Emissions/ Climate Change	U.S. EPA (9/6/16)	Use lighting systems that are energy efficient, such as LED technology.	Refer to Section 4.3.2.3 (2) Greenhouse Gas Reduction Strategies of the Draft Supplemental EIR/EIS. The following minimization measure is provided: "*The Proposed Project would recommend the use of energy efficient lighting, such as light emitting diode (LED) traffic signals. LED bulbs—or balls, in the stoplight vernacular—cost $60 to $70 apiece but last 5 to 6 years, compared to the average 1 year lifespan of the incandescent bulbs previously used. The LED bulbs themselves consume 10 percent of the electricity of traditional lights, which will also help reduce the Proposed Project's CO_2 emissions."*

Table 5.2 Coordination Plan Comments

Topic	Agency	Comment	Response
Greenhouse Gas Emissions/ Climate Change	U.S. EPA (9/6/16)	Use the minimum amount of greenhouse gas (GHG)-emitting construction materials that are feasible.	Recycled cement-concrete pavement and asphaltic pavement materials will be used, which will help reduce GHG emissions as compared to the use of raw material for roadway pavements. Refer to Section 4.3.2.3 (1), Greenhouse Gas Reduction Strategies, of the Draft Supplemental EIR/EIS. The following minimization measure is provided: *Landscaping reduces surface warming, and through photosynthesis, decreases CO_2. Landscaping would be provided where necessary within the corridor to provide aesthetic treatment, replacement planting, or mitigation planting for the Proposed Project. The landscape planting would help offset any potential CO_2 emissions increase.* Additional measures for the use of less GHG-emitting materials are not warranted.
Greenhouse Gas Emissions/ Climate Change	U.S. EPA (9/6/16)	Use cement blended with the maximum feasible amount of alternative materials (industrial materials designated for re-use, for example) that reduce GHG emissions from cement production.	Using blended materials is a non-standard Caltrans Specification and will be considered by Caltrans and F/ETCA during Final Design.
Greenhouse Gas Emissions/ Climate Change	U.S. EPA (9/6/16)	Use lighter-colored pavement where feasible.	Concrete (light color pavement) will be used along SR-91, which matches the existing pavement. SR-241 will be HMA (asphalt), which matches the existing pavement along the SR-241.
Greenhouse Gas Emissions/ Climate Change	U.S. EPA (9/6/16)	Recycle construction debris to maximum extent feasible.	Caltrans projects use construction products, some of which are, or could be, recycled-content products (RCP). Recycled road base is aggregate made from crushed demolition concrete and/or asphalt concrete (AC), road base, or glass. According to the Caltrans 2015 Standard Specifications, construction contractors and concrete suppliers are required to accept and use recycled materials in order to perform the work and/or supply concrete. Since the recycled construction material is covered under Caltrans 2015

Table 5.2 Coordination Plan Comments

Topic	Agency	Comment	Response
			Standard Specifications, further measures for recycling of construction debris are not warranted.
Greenhouse Gas Emissions/ Climate Change	U.S. EPA (9/6/16)	Plant shade trees in or near construction projects where feasible.	Refer to Section 3.6, Visual/Aesthetics, Measure V-7: "***Tree Planting.*** *Permanently impacted Coast live oak, California walnut and sycamore trees will be replaced at a minimum 2:1 ratio. Heritage oaks (oaks greater than 36 inches dbh) will be replaced at a minimum 3:1 ratio*."
Greenhouse Gas Emissions/ Climate Change/ Air Quality	U.S. EPA (9/6/16)	Use grid-based electricity for construction activities and/or onsite renewable electricity generation rather than diesel and/or gasoline powered generators.	Grid-based electricity will be used during construction. It is not anticipated that generators will be used during construction, except for emergency purposes.
Air Quality	U.S. EPA (9/6/16)	Please ensure that Air Quality Minimization Measure AQ-5 is consistent with current California Air Resource Board Regulations.[1] AQ-5 states that all construction vehicles both on- and off-site shall be prohibited from idling in excess of 1I 0 minutes.	According the ARB's Off-road regulation, an operator of applicable off-road diesel vehicles (self-propelled diesel-fueled vehicles 25 horsepower and up that were not designed to be driven on-road) is required to limit idling to no more than five minutes. It should be noted that there is a difference between diesel- and gasoline-powered vehicles, and on- and off-road vehicles. ARB off-road diesel regulation is applicable to diesel vehicles only. Measure AQ-5 covers all construction vehicles including gasoline-powered and on-road vehicles.
Greenhouse Gas Emissions/ Climate Change	U.S. EPA (9/6/16)	The National Climate Assessment (NCA)[2] is a federal information resource on emerging climate science to inform government decision making. The NCA details observed and projected climate change for our nation, and our Southwest region. The NCA indicates that climate change could result in California experiencing poor air quality; more severe heat; increased wildfires; shifting vegetation; declining forest productivity; decreased Spring snowpack; water shortages and prolonged drought; potential reduction in hydropower; loss in winter recreation; agricultural damages from heat, pests, pathogens, and weeds; and rising sea levels resulting in shrinking beaches and increased coastal floods.	Refer to the GHG section in Chapter 4, California Environmental Quality Act (CEQA) Evaluation, of the Draft Supplemental EIR/EIS. In their transmittal of the CEQ Guidance to Division Heads, the FHWA's Office of Planning, Environment and Realty provided direction that the Guidance applies to new proposed federal agency actions where an Environmental Assessment or an EIS commences on or after the release date of the CEQ guidance, August 2, 2016. The Draft Supplemental EIR/EIS was initiated before August 2, 2016, and therefore, the guidance does not apply to this document.

Table 5.2 Coordination Plan Comments

Topic	Agency	Comment	Response
		On August 2, 2016, the Council on Environmental Quality (CEQ) released final guidance for Federal agencies on how to consider the impacts of their actions on climate change in their NEPA reviews. This guidance explains that agencies should consider both the potential effects of a proposed action on climate change, as indicated *by* its estimated greenhouse gas (GHG) emissions, and the implications of climate change for the environmental effects of a proposed action. CEQ recognizes that many agency NEPA analyses to date have concluded that GHG emissions from an individual agency action will have small, if any, potential climate change effects. Government action occurs incrementally, program-by-program and step-by-step, and climate impacts are not attributable to any single action, but are exacerbated by a series of smaller decisions, including decisions made by the government. Therefore, the statement that emissions from a government action or approval represents only a small fraction of global emissions is more a statement about the nature of the climate change challenge, and is not an appropriate basis for deciding whether to consider climate impacts under NEPA. Moreover, these comparisons are not an appropriate method for characterizing the potential impacts associated with a proposed action and its alternatives and mitigations.[3] CEQ also suggests that if an agency determines that evaluating the effects of GHG emissions would not be useful in the decision making process and to the public to distinguish between the proposed action, alternatives and mitigations, the agency should document the rationale for that determination. The table of Evaluation Methodologies and Project Impacts should include an entry for Climate Change and the SD EIS should estimate the GHG emissions and use the projected emissions to distinguish between the proposed action, alternatives and mitigations.	Chapter 4, Table 4.1, of the Draft Supplemental EIR/EIS includes the project-related regional GHG emissions. Both the future with project and future No Build conditions show decreases in CO_2 emissions over existing levels.

Table 5.2 Coordination Plan Comments

Topic	Agency	Comment	Response
Greenhouse Gas Emissions/ Climate Change	U.S. EPA (9/6/16)	The SD EIS should consider how climate change could affect the project area, specifically within sensitive areas, and assess how the projected impacts of the project could be exacerbated by climate change.	Refer to Section 4.3.2.4, Adaptation Strategies. The following discussion is provided: "…*the Proposed Project is outside the coastal zone and direct impacts to transportation facilities due to projected sea level rise are not expected*."
Community Impacts	U.S. EPA (9/6/16)	The SD EIS should identify any sensitive receptors, such as schools and hospitals, as well as any anticipated effect to such receptors, in the Community Impacts section. Include mitigation measures to reduce any effects identified.	Impacts to sensitive receptors adjacent to the project area (residents and park occupants) are discussed in Section 3.3 of the Draft Supplemental EIR/EIS.
Transportation/ Traffic	U.S. EPA (9/6/16)	The Traffic analysis concludes that a permanent impact from the project is that traffic would shift from other regional routes to SR-241 as a result of the new connector. The SDEIS should provide details on the types of vehicles (trucks vs. cars) that will shift from other regional routes to SR-241 when the new connector opens.	Section 3.5.3.2, Volume Served, of the Draft Supplemental EIR/EIS, discusses the number of vehicles that would shift in the AM and PM peak periods in 2017 and 2040. This section has been revised to include the percent of shifting vehicles that are trucks (5 percent) in the AM and PM peak periods in 2017 and in the AM peak period in 2040. The forecasts show that the project will not cause traffic to shift from eastbound SR-91 or other routes (i.e., surface streets or SR-55) to northbound SR-241 in the 2040 PM peak period due to the improvements in operations associated with the Ultimate SR-91 CIP improvements.

[1] California Air Resources Board. Website: http://www.arb.ca.gov/enf/advs/advs377.pdf.
[2] United States Global Change Research Program. Website: http://nca2014.globalchange.gov/.
[3] Council on Environmental Quality. *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews,* August 2016.

ARB = California Air Resources Board
BACT = best available control technology
Caltrans = California Department of Transportation
CDFW = California Department of Fish and Wildlife
CEQ = Council on Environmental Quality
CFR = Code of Federal Regulations
CIP = Corridor Improvement Project
F/ETCA = Foothill/Eastern Transportation Corridor Agency
FHWA = Federal Highway Administration
I-15 = Interstate 15
NEPA = National Environmental Policy Act
OCTA = Orange County Transportation Authority
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SR-91 = State Route 91
SR-241 = State Route 241
USEPA = United States
USFWS = United States Fish and Wildlife Service

5.3.2 Draft Supplemental EIR/EIS Public Review Period

The Draft Supplemental EIR/EIS prepared for the Proposed Project was circulated for public review and comment between November 7, 2016, and January 9, 2017.

A public notice to announce the Public Hearing was published in the following newspapers on November 7, November 11, and November 21, 2016: *Press-Enterprise*, *Orange County Register*, and *Excélsior*. There were multiple purposes served by these notices; they informed the public of: the scheduled public hearing on the Draft Supplemental EIR/EIS; the availability of the Draft Supplemental EIR/EIS for public review; the length of the public review period for the Draft Supplemental EIR/EIS; the locations where the Draft Supplemental EIR/EIS was available; how the public could participate in the process; and where and how to submit comments on the Draft Supplemental EIR/EIS.

The English and Spanish published notices were also mailed to the distribution list included in Chapter 7 of the Draft Supplemental EIR/EIS, as well as to property owners and occupants of all addresses within a 0.25 mi radius of the project limits. The published notices, printed copies, and/or compact disc copies of the Draft Supplemental EIR/EIS were mailed to responsible agencies and other agencies listed in Chapter 7 of the Draft Supplemental EIR/EIS. The published notices are provided as attachments to this chapter.

In conjunction with transmitting the Notice of Completion to the State Clearinghouse for purposes of documenting circulation, copies of the Draft Supplemental EIR/EIS were also transmitted for distribution to various State agencies.

The complete Draft Supplemental EIR/EIS and supporting technical studies were made available for public review at the following locations:

- Caltrans District 12, 1750 East Fourth Street, Suite 100, Santa Ana
- TCA office, 125 Pacifica, Suite 120, Irvine
- East Anaheim Library, 8201 East Santa Ana Canyon Road, Anaheim
- Corona Public Library, 650 South Main Street, Corona
- El Modena Branch Library, 380 South Hewes Street, Corona

The Draft Supplemental EIR/EIS was also made available on the Caltrans website at: http://www.dot.ca.gov/d12/DEA/241-91/0K9700/.

An Open House Public Hearing was held at the East Anaheim Community Center, 8201 East Santa Ana Canyon Road, City of Anaheim, from 5:30 p.m. to 8:30 p.m. on November 29, 2016. Approximately 33 members of the public attended the public hearing. No comments were made for the public record at the public hearing, and five comment cards were turned in at the public hearing. The majority of the comments received at the Public Hearing expressed support for the Proposed Project and urged the completion of the Project as soon as possible or that it should have been completed with the original ETC construction. An Affidavit of Certified Shorthand Reporter from the Public Hearing is included in Appendix M.

5.3.2.1 Comments and Responses to Comments

Comments Received

Table 5.3 provides an indexed list of the 68 comment letters received on the Draft Supplemental EIR/EIS (including the comment cards received at the public hearing). The index numbers are based on a unique letter and number code for each comment, for organizational purposes. "F" is for federal agencies, "L" is for local agencies, "I" is for Interested Parties, "P" is for public comments, and "PHC" is for public hearing comments.

Table 5.3 Comment Letters Received During Public Comment Period

Comment Letter Number	Name	Date
Federal Agencies		
F-1A	United States Environmental Protection Agency	November 21, 2016
F-1B	United States Environmental Protection Agency	January 5, 2017
F-2	United States Department of the Interior	January 25, 2017
Local Agencies		
L-1	Orange County Business Council	November 16, 2016
L-2	City of Irvine	December 27, 2016
L-3	City of Tustin	January 3, 2017
L-4	County of Orange Public Works	January 4, 2017
L-5	City of Anaheim	January 5, 2017
L-6	Orange County Transportation Authority	January 9, 2017
Interested Groups		
I-1	California Native Plant Society	January 5, 2017
Public Comments		
P-1	Alex Park	November 29, 2016
P-2	Andrea Gladson	November 8, 2016
P-3A	Becky Johnson	November 30, 2016
P-3B	Becky Johnson	February 6, 2017
P-4A	Bob Lampley	November 9, 2016
P-4B	Bob Lampley	January 9, 2017
P-5	Dave Alford	October 31, 2016
P-6	David Wright	November 28, 2016
P-7	Dianne Chavarria	November 29, 2016
P-8	Douglas DeNardo	December 4, 2016

Table 5.3 Comment Letters Received During Public Comment Period

Comment Letter Number	Name	Date
P-9	Ed Arriola	November 13, 2016
P-10	Ed Gray	November 10, 2016
P-11	Hryze	October 31, 2016
P-12	J Delmer	November 10, 2016
P-13	Jason Zinkin	November 27, 2016
P-14	John Fox	November 30, 2016
P-15A	Kyle Tate	November 21, 2016
P-15B	Kyle Tate	November 21, 2016
P-16A	Leif Grane	November 29, 2016
P-16B	Leif Grane	December 12, 2016
P-16C	Leif Grane	January 9, 2017
P-16D	Leif Grane	January 9, 2017
P-17A	Lindon Baker	December 6, 2016
P-17B	Lindon Baker	December 6, 2016
P-17C	Lindon Baker	December 9, 2016
P-18	Lynda Jenkins	October 31, 2016
P-19	Mark and Kimberly Zimmermann	November 8, 2016
P-20	Norma Barrientos	November 7, 2016
P-21	Randall Black	October 31, 2016
P-22	Rick Cleveland	November 9, 2016
P-23	Ruth Quinnan	November 18, 2016
P-24	Scott Cop	November 15, 2016
P-25	Tony Richardson	November 30, 2016
P-26	Turi Daniels	November 11, 2016
P-27	Don Paul	December 8, 2016
P-28	Bob Hughes	December 9, 2016
P-29	TR Barnes	December 11, 2016
P-30	Hatem Tadros	December 13, 2016
P-31	Jeff Gros	December 15, 2015
P-32	Charles Perrigoue	December 16, 2016
P-33	Gary Hickenbottom	December 21, 2016
P-34	Adrian Koval	December 22, 2016
P-35	Norma and Linda Williams	December 26, 2016
P-36	Norma L. Williams	December 26, 2016
P-37	Johnathan H. McDowell	January 8, 2017
P-38	Roy Center	January 9, 2017
P-39	Diana Hearn	January 9, 2017
P-40	Sean Bryant	January 9, 2017
P-41	William Lopez	January 9, 2017
P-42	Xico Salazar	January 9, 2017
P-43	Melinda Alvarez	January 9, 2017
P-44	Patrick Dreis	January 9, 2017
P-45	John Boyd	November 26, 2016
PHC-1	Marty De Sollar	November 29, 2016
PHC-2	Matt Olsen	November 29, 2016
PHC-3	Rich Gomez	November 29, 2016
PHC-4	Sally Wurtenberg	November 29, 2016
PHC-5	Solomon Shapiro	November 29, 2016

Format of Responses to Comments

Responses to the comments received on the Draft Supplemental EIR/EIS are provided in Table 5.4 below. The responses to comments are organized to correspond specifically to the comment, starting with the base comment index number designation. All of the comments received during the public review period are included in Table 5.4. Comment and responses for letters received after the public review period are included in Table 5.5. The coded comment letters are provided in Appendix N.

5.3.3 Final EIS and ROD Documents

Concurrent with the start of public review for the Draft Supplemental EIR/EIS, a letter was submitted to the Cooperating Agency explaining Caltrans' intent to combine the Final EIS and the ROD and soliciting input. This provided the Cooperating Agency (USACE) with the opportunity to express its views regarding the use of a combined Final EIS and ROD for the Proposed Project. The USACE did not submit any comments on the Draft Supplemental EIR/EIS. Subsequent to the close of the public review period for the Draft Supplemental EIR/EIS, Caltrans determined a separate ROD would be prepared for the Proposed Project, which is intended to be issued in early 2020, subsequent to Caltrans approval of the Final Supplemental EIR/EIS and Final Project Report.

5.3.4 Biological Resources Consultation

The F/ETCA conducted early coordination with the USFWS regarding the proposed amendment to the Biological Opinion for the ETC project. The Biological Opinion was received from the USFWS for the ETC on July 6, 1994 (No. 1-6-94-F-17).

Valarie McFall, Chief Environmental Planning Officer, emailed Jonathan Snyder, USFWS Division Chief, on October 25, 2010, regarding the potential to create coastal sage scrub habitat and restore cactus scrub on 15 acres of property in the City of Irvine (Strawberry Farms) just south of the Strawberry Farms Golf Course near the Sand Canyon Reservoir. On February 9, 2011, Mr. Snyder responded (USFWS reference: FWS-OR-11B0165-11TA0284) favorably, subject to review and approval of a restoration plan, that the area could conceptually be used to offset impacts to coastal sage scrub and cactus scrub associated with future TCA projects. A restoration plan was prepared and the USFWS approved that plan.

On May 19 and June 15, 2011, September 9, 2013, and December 1, 2014, preliminary lists of threatened or endangered species that may occur in the Biological

Study Area (BSA) were obtained from the USFWS Information Planning and Conservation (IPaC) online database. USFWS official species lists were obtained on January 22, 2014, February 2, 2015, February 11, 2016, September 16, 2016, December 4, 2018, and July 17, 2019.

On January 27, 2014, Ms. McFall of F/ETCA spoke with Mr. Snyder of the USFWS regarding the consultation process for the Proposed Project. The Biological Opinion for the ETC (No. 1-6-94-F-17) was issued to the Federal Highway Administration (FHWA). Since that time, FHWA has delegated National Environmental Policy Act (NEPA) responsibilities, including Section 7 consultation, to Caltrans. As a result, Caltrans has initiated Section 7 consultation with the USFWS for the Proposed Project. The consultation has resulted in a new Biological Opinion, addressing the revisions to the details of the Project Description to reflect the Proposed Project. Coordination between Caltrans/F/ETCA and USFWS is ongoing.

On July 23, 2015, per a September 22, 2015, email from Kedest Ketsela of Caltrans to Ingri Quon of LSA Associates, Inc. (LSA), Sally Brown of the USFWS brought the following issues to F/ETCA: (1) CAGN occurrences and designated critical habitat are in the Project Area and Project Vicinity; (2) Braunton's milk-vetch occurrences and designated critical habitat are adjacent to the Project Area; (3) Santa Ana sucker and its designated critical habitat are north of the SR-91 portion of the Project Area; and (4) the Proposed Project may extend farther east than proposed for coverage by the original Biological Opinion and the incidental take authorization pursuant to the Habitat Conservation Plan (HCP). (Note that the entire footprint of the ETC was included in the original Central/Coastal NCCP/HCP and has thus been fully mitigated.)

On September 9, 2015, Lisa Williams and Ms. Quon of LSA, Ms. McFall of F/ETCA, and Mr. Snyder of the USFWS held a conference call regarding Santa Ana sucker, least Bell's vireo, and southwestern willow flycatcher species and/or critical habitat in proximity to the BSA. Mitigation was discussed, and Mr. Snyder noted that determining the allowed take for the Proposed Project is not necessary as long as the Mitigation and Minimization Measures are consistent with the NCCP/HCP.

On March 10, 2016, a conference call with Mr. Snyder and Ms. Brown of the USFWS, Ms. McFall of F/ETCA, Mr. Baker and Ms. Ketsela of Caltrans, and Art Homrighausen, Richard Erickson and Ms. Williams of LSA was conducted. CSS habitat and what was covered under the 1994 Biological Opinion for the ETC and

what was not covered by this Biological Opinion were discussed during the call. The participants agreed that areas along SR-91 east of the boundaries of the mapping for the ETC Final EIR and Final EIS and technical reports were not covered in the 1994 Biological Opinion. Ms. Brown had the following concerns:

- The potential for light and noise to have an indirect effect on least Bell's vireo in the Santa Ana River area during and/or after construction;
- The potential for indirect effects to Braunton's milk-vetch due to the close proximity to designated critical habitat for this species; and
- The potential for indirect effects to Santa Ana sucker and its designated critical habitat.

Mr. Snyder indicated that USFWS is now conducting informal Section 7 consultation for species with a "no effect" determination. The participants also agreed that a new Biological Opinion would be initiated for the Proposed Project.

Caltrans initiated formal Section 7 consultation with the USFWS on December 21, 2016. Ms. Brown submitted comments on the Draft Supplemental EIR/EIS as part of the U.S. Department of Interior comment letter (Letter F-2, January 25, 2017) and indicated that she was available for a conference call to discuss her concerns regarding the Proposed Project. After Caltrans review and approval of the Responses to Comments (Tables 5.4 and 5.5 in this chapter), a meeting was held on July 11, 2017, with the USFWS, Caltrans, the F/ETCA, and the consultant staff to discuss USFWS comments on both the Draft Supplemental EIR/EIS and the Biological Assessment.

A conference call was held on January 16, 2018, among Kedest Ketsela and Charles Baker (Caltrans), Sally Brown and Jonathan Snyder (USFWS), and LSA (Art Homrighausen and Lisa Williams) to discuss mitigation for temporary and permanent impacts as well as a Long Term Management Plan.

On July 30, 2018, Kedest Ketsela transmitted a mitigation proposal letter to Sally Brown for review. Sally Brown responded with additional questions on August 20, 2018, and requested a meeting to discuss.

A field meeting and subsequent office meeting were held on September 12, 2018, to discuss the comments from the USFWS letter dated July 30, 2018, to confirm the mitigation ratios for temporary and permanent impacts by habitat type. Follow-up comments were provided by the USFWS on September 17, 2018.

On October 3, 2018, Valarie McFall (F/ETCA) discussed additional mitigation needs and the proposed Saddle Club site with Jonathan Snyder.

On December 5, 2018, Kedest Ketsela submitted a revised mitigation proposal to Sally Brown.

The new Biological Opinion for the Proposed Project was issued by USFWS on April 17, 2019.The new Biological Opinion lists conservation measures to avoid and minimize impacts through the project design including a Soil Nail Wall Design Option (described in Section 3.19 of the FED under Measure TE-7), which will be decided during the Final Design phase of the Project. This design would minimize permanent impacts by approximately 5 acres of land located within the Gypsum Canyon Nature Preserve.

In addition, the new Biological Opinion also included a wildlife connectivity plan (described in Section 3.19 of the FED under Measure TE-7) to avoid and minimize impacts through project design which included the installation of a permanent access control gate near the top of the eastbound off-ramp at Coal Canyon subject to approval by California Highway Patrol (CHP) and Orange County Fire Authority (OCFA). On April 12, 2019, Kedest Ketsela sent an email to CHP and OCFA requested explaining the proposed condition outlined in the BO. On April 12, 2019, CHP Administrative Sergeant Todd Kovaletz sent an email to Kedest Ketsela expressing CHP's opposition to any additional gating on the Coal Canyon off-ramp area. A response is still pending from the OCFA. According to the BO, if installation of the gate is not approved, Caltrans and TCA will coordinate with the CFWO to identify an alternative measure to enhance connectivity or improve safety for dispersing wildlife to offset temporal impacts resulting from the substantially degraded functioning of Coal Canyon as a wildlife undercrossing during the 2-year construction period. Alternative measures may include use of existing fencing, visual barriers, and/or additional signage. The correspondence from CHP states that the CHP would support the addition of a visual barrier using the existing fencing in place.

5.3.5 Native American Consultation and Coordination

State Assembly Bill No. 52 (AB 52) (Chapter 532, Statues of 2014) established a formal consultation process for California tribes as part of the CEQA process. However, Section 11(c) of the bill states, "This act shall apply only to a project that has a notice of preparation or a notice of negative declaration or mitigated negative declaration filed on or after July 1, 2015." The Notice of Preparation for the Proposed

Project was filed on March 13, 2015; therefore, AB 52 does not apply to the Proposed Project.

On April 6, 2011, a letter was sent to the Native American Heritage Commission (NAHC) requesting a search of the Sacred Lands File (SLF) in order to identify areas of religious or cultural significance to Native Americans in or near the Area of Potential Effects (APE). The NAHC responded on April 12, 2011, to say that while the SLF search did not identify any Native American cultural resources within a 0.5 mi radius of the APE, some resources have been recorded in proximity to the APE. The NAHC recommended contacting 11 Native American tribes/groups/individuals that may have additional information. A letter dated May 10, 2011, discussing the Proposed Project and requesting information on Native American heritage resources in the area that may be significant to their respective communities was sent via certified mail to the following:

- Ti'At Society/Inter-Tribal Council of Pimu: Cindi Alvitre, Chairwoman-Manisar
- Gabrielino Tongva Nation: Sam Dunlap, Chairperson
- Juaneño Band of Mission Indians Acjachemen Nation: David Belardes, Chairperson
- Juaneño Band of Mission Indians Acjachemen Nation: Anthony Rivera, Chairman
- Tongva Ancestral Territorial Tribal Nation: John Tommy Rosas, Tribal Administrator
- Gabrielino Tongva Indians of California Tribal Council: Robert Dorame, Tribal Chair/Cultural Resources
- Gabrieleno/Tongva San Gabriel Band of Mission Indians: Anthony Morales, Chairperson
- Juaneño Band of Mission Indians: Alfred Cruz, Cultural Resources Coordinator
- Gabrielino-Tongva Tribe: Bernie Acuna, Tribal Chairman
- Juaneño Band of Mission Indians Acjachemen Nation: Joyce Perry, Representing Tribal Chairperson
- Gabrielino-Tongva Tribe, Linda Candelaria, Chairwoman

Anthony Morales, Gabrielino/Tongva San Gabriel Band of Mission Indians, stated that he knows there are cultural resources around the base of the foothills, and hopes the Proposed Project proponents will be vigilant. Mr. Morales also stated he is aware that the Project Area is disturbed by previous freeway construction; however, he recommends monitoring by an archaeologist and a Native American when construction activities associated with the Proposed Project are in deeply buried intact

native soil (i.e., when digging for the support structures) because there is the potential to encounter buried cultural resources. No initial responses were received from the other 10 parties contacted.

Two rounds of follow-up communications were attempted by email and/or telephone between May 31 and June 7, 2011. As a result of the follow-up communications, Robert Dorame, Gabrielino Tongva Indians of California Tribal Council, stated that he would like to be notified of any cultural resources discoveries. Alfred Cruz, Juaneño Band of Mission Indians, stated that he believes the Project Area to be sensitive for cultural resources given its proximity to the Santa Ana River. Mr. Cruz also stated that his people inhabited the area for over 9,000 years and SR-91 runs along what were once ancient travel and trading routes, and that there is no way to know the extent of what is located there. Mr. Cruz recommended monitoring by a Native American and an archaeologist when construction activities associated with the Proposed Project are in undisturbed native soil. Sam Dunlap, Gabrielino Tongva Nation, stated that if there is no potential for cultural resources to be impacted because construction will occur in previously disturbed soil, then he has no concerns. In February 2015, Mr. Dunlap was sent an email clarifying that the proposed depth of excavation may exceed current disturbance limits in some areas, and asked whether he would like to comment further. No further responses were received from any of the other Native Americans contacted.

The May 10, 2011, initiation letter and responses are provided at the end of this chapter.

5.3.6 Section 4(f) Consultation

On January 28, 2015, F/ETCA staff met with representatives from the County of Orange and Irvine Company to discuss the Proposed Project, which would include a cut slope with terrace- and down-drains south of SR-91. This project feature would encroach into Assessor's Parcel Number (APN) 085-071-56, owned by the County of Orange and a part of the Gypsum Canyon Nature Preserve and the Irvine Ranch National Natural Landmark (NNL). Michael Haubert, Deputy County Counsel for the County of Orange, stated that he believed that the proposed work was consistent with the provisions of the Gift Deed, which transferred the property from Irvine Company to Orange County Parks. Mr. Haubert indicated that the Proposed Project improvements on the County parcel did not warrant a "Proposed Activity" and related "Approval Process" referenced within the Grant Deed of Conservation Easement.

Mr. Haubert agreed with John Gump, Operations Manager, OC Parks, that the County would not want to maintain a property that was part of an F/ETCA project.

Subsequent to this meeting, F/ETCA staff met with Caltrans staff on June 3, 2015, to discuss potential right-of-way changes, maintenance of the slope, and required access. Caltrans indicated that preferred course of action would be for the State to permanently acquire this area of APN 085-071-56 as part of the Proposed Project and maintain it as part of the SR-91 right-of-way. It was determined that the area of land that would be acquired from APN 085-071-56 would be approximately 5 acres.

Caltrans submitted a letter to Mr. Gump dated October 13, 2015, which stated that while the extent of project improvements is under review, Caltrans has determined that the improvement at the Irvine Ranch NNL will be considered a de minimis impact per 23 CFR 774. This finding is based on the isolated nature and lack of recreational amenities on the subject parcel. The Proposed Project would result in direct use of the Irvine Ranch NNL through permanent acquisition of approximately 5 acres of this property; however, this use would not diminish the function of the NNL and the impacts do not adversely affect the activities, features, and attributes that qualify the property for protection under the requirements of Section 4(f).

Caltrans made a Final De Minimis determination for the effects of the Build Alternative under Section 4(f) and requested that the County of Orange concur with this Final De Minimis determination. On July 11, 2017, Caltrans submitted a letter to OC Parks requesting concurrence that the Proposed Project would not interfere with the features, activities, attributes, or purposes of the Nature Preserve or the NNL that are subject to protection under Section 4(f). OC Parks provided written concurrence on July 25, 2017.

Appendix B contains the Resources Evaluated Relative to Requirements of Section 4(f) and De Minimis Determination.

5.3.7 SHPO Consultation

Consultation with the State Historic Preservation Office was not required for this project per Stipulation IX.A of Caltrans' 2014 First Amended Section 106 Programmatic Agreement.

5.3.8 Interagency Coordination Regarding Air Quality (Transportation Conformity Working Group)

The Transportation Conformity Working (TCWG) is a forum to support interagency consultation to help improve air quality and maintain transportation conformity in southern California. The primary TCWG members are the U.S. EPA, the FHWA, and Caltrans Headquarters. At the TCWG meeting on March 25, 2014, the TCWG determined that the Proposed Project is not a Project of Air Quality Concern (POAQC). Changes to the Proposed Project geometrics and footprint were made in December 2014; as a result, the Proposed Project was resubmitted to TCWG for review. The May 2014 particulate matter less than 2.5 microns in size ($PM_{2.5}$) and particulate matter less than 10 microns in size (PM_{10}) hot-spot form was updated in March 2015 and submitted to and reviewed by the TCWG on April 28, 2015. At this meeting, TCWG confirmed that the Proposed Project is not a POAQC. A copy of the TCWG finding is provided at the end of this chapter.

5.3.9 Federal Highway Administration Air Quality Conformity Determination

In a letter dated April 5, 2017, Caltrans requested that FHWA issue a Project-Level Air Quality Conformity Determination for the Proposed Project, and on May 3, 2017, FHWA determined that the Proposed Project conforms to the State Implementation Plan in accordance with 40 CFR 93.116 and 93.123. A copy of the FHWA letter is provided in Appendix O.

5.3.10 Consultation and Coordination with OCTA and RCTC Subsequent to the Public Review Period for the Draft Supplemental EIR/EIS

In its January 9, 2017, comment letter on the Draft Supplemental EIR/EIS (Table 5.4, Comment L-6-4), OCTA stated "Given the complex nature of having multiple tolled facilities operated by different agencies, OCTA suggests that the analysis in the environmental document be updated to include traffic volume data anticipated to be available in Spring 2017 with the opening of the CIP." Although it is not standard practice nor required by CEQA and NEPA to conduct an updated traffic analysis after public review of a draft environmental document to include operational data (instead of projected/modeled data) for a planned project that opened after the public review period, F/ETCA agreed to conduct a traffic analysis for a future year (2025) during meetings among F/ETCA, OCTA, and RCTC staff. Table 5.6 summarizes the correspondence and meetings conducted regarding the 2019 Traffic Analysis.

Table 5.6 Consultation and Coordination with OCTA and RCTC regarding the 2019 Traffic Analysis

Letter or Meeting	Summary of Comments
September 13, 2017 meeting between F/ETCA and OCTA staff	Request for observed rather than modeled data and tolling coordination among agencies
September 27, 2017 letter from OCTA to F/ETCA	Provide a traffic analysis with current traffic data and tolling analysis
November 28, 2017 letter from RCTC to F/ETCA	Request to delay schedule until a "strategic, data-driven analysis determines the Project will 'do no harm' to Corridor traffic operations."
September 21, 2018 letter from OCTA and RCTC to F/ETCA	Comments on the draft August 2018 Traffic Analysis related to: slower speeds during the evening peak period; impacts in SR-91 general purpose lanes in Riverside County; toll rates; connector traffic volume; number of vehicles entering the SR-91 Express Lanes at the ingress area; and request for "heat maps" for both directions on SR-91.
Workshops with OCTA, RCTC, City of Anaheim, City of Yorba Linda, and Caltrans staff (January 9, 22, and 23, 2019)	Comments on the December 2018 Traffic Analysis related to: toll schedules and rates; sensitivity analysis of eastbound SR-91 to northbound SR-71 flyover; construction impacts; weaving analysis at the SR-91 Express Lanes ingress and egress; Friday analysis; presentation edits; and compare queueing on northbound SR-241 at Windy Ridge to projected eastbound SR-91 to I-15.
January 11, 2019 email from OCTA to Stantec staff	Origin of vehicles entering SR-91 Express lanes at ingress and egress areas.
July 31, 2019 letter from TCA to OCTA, RCTC, and Caltrans	Transmittal of July 2019 Traffic Analysis.

As a result of ongoing coordination with these agencies to address traffic concerns, an agreement has been reached. The 2019 Traffic Analysis shows that traffic analysis presented in the Draft Supplemental EIR/EIS remains valid and no significant impacts would occur.

5.4 Project Team Coordination

5.4.1 Project Development Team

A PDT was identified to ensure collaborative communication among the stakeholders, including representatives from Caltrans, F/ETCA, the OCTA, and the RCTC. Members include: F/ETCA Project Manager and Chief Environmental Planning Officer; Caltrans Project Manager, Senior Environmental Planner, Associate Environmental Planner, and Traffic Operations Specialist; and Consultants for RCTC, engineering, CEQA/NEPA compliance, and all technical areas discussed in this

Environmental Document. The PDT was identified during for the preliminary study phase of the Proposed Project (i.e., Project Study Report/Project Development Support (PSR/PDS) phase of the project) in January 2011. The PSR/PDS phase was completed in January 2012 and the Project Approval/Environmental Document (PA/ED) phase was formally started in February 2013. PDT meetings have generally been conducted on a monthly basis starting in February 2013. The purpose of these meetings has been to discuss project-specific issues and work together to ensure that the Proposed Project meets the Purpose and Need and that these issues do not conflict with any plans, policies, or regulations.

5.4.2 Value Analysis Workshops

A project-specific Value Analysis (VA) was conducted on May 19, 20, and 21, 2015, during the early stage of the PA/ED phase of the Proposed Project. The VA team included the following members: Caltrans construction unit; F/ETCA engineering roadway design, traffic, and structures; and the Project Designer's roadway design, structures, and construction members. A stakeholder group consisting of OCTA staff and Caltrans management staff participated in the interlocution, final presentation, and implementation meeting. Eight VA recommendations were considered to address the following four issues: improve traffic operations, minimize maintenance, accommodate future expansion, and improve constructability. A Preliminary VA Report (May 2015) was distributed to the VA team members and stakeholders for review. A VA Implementation Meeting was held on July 8, 2015. The purpose of that meeting was to review individual implementation action recommendations for responses, develop consensus for each VA recommendation, document the responses to each recommendation, and conclude decisions related to implementation. The VA recommendations have been analyzed as part of the Build Alternative. The Final VA Report was completed on October 1, 2015. A list of the VA design modifications is briefly discussed in Chapter 2, Project Alternatives.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
F-1A: Letter from the United States Environmental Protection Agency			
General	F-1A-1	Please note that the Toll Roads website (https://www.thetollroads.com/about/projects/241-91-connector) says that the comment period for the 241/91 connector project ends on January 9, 2017. And the Caltrans website (http://www.dot.ca.gov/d12/DEA/241-91/0K9700/) states that the comment period ends on January 5, 2017. Can you correct the discrepancy? Please note that the federal register notice lists the end of the comment period as January 9, 2017. Thank you.	The end date for the public comment period was changed to January 9, 2017, on the Caltrans website on November 21, 2016.
F-1B: Letter from the United States Environmental Protection Agency			
General	F-1B-1	Based on our review of the SDEIS, we have rated both the action alternative and the document as Lack of Objections (LO) (see attached "Summary of EPA Rating Definitions").	The comment states the EPA has rated the action alternative and the document as Lack of Objections. No further response is required.
General	F-1B-2	We appreciate the opportunities for early coordination on this project. When the Final Supplemental EIS and Record of Decision are released for public review, please send one electronic copy to the address above (Mail Code: ENF 4-2) or via email to lowe.debbie@epa.gov.	A copy of the Final Supplemental EIR/EIS and the ROD will be distributed to the provided address and email when those documents become available.
L-1: Letter from the Orange County Business Council			
General	L-1-1	Orange County Business Council (OCBC) supports the Build Alternative (Preferred Alternative) for the State Route 241 (SR-241)/ State Route 91 (SR-91) Express Lanes Connector Project. The Build Alternative would achieve the project goals of: • Implementing the build out of the ETC, as approved in 1994; • Attaining compatibility with the SR-91 mainline and SR-91 Express Lanes; • Improving traffic flow and operations by reducing weaving across multiple general purpose lanes between the SR-91 Express Lanes and the SR-241 general purpose lane connectors; and • Enhancing the efficiency of the tolled system, thereby reducing congestion on the non-tolled system on SR-91.	The comment in support of the Proposed Project is noted for the public record. The statement is consistent with the objectives of the Proposed Project discussed in Chapter 1, Proposed Project, Section 1.2, page 1-11, of the Draft Supplemental EIR/EIS.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
General	L-1-2	The SR-91 is continuing to experience increased congestion as a result of population growth in the Inland Empire and the increase in jobs in the County of Orange. As a result of population growth, the numbers of vehicles on SR-91 are expected to increase by approximately 50 percent by 2035, which would result in continuing congestion and delays on SR-91.	The statement is consistent with the discussion in Section 1.2.2.1, page 1-15, in Chapter 1 of the Draft Supplemental EIR/EIS.
General	L-1-3	As analyzed in the Supplemental EIR/EIS, implementation of the Build Alternative would decrease (or maintain the same) travel times along SR-91 despite population growth anticipated by 2040. Therefore, OCBC supports implementation of the Build Alternative as opposed to the No Build Alternative.	The comment in support of the Proposed Project is noted for the public record. The statement is consistent with the discussion in Chapter 2, Section 2.8.2, page 2-45, of the Draft Supplemental EIR/EIS.
L-2: Letter from City of Irvine			
General	L-2-1	The City of Irvine Community Development staff reviewed the Draft Supplemental EIR for the SR-241/SR-91 Tolled Express Lanes Connector in Anaheim, Yorba Linda, Corona and other areas within Orange and Riverside county. The project is intended to improve access between SR-241 and SR-91, and to provide a tolled facility that is approximately 8.7 miles long. Staff has no comments at this time.	The City's letter indicating no comments on the Draft Supplemental EIR/EIS is acknowledged. The comment does not contain any statements or questions about the environmental analysis or conclusions contained in the Draft Supplemental EIR/EIS or the analysis therein. Therefore, no further response is necessary.
L-3: Letter from City of Tustin			
Transportation	L-3-1	According to the Table 3.5.4 of the DSEIR/EIS, the proposed new connector would increase traffic volumes to and from the SR-241 by approximately 10% by year 2040. These trips would otherwise use SR-91 to and from the west. The traffic study area does not extend beyond the immediate vicinity of the SR-241/SR-91 confluence and therefore does not show the ramifications of the potential increased traffic volume to local roadways such as Jamboree Road in Tustin, which provides a fee-free alternative to toll road SR-261 (a southwesterly connection from SR-241). The DSEIR/EIS should be revised to include an analysis of potential impacts to Jamboree Road and other local roadways that may be impacted, or data should be provided to demonstrate that no impacts are anticipated.	Changes in traffic patterns along Jamboree Road are not anticipated. The forecasts in the *Traffic Analysis Report* were based on regional modeling efforts and forecasts from other projects in the area. Caltrans, OCTA, F/ETCA, and RCTC approved the *Traffic Analysis Report* methodology and Study Area on April 25, 2013. The traffic Study Area evaluates mainline freeway operations along SR-241 from Windy Ridge Toll Plaza to SR-91 and the SR-91 from the Weir Canyon Interchange to the Serfas Club interchange.
General	L-3-2	The City of Tustin appreciates the opportunity to provide comments on this project and the Draft SEIR/EIS/ I would appreciate receiving a copy of the Final SEIR/EIS when it becomes available.	A copy of the Final Supplemental EIR/EIS will be distributed to City of Tustin when it becomes available.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
L-4: Letter from County of Orange Public Works			
General	L-4-1	**OC Public Works Infrastructure Program,/Flood Program Support** The Santa Ana River (E01) is the Orange County Flood Control District (OCFCD) facility in the vicinity of the project. E01 may potentially be affected by the proposed subject project. 1. Any work related to the proposed project within OCFCD right-of-way will require an encroachment permit from the County's Public Property Permits Section. In addition, all work, within OCFCD right-of-way should be performed in a manner that will not adversely impact functionality, operability, access, or maintenance of OCFCD facilities. Information regarding permit application is available on our website – http://www.ocplanning.net/.	The proposed improvements on westbound SR-91 would be approximately 150 feet south of existing Caltrans right-of-way. The existing Caltrans right-of-way is located south of the Santa Ana River and OCFCD's right-of-way. Therefore, Proposed Project would not encroach on an OCFCD right-of-way and an encroachment permit would not be required. No potential impacts to the Santa Ana River would occur due to the distance of the proposed improvements.
General	L-4-2	2. E01 was constructed as part of a federal project; any proposed modifications to E01 will require a Section 408 permit from the Army Corps of Engineers.	The Proposed Project would not require any modifications to the Santa Ana River and a Section 408 permit would not be required. Please also see Response to Comment L-4-1.
General	L-4-3	3. Any work related to the proposed project should implement all necessary measures to protect the existing Santa Ana River Interceptor (SARI) line, a major wastewater pipeline that is located under the southern levee of the Santa Ana River. Measures may include, but not be limited to installation of extensometers and inclinometers to monitor underground soil movements that may impact the SARI line.	All work associated with the Proposed Project would be more than 100 feet south of the SARI line and no direct protection in place actions are required.
General	L-4-4	4. Chapter 3.8.2.2 titled Local Hydrology, page 3.8-7 of the SR-241/ SR-91 Tolled Express Lanes Connector Project Supplemental EIR/EIS states: "The Orange County Environmental Management Agency's Orange County Manual (1986) recommends a value of 90 percent impervious for the entire area within the State right-of-way." Please delete the agency name "Environmental Management Agency" and replace with the Orange County Public Works.	The cited text in Section 3.8.2.2, page 3.8-7, was revised in the Final Supplemental EIR/EIS as requested.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
Parks and Recreational Facilities	L-4-5	**OC Public Works Project Development/Trails** 1. The subject project may impact two planned County riding and hiking (dirt) trails and an existing length of a Class I (paved) Bikeway	As discussed in Section 3.1.3.3, pages 3.1-45 and 3.1-54 of the Draft Supplemental EIR/EIS, the Class I Bikeway (Santa Ana River Trail [SART]) would be temporarily impacted by construction proximity effects related to aesthetics, dust, and noise. As discussed in Section 3.1.3.4, pages 3.1-53 and 3.1-55 of the Draft Supplemental EIR/EIS, the Proposed Project would change the visual environment for the SART, but would not result in substantial visual impacts. No other impacts would occur. As discussed in Section 3.1.3.4, page 3.1-58 of the Draft Supplemental EIR/EIS: Measures V-1 through V-7 and C-19; AQ-1 through AQ-5; N-1; NC-8; and PS-1 and PS-2, would minimize visual, air quality, noise, and dust impacts to the SART and other trails. The two planned riding and hiking trails referred to in this comment are Weir Canyon Regional Riding and Hiking Trail and Gypsum-Coal Canyon Riding and Hiking Trail. These proposed trails would be adjacent to the northern and southern boundaries of SR-91 right-of-way and would connect together via Gypsum Canyon Road and Santa Ana Canyon Road. These proposed trails were added to Figures 3.1.4, 3.1.5, and Figures A.1, B.1, and B.2 (Appendix B) of the Final Supplemental EIR/EIS. In addition, a discussion of these trails was added to Tables 3.1.3, 3.1.6, and A.1 (Appendix B) of the Final Supplemental EIR/EIS. In a telephone conversation on February 9, 2017, with Carmen Lo of LSA, Jeff Dickman, Planner IV, Trail, and Bikeway Planner, County of Orange, stated that no funding is currently available to implement the Weir Canyon Regional Riding and Hiking Trail; therefore, there is no schedule to implement this trail. Funding is available to implement the Gypsum Canyon Riding and Hiking Trail. The County estimates two years for trail design and two years for permits. As a result, the earliest that Gypsum Canyon Riding and Hiking Trail could be constructed would be 2021 or 2022. Because the Proposed Project would be completed by

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
			2020, it would not impact the construction of the Gypsum-Coal Canyon Riding and Hiking Trail. The Proposed Project would include modification to the SR-91/Gypsum Canyon Road interchange, but would not preclude the implementation of the Weir Canyon Regional Riding and Hiking Trail and the Gypsum-Coal Canyon Riding and Hiking Trail. As discussed in Section 3.5.3.1, page 3.5-5 of the Draft Supplemental EIR/EIS, temporary detours and weekend or nighttime closures would be required at the Gypsum Canyon Road on- and off-ramps during construction. During these times, vehicles, bicycles, and pedestrians would not be able to travel through the closure area (along Gypsum Canyon Road). As discussed in Section 3.5.3.1, page 3.5-5 of the Draft Supplemental EIR/EIS, a Transportation Management Plan (TMP) with traffic control plans and related specifications during project construction (Minimization Measure TR-1) would minimize temporary transportation-related construction impacts. The TMP would address all travelers, including pedestrians and bicyclists.
Transportation	L-4-6	2. Project map also affect the use of Santa Ana Canyon Road, a popular bicycle route for on-road cyclists.	The Proposed Project would not modify Santa Ana Canyon Road or Gypsum Canyon Road such that pedestrian or bicyclist use would be precluded once the Project is completed. Please refer to Response to Comment L-4-5 regarding temporary closures of ramps during construction and the potential temporary impacts of construction on trails.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
Parks and Recreational Facilities	L-4-7	3. The Santa Ana River Class I (paved, off-road) Bikeway is located on the south side of the Santa Ana River and the north side of the SR-91 Freeway from Gypsum Canyon Road east to the Orange County border. The bikeway provides regional commuter and recreational cycling along the entire length of the river (in Orange County) and between Orange County, Riverside and San Bernardino Counties. The bikeway must remain open at all times to insure those using the route will always have access to this important, non-motorized, facility.	The SART is not within the Project Area; therefore, no closures would occur. As discussed in Section 3.1.3.3, page 3.1-46 of the Draft Supplemental EIR/EIS, construction of the Proposed Project would not impact the use or operation of the SART. As discussed on page 3.1-54 of the Draft EIR/EIS, the Project improvements would be entirely within Caltrans right-of-way in the vicinity of the SART and would not directly or indirectly affect the use or operation of the SART.
Parks and Recreational Facilities	L-4-8	4. Planned parallel to the existing Santa Ana River Class I Bikeway is a future length of the Gypsum-Coal Canyon Riding and Hiking (dirt) Trail. The trail will adjoin the bikeway between the SR-91 and the Santa Ana River from Gypsum Canyon Road east to near Coal Canyon. The project must not preclude the development of this trail.	Please refer to Response to Comment L-4-5 for discussion regarding how Gypsum-Coal Canyon Riding and Hiking Trail is addressed in the Final Supplemental EIR/EIS.
Parks and Recreational Facilities	L-4-9	5. A second length of the Gypsum-Coal Canyon Regional Riding and Hiking (dirt) Trail is also planned to pass through Canyon RV Park (also known as County's Featherly Regional Park) to then undercrosss the SR-91 into Gypsum Canyon before undercrossing the SR-241 into County's Weir Canyon Regional Park. The project must not preclude the future extension of this trail.	Please refer to Response to Comment L-4-5 for discussion regarding how Gypsum-Coal Canyon Riding and Hiking Trail is addressed in the Final Supplemental EIR/EIS.
Transportation	L-4-10	6. Santa Ana Canyon Road is popular bicycle route for riders traveling between Orange, Riverside and San Bernardino counties. The project should not limit existing cycle use along this roadway or preclude the development of a Class II Bike Lane along the east and westbound sides of its highway.	Please refer to Responses to Comments L-4-5 and L-4-6 for discussion regarding how impacts to Santa Ana Canyon Road are addressed in the Draft and Final Supplemental EIR/EIS.
Parks and Recreational Facilities	L-4-11	7. The Weir Canyon Regional Riding and Hiking (dirt) Trail is planned along the south side of Santa Ana Canyon Road beginning 0.60 mile east of Weir Canyon Road. This regional trail is to continue east to Gypsum Canyon Road and the future Gypsum Canyon Regional Riding and Hiking (dirt) Trail. The project must not preclude the future development of this important trail.	Please refer to Response to Comment L-4-5 for discussion regarding how Weir Canyon Regional Riding and Hiking Trail is addressed in the Final Supplemental EIR/EIS.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
L-5: Letter from City of Anaheim			
General	L-5-1	**Land Use and Planning** Please contact Susan Kim, Principal Planner, at skim@anaheim.net or 714-765-4958 with any questions pertaining to this section. 1. Figure 1.2, Project Location, should show the City/County Boundaries in the project area.	County boundaries are included on Figure 1.2 in the Draft Supplemental EIR/EIS. City boundaries were added to Figure 1.2 in the Final Supplemental EIR/EIS, as requested.
Land Use	L-5-2	2. The City of Anaheim adopted the Mountain Park Specific Plan No. 90-41 (Mountain Park) in 2005, which allowed for the development of up to 2,500 residential units, public facilities, infrastructure, trails, schools, and parks on 830 acres, with an additional 2,163 acres reserved for open space. The project site generally was located south of the SR-91 and on either side of the SR-241, which is within the study area for the Proposed Project. Prior to any development taking place, in 2014, the landowner (The Irvine Company) dedicated the entire project site to the County of Orange as permanent open space. As such, the Mountain Park Specific Plan development will not occur.	The discussion of Mountain Park Specific Plan was revised in Table 3.1.2 of the Final Supplemental EIR/EIS to indicate the dedication of open space, consistent with Chapter 1, page 1-34, of the Draft Supplemental EIR/EIS.
Land Use	L-5-3	3. The City has reviewed the project description for the proposed project and verified that it reflects the current status of Mountain Park and the City's most recent growth projections. However, the status of Mountain Park is not accurately described in subsequent sections of the document. For example, on page 3.1-9, the document states that Mountain Park has been partially developed on the west side of the SR-241, which is incorrect. Residential development west of the SR-241 reflects the build-out of the Sycamore Canyon Specific Plan No. 88-1 and the Summit of Anaheim Hills Specific Plan No. 88-2.	The discussion in the Development Trends section, page 3.1-9 of the Draft Supplemental EIR/EIS, was revised in the Final Supplemental EIR/EIS to include the updated status of the Mountain Park Specific Plan.
Land Use	L-5-4	4. The City requests that all references to Mountain Park in the document, including Tables, Figures, and Exhibits, i.e., Figure 3.1.1, be updated to reflect the current status of Mountain Park as permanent open space.	Figures 3.1.1, 3.1.2, and 3.1.4 were revised in the Final Supplemental EIR/EIS to show or note that the Mountain Park Specific Plan area is now Open Space.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
Transportation and Parks and Recreational Facilities	L-5-5	5. The City and the County of Orange plan to build out the proposed riding and hiking trails and Class II Bike Lanes within the Proposed Project's study area, specifically on Santa Ana Canyon Road and Gypsum Canyon Road. Several of these routes were identified in the Mountain Park Specific Plan, in addition to the City's Circulation Element2, Bicycle Master Plan3, and General Plan, and the County of Orange Master Plan of Regional Riding and Hiking Trails, Recreation Element, and General Plan. The project description should properly reflect all existing and proposed pedestrian and bicycle facilities in the study area, which are itemized below in Item #6.	The Project Description chapter (Chapter 2) includes a discussion of alternatives and proposed improvements in the Project Area. Study areas are developed for individual environmental topics. The existing and proposed trails were not added in this area. Please refer to Response to Comment L-4-5 regarding how proposed trails are discussed in the Final Supplemental EIR/EIS. Figure 3.1.4 in the Draft and Final Supplemental EIR/EIS does not include on-road bikeways (Class II and Class III bikeways) because their primary purpose is transportation. Existing and proposed Class II and Class III bikeways are included in the new Figure 3.5.1 in the Transportation section of the Final Supplemental EIR/EIS and are discussed in Sections 3.5.2 and 3.5.3.1 of the Final Supplemental EIR/EIS.
Transportation and Parks and Recreational Facilities	L-5-6	6. On page 3.5-32, the document concludes that the Build Alternative would not modify or otherwise affect the Santa Ana River Trail/Bike Lane or the existing fire trails in the study area. However, there are several riding and hiking trails and bikeways that are either existing or proposed in the plans listed in Item #5, above, and not reflected in the document, i.e., in Figure 3.1.4 and related discussion. The Proposed Project should properly identify and not preclude the implementation of riding and hiking trails and/or bike lanes, including but not limited to: a. Existing Class II Bike Lane on Santa Ana Canyon Road from Weir Canyon Road to Gypsum Canyon Road. This route is identified in the City's Circulation Element and Bicycle Master Plan, and is an important regional connector from Anaheim Hills to the Santa Ana River Trail and points east. This bikeway is not currently signed and striped to MUTCD standards, however, the shoulder functions as a bikeway and would be improved to Caltrans standards at such time that	Please refer to Responses to Comments L-4-5 and L-5-5 regarding the changes to figures and text in the Draft Supplemental EIR/EIS and the addition of Figure 3.5.1 in the Final Supplemental EIR/EIS. Please refer to Response to Comment L-5-5 for discussion regarding Class II Bikeways. Please refer to Response to Comment L-4-5 for discussion regarding access on Santa Ana Canyon Road and Gypsum Canyon Road. Please refer to Response to Comment L-4-5 regarding the status of the proposed Gypsum-Coal Canyon Riding and Hiking Trail and the proposed Weir Canyon Regional Riding and Hiking Trail.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
		Santa Ana Canyon Road is built to its ultimate Right-of-Way. b. Proposed Class II Bike Lane on Gypsum Canyon Road from Santa Ana Canyon Road to the Yorba Linda City limits, which is just south of the SR-91. c. Proposed Gypsum-Coal Canyon Riding and Hiking Trail, which would parallel Gypsum Canyon Road to connect the Santa Ana River Trail to the north with the Santiago Creek Trail to the south and continue into Santiago Oaks and Irvine Regional Parks. d. Proposed Weir Canyon Regional Riding and Hiking Trail on the south side of Santa Ana Canyon Road from its current terminus 0.6 miles east of Weir Canyon Road easterly to Gypsum Canyon Road to link with the proposed Gypsum-Coal Canyon Riding and Hiking Trail.	
Parks and Recreational Facilities	L-5-7	7. The County of Orange has identified a need for a regional staging area and trail head in the vicinity of Santa Ana Canyon Road and Gypsum Canyon Road. The Mountain Park Specific Plan identified Development Area 6 (APNs 514-011-01 and 514-011-04, owned by the County of Orange) as the preferred location for the regional staging area and trail head. The Proposed Project should not preclude the implementation of this proposed use, should the County pursue it in the future.	As shown on Figure 2.1, Sheet 3, of the Draft Supplemental EIR/EIS, the referenced trailhead and staging area is not within the Project Area, and no Project improvements are proposed in this location. Please refer to Response to Comment L-4-6 for discussion regarding the status of proposed trails that would use this regional staging area and trailhead. Please refer to Response to Comment L-4-5 for discussion regarding access at Santa Ana Canyon Road and Gypsum Canyon Road.
Transportation	L-5-11	**Traffic and Transportation** Please contact David Kennedy, Associate Transportation Planner, at dkennedy@anaheim.net or 714-765-4920 with any questions pertaining to this section. 1. The Transportation Management Plan identified in Measure TR-1 on page 3.5-39 should be coordinated with the City of Anaheim Public Works Department and all other local jurisdictions in the study area, as well as the Orange County Transportation Authority, Riverside County Transportation Commission, and Metrolink, and any other affected agencies and/or property	The TMP will be consistent with the Caltrans *Transportation Management Plan Guidelines* (November 2015), which includes coordination with affected jurisdictions, transportation agencies, and public outreach. Therefore, the preparation and implementation of the TMP will be coordinated with the City of Anaheim as requested.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
		owners.	
Transportation	L-5-12	2. The Proposed Project should account for non-motorized travel impacts in the study area, specifically on Santa Ana Canyon Road and Gypsum Canyon Road, during project construction (Section 3.5.3.1 Temporary Impacts/Build Alternative – Page 3.5-5) and operation (Section 3.5.3.2 Permanent Impacts/Build Alternative – Page 3.5-32).	Please refer to Response to Comment L-4-5 for a discussion regarding temporary and permanent impacts to access at Santa Ana Canyon Road and Gypsum Canyon Road. Section 3.5.3.1 in the Final Supplemental EIR/EIS was revised to acknowledge that pedestrians and bicyclists on Gypsum Canyon Road and Santa Ana Canyon Road would be affected by weekend or nighttime closures. A TMP with traffic control plans and related specifications including signage and a public awareness campaign will be implemented during project construction to minimize circulation and delay impacts for all travelers (Measure TR-1, Section 3.5.4), and no substantial impacts would occur. Section 3.5.3.2, Pedestrian and Bicycle Facilities, in the Final Supplemental EIR/EIS, was revised to indicate that operation of the Proposed Project would not preclude pedestrian or bicycle use on Santa Ana Canyon Road or Gypsum Canyon Road.
Project Description and Transportation	L-5-13	3. On Page 2-19 and 2-42, the document discusses Ramp Realignment of the SR-91/Gypsum Canyon Road eastbound on and off ramps. No further detail of the ramp realignment is provided in the document. Please add further detail, including figures, that depict the proposed ramp realignments, including accommodation for bikeways and riding and hiking trails previously mentioned.	Please refer to the ramp realignment shown in Figure 2.1, Sheet 3 in Chapter 2 of the Draft and Final Supplemental EIR/EIS. As illustrated in Figure 2.1, the proposed ramp realignments would not preclude planned bikeways or trails. Please refer to Response to Comment L-4-5 for discussion regarding access at Santa Ana Canyon Road and Gypsum Canyon Road.
General	L-5-14	4. Chapter 2, Project Alternatives, references Figure 2.1 and various sheets within this figure, multiple times throughout the chapter. However, this figure does not appear in the document, nor on the project's website. This figure, and any others referenced in the document, should be easily accessible and included in the document.	Figure 2.1 was included in the hard copies at the public review locations, and was also included in the digital file on the Caltrans website (http://www.dot.ca.gov/d12/DEA/241-91/0K9700/).

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
Project Description and Transportation	L-5-15	5. The ramp realignment mentions a possible roundabout configuration at this location. When the eastbound SR-91 mainline is congestion, queuing from the eastbound on-ramp will spill into the roundabout, causing it to fail. A signalized intersection at this interchange can better regulate the flow of traffic onto the SR-91 from Gypsum Canyon Road without significantly impacting through traffic on Gypsum Canyon Road.	As discussed in Chapter 2, Section 2.7 of the Final Supplemental EIR/EIS, in June 2017, a queuing analysis was conducted and showed that the signalized intersection interchange and the roundabout interchange would not provide sufficient storage necessary for the expected queues in the Design Year (2040). The queues from the ramp meter would result in spillback into the intersection, which would create congestion on Gypsum Canyon Road. Therefore, these concepts have been dropped from further consideration.
Project Description and Transportation	L-5-16	6. Santa Ana Canyon Road and Gypsum Canyon Road are both currently two-lane undivided roadways, and are classified as four lane Secondary Arterials in both the City of Anaheim General Plan Circulation Element and the OCTA Master Plan of Arterial Highways. The Proposed Project shall allow for both streets to be widened to their ultimate widths, including Class II Bike Lanes and riding and hiking trails, as previously discussed. The design shall account for the column placements of the existing connector bridges from the SR-91 to the SR-241 in order to avoid dangerous curves due to the constrained right-of-way available in this area.	The Proposed Project would not preclude widening of these local roads to meet the City of Anaheim General Plan Circulation Element and the OCTA Master Plan of Arterial Highways (MPAH). Please refer to Section 3.1, Table 3.1.5 of the Draft and Final Supplemental EIR/EIS for discussion of the Proposed Project's consistency with the City of Anaheim General Plan Circulation Element. Please refer to Chapter 1, Section 1.2.2.3 of the Draft and Final Supplemental EIR/EIS, for a discussion of the Proposed Project's consistency with the MPAH. The Proposed Project improvements would be designed according to applicable City and Caltrans design standards.
Project Description	L-5-17	7. The City requests that design and engineering of the overhead structures and the placement of the bridge footings be coordinated with the Public Works Department.	The Proposed Project, as applicable, would be coordinated with the City of Anaheim Public Works during Final Design.
Comments and Coordination	L-5-18	**Utilities – Water** Please contact Aladdin Shaikh, Principal Civil Engineer, at ashaikh@anaheim.net or 714-765-5268 with any questions pertaining to this section. In the City's April 15, 2015 comment letter on the NOP/NOI for the Proposed Project, the Public Utilities Department: Water Engineering requested that the DSEIR/EIS address Utilities – Water Service, specifically whether the Proposed Project requires temporary or permanent water service, and if so, from which agency/provider. In review of Section 3.4 Utilities/Emergency Services, and Section 3.8,	The utilities comment from the City of Anaheim received on April 15, 2015, and a response are included in Table 5.1, page 5-4, of the Draft Supplemental EIR/EIS, which says, "During construction, water would be provided by the contractor. During Final Design, irrigation supply will be coordinated between Caltrans, F/ETCA, and potential providers." Project construction water demand is estimated to be approximately 165 acre-feet. A minor amount of water would be needed for landscaping establishment. There are

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
		Physical Environment-Water Quality, there does not appear to be a discussion that addresses this comment. Please advise if this discussion appears in another section of the document, or if not, please add this discussion in its appropriate section.	available supplies to meet Project water demand. Water sources that would be used to obtain Project water are described in the June 2016 update to the Metropolitan Water District's Urban Water Management Plan and the Draft 2015 Orange County Urban Water Management Plan.
L-6: Letter from Orange County Transportation Authority			
Project Description	L-6-1	On page 2-23, Section 2.2.1.2 'Permanent Project Features,' subsection 'TSM/TDM' the proposed Project is stated "to have dynamic traffic technology (toll pricing based on express lanes demand)." The analysis in the DSEIR/S did not address tolling and potential economic implications. OCTA recommends further analysis on tolling under applicable environmental factor analysis.	The Proposed Project would connect to existing tolled lanes (*91 Express Lanes* and the RCTC SR-91 Express Lanes) as discussed in Chapter 2, Section 2.2.1, page 2-3 of the Draft Supplemental EIR/EIS. Like the existing operation of the *91 Express Lanes* and the RCTC SR-91 Express Lanes, the Express Lanes Connector would be priced in order to not impair toll lane function on SR-91. An analysis of the Proposed Project's economic effects is not required. As discussed in Section 3.3, page 3-1 of the Draft Supplemental EIR/EIS, "*The Federal Highway Administration (FHWA) in its implementation of NEPA (23 USC 109[h]) directs that final decisions on projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services.* *Under the California Environmental Quality Act (CEQA), an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant."* Charging a toll for a connector to an existing tolled facility would not result in environmental impacts, such as, but not limited to, community cohesion or availability of public facilities. Therefore, an analysis of economic impacts is not required.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
Comments and Coordination	L-6-2	On Page 5-3, Table 5.1 'Comments Received During Scoping,' states "Toll operations are being coordinated between F/ETCA, OCTA, and RCTC and are evaluated in a separate Concept of Operations report." OCTA recommends including this throughout the DSEIR/S, as applicable.	The requested text was included in Chapter 2, Section 2.2.1.2, TSM/TDM Features, and Table 2.3 of the Final Supplemental EIR/EIS.
Transportation	L-6-3	The opening year analysis should be redone to reflect the actual opening year of 2020 rather than 2017. While Section 3.5.3.2 provides an explanation that the differences in traffic operations are nominal between 2017 and 2020, given the SR-91 Corridor Improvement Project (CIP) is scheduled to open in 2017, a thorough 2020 analysis would be appropriate.	As stated in Section 3.5.3.2 of the Draft Supplemental EIR/EIS, the difference in traffic operations between 2017 and 2020 in the Study Area would be nominal in the peak hours due to over-saturated conditions that would remain on the general purpose lanes. For these reasons, a separate 2020 analysis was not appropriate. As discussed in Chapter 1 of this Final Supplemental EIR/EIS, the revised opening year is 2023. In response to this comment, a 2019 Traffic Analysis was prepared, which uses an Opening Year of 2025 and includes the SR-91 CIP Initial Phase. The year 2025 was selected based on available traffic modeling data. OCTA accepted the proposed scope of work/opening year for the 2019 Traffic Analysis.[1] Please refer to Response to Comment L-6-4 and Table 5.4a for a comparison of the Build Alternative in years 2017 and 2025. As both the "net change with project" in the 2017 and 2025 scenarios experience increases in total vehicle miles traveled, decreases in delay, and increases in speed, this would apply to the revised 2023 opening year as well. Therefore, there is no need to provide additional analysis beyond what is presented in the Draft Supplemental EIR/EIS.

[1] April 4, 2018, email from Allison Army, Principal Transportation Analyst (OCTA) to Steven Abendshein (Stantec).

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

<table>
<tr><th>Topic</th><th>No.</th><th>Comment</th><th>Response</th></tr>
<tr><td>Transportation</td><td>L-6-4</td><td>Given the complex nature of having multiple tolled facilities operated by different agencies, OCTA suggests that the analysis in the environmental document be updated to include traffic volume data anticipated to be available in Spring 2017 with the opening of the CIP. This would help refine the existing, opening year, and 2040 conditions analysis (throughput speeds, and travel time).</td><td>As discussed in Response to Comment L-6-3, F/ETCA conducted a traffic analysis for 2025 (2019 Traffic Analysis), which includes the SR-91 CIP.

The comment requested the additional analysis after the opening of the SR-91 CIP to “refine” throughput speeds and travel time. When compared to data in Section 3.5, Table 3.5.11 of the Draft Supplemental EIR/EIS, the 2025 opening year in the Westbound AM peak period shows that the Build Alternative would result in an increase in average speed over that of the 2017 opening year. Both the “net change with project” in the 2017 and 2025 scenarios experience decreases in average delay time and increases in total vehicle miles traveled. This is shown in Table 5.4a, below. Therefore, the 2019 Traffic Analysis supports the findings of the Traffic Analysis Report (July 2015) that the Build Alternative would increase vehicle throughput when compared to the No Build Alternative.

Table 5.4a Data Summary of Network Performance for the Build Alternative in 2017 and 2025
<table><tr><th>Performance Measure (all vehicle types)</th><th>2017 Net Change With Project</th><th>2025 Net Change With Project</th></tr><tr><td colspan="3">AM Peak Period (6:00 AM to 9:00 AM), Westbound SR-91</td></tr><tr><td>Total vehicle demand (vehicles)</td><td>-6</td><td>100</td></tr><tr><td>Total number of vehicles that did not reach their destination (vehicles)</td><td>-3,044</td><td>-3,800</td></tr><tr><td>Total number of vehicles that have reached their destination (vehicles)</td><td>3,038</td><td>3,285</td></tr><tr><td>Total vehicle miles traveled</td><td>33,932</td><td>30,225</td></tr><tr><td>Total vehicle hours traveled</td><td>-2,271</td><td>-7,833</td></tr><tr><td>Average speed (miles per hour)</td><td>5.8</td><td>9.7</td></tr><tr><td>Average delay time per vehicle (minutes/vehicle)</td><td>-3.5</td><td>-1.7</td></tr></table></td></tr>
</table>

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

<table>
<tr><th>Topic</th><th>No.</th><th>Comment</th><th>Response</th></tr>
<tr><td></td><td></td><td></td><td>
<table>
<tr><th colspan="3">PM Peak Period (3:00 PM to 7:00 PM), Eastbound SR-91</th></tr>
<tr><td>Total vehicle demand (vehicles)</td><td>1,839</td><td>503</td></tr>
<tr><td>Total number of vehicles that did not reach their destination (vehicles)</td><td>388</td><td>-5,975</td></tr>
<tr><td>Total number of vehicles that have reached their destination (vehicles)</td><td>1,451</td><td>4,079</td></tr>
<tr><td>Total vehicle miles traveled</td><td>20,004</td><td>48,299</td></tr>
<tr><td>Total vehicle hours traveled</td><td>1,185</td><td>-13,948</td></tr>
<tr><td>Average speed (miles per hour)</td><td>-0.7</td><td>13.6</td></tr>
<tr><td>Average delay time per vehicle (minutes/vehicle)</td><td>0.5</td><td>-2.6</td></tr>
</table>
Sources: Traffic Analysis Report (July 2015) and 2019 Traffic Analysis (July 2019)
</td></tr>
<tr><td>Transportation</td><td>L-6-5</td><td>It appears that the environmental document had not analyzed weaving impacts along the SR-91 at confluence of the SR-241 Express Connector merge/diverge, the OCTA 91 Express Lanes, and the RCTC 91 Express Lanes. Therefore, a more detailed weaving analysis would be appropriate.</td><td>A detailed microsimulation analysis was prepared and analyzed for the Proposed Project in the Traffic Analysis Report and the results are summarized in Section 3.5.3.2 of the Draft and Final Supplemental EIR/EIS. The microsimulation analysis accounted for merge/diverge and weaving operations in the SR-91/SR-241 Tolled Express Lanes Connector confluence area in detail. Complete details of the microsimulation analysis are provided in the Traffic Analysis Report. Please refer to Tables 3.5.11 and 3.5.12 in the Draft Supplemental EIR/EIS, which summarize the improvements in traffic operations in the Study Area with the Build Alternative in 2017 and 2040. The Proposed Project provides a net benefit in traffic operations at the SR-241/SR-91 confluence area.

The microsimulation analysis in the 2019 Traffic Analysis accounted for merge/diverge and weaving operations in the SR-91/SR-241 Tolled Express Lanes Connector confluence area. As discussed in Response to Comment L-6-4, Build Alternative traffic conditions improve in 2025 when compared to 2017.</td></tr>
</table>

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
Transportation	L-6-6	It appears that the complex nature of the multiple tolling options (including dynamic pricing) for the SR-241, the SR-241 Express Connector, the OCTA 91 Express Lanes, and the RCTC 91 Express Lanes are not adequately discussed with respect to the traffic impacts. These should be explored in detail.	The comment does not state why the commenter believes that the discussion of tolling options is inadequate with respect to traffic impacts. As such, a general response is appropriate. The *Traffic Analysis Report* was prepared to assess the acceptable operations for the Proposed Project. Please also refer to Response to Comment L-6-1. Tolling assumptions were developed as part of the 2019 Traffic Analysis and are consistent with OCTA and RCTC tolling policies.
Transportation	L-6-7	OCTA understands that there are complementary concept of operations studies (con-ops) underway. Some of the appropriate results from the con-ops studies should be integrated into this environmental document.	Please refer to Response to Comment L-6-6 for discussion regarding the concept of operations for tolling. The concept of operations studies do not impact the environment.
Transportation	L-6-8	It appears there needs to be a more thorough analysis of the construction impacts on the OCTA 91 Express Lanes, including traffic impacts, toll and revenue implications.	The comment does not state why the commenter believes that the discussion of construction impacts is inadequate. As such, a general response is appropriate. Chapter 2, Section 2.2.1.3, page 2-4, of the Draft Supplemental EIR/EIS, describes Temporary Project Features, which includes maintaining two lanes in each direction for the *91 Express Lanes*, with temporary nighttime closures. This section states that work that affects the *91 Express Lanes* would be closely coordinated with Caltrans, OCTA, and RCTC. This coordination would be part of the TMP, which is specified in Section 3.5, page 3.5-39 of the Draft EIR/EIS. Please refer to Response to Comment L-6-6 for discussion regarding the concept of operations for tolling.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
I-1 Comment Letter from California Native Plant Society			
Parks and Recreational Facilities/ Section 4(f)	I-1-1	The Orange County Chapter of the California Native Plant Society has long had a strong interest in maintaining the integrity of Orange County's natural reserve areas. Thus we oppose in principle the permanent acquisition of 5 acres of the Gypsum Canyon Nature Preserve by Caltrans for use in the subject project. We do understand the practical-management aspects of such a transfer of ownership. The discussion of Section 4(f) in Appendix B details the reasons for approving the permanent acquisition. Those reasons are repeated in Chapter 3.1. Section 3.1.3.1 points out that the Park Preservation Act requires that compensation be made in such acquisitions. But what that compensation might consist of is not stated. We would like to see clarification of what that compensation might be.	As part of the Final Design phase, a geotechnical and engineering investigation will be conducted to determine the feasibility of constructing a retaining wall in the slope south of SR-91 in order to avoid the acquisition of 5 acres of the Preserve. Because the feasibility of this wall has not yet been determined, the Draft Supplemental EIR/EIS assumed a worst-case scenario, which included the acquisition of the 5 acres. The Park Preservation Act, specifically California Public Resources Code, Section 5401, requires that "…*the acquiring entity pays or transfers to the legislative body of the entity operating the park sufficient compensation or land, or both*…" F/ETCA proposes to provide the County of Orange with monetary compensation for land acquired in the Gypsum Canyon Nature Preserve. The payment amount would be negotiated during the right-of-way acquisition process. Park Preservation Act compliance is specified in Measure LU-1, Section 3.1 of this Final Supplemental EIR/EIS.
Land Use and Natural Communities	I-1-2	Comments on maps in the document: 1. A base map containing uniform information should be used throughout. At a minimum, each map should show ALL the reserved lands in the vicinity of the project, similarly to Fig. 3.3.2. However, that map is incomplete, it does not show: • The Coal Canyon and Tecate Cypress Ecological Reserves, which lie between the Gypsum Canyon Nature Reserve and the Cleveland National Forest. • The county lines. The Windy Ridge and Coal Canyon wildlife crossings; these are mentioned often in the text, so should be indicated on the base map.	The figures within the Draft Supplemental EIR/EIS support the discussion of environmental topics in their respective chapters/sections. For example, Figure 3.3.2 shows community facilities. Coal Canyon Ecological Reserve and Tecate Cypress Ecological Reserve are not community facilities (e.g., Parks and Recreational Resources) and are, therefore, not discussed in the section or shown on Figure 3.3.2. Adding uniform information to all maps is not necessary and would impair the readability of the figures, especially with the differences in map scales. Coal Canyon Ecological Reserve and Tecate Cypress Ecological Reserve are not specifically discussed in the Draft Supplemental EIR/EIS and would not be impacted by the Proposed Project.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
			Section 3.19.2.1 of the Draft Supplemental EIR/EIS mentions Coal Canyon Ecological Reserve because it contains part of Unit 6 (832 total acres) of designated critical habitat for Braunton's milk vetch. Another part of Unit 6 is adjacent to the Project Area (shown in Figure 3.15.1 and Figure 3.15.2, Sheets 8 and 9, of the Draft Supplemental EIR/EIS). County boundaries were added to Figure 3.3.2 in the Final Supplemental EIR/EIS as requested. Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing are shown in Figure 2.1, Figure 3.15.1, and Figure 3.15.2 of the Draft Supplemental EIR/EIS. Figure 1.2 of the Final Supplemental EIR/EIS was updated to include: Coal Canyon Ecological Reserve and Tecate Cypress Ecological Reserve; the Irvine Ranch National Natural Landmark, and individual Preserve boundaries; the Central/Coastal Subregional Natural Communities Conservation Plan (NCCP) Plan Area, Existing Use Area, and Reserve areas; and Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing.
Natural Communities	I-1-3	The base map, on its first appearance in the document, should also clearly indicate which reserve areas are "NCCP Plan Areas," which are "NCCP Reserves," and which are "National Natural Landmarks," and these distinctions should be more clearly explained in the text than they currently are. Land ownership, easements, and management change; the current land managers (Irvine Ranch Conservancy and OC Parks) should be consulted for the corrected map and description. Later uses of this map could show the reserve areas as a light uniform tint underlying the other information.	Please refer to Response to Comment I-1-2 regarding the purpose of the figures and revisions to Figure 1.2 in the Final Supplemental EIR/EIS. The NCCP is discussed on page 3.1-22 (Land Use) and pages 3.15-1 and 3.15-32 (Natural Communities), of the Draft Supplemental EIR/EIS. NCCP Plan Areas, Reserves, and Existing Use Areas are shown on Figures 3.15-1 and 3.15-2 of the Draft Supplemental EIR/EIS. Plan Areas are those areas covered by the NCCP, Reserves are those areas identified for protection, and Existing Use areas are those areas on lands owned by non-participating land owners.[1]

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
			The Irvine Ranch National Natural Landmark and its Preserves are discussed in detail in Table 3.1.6, and the Preserve areas within the NNL in the vicinity of the Project Area, shown in Figure 3.1.4 of the Draft Supplemental EIR/EIS. As discussed in Table 3.1.6 of the Draft Supplemental EIR/EIS, the County of Orange owns and operates the NNL. Irvine Ranch Conservancy specializes in implementing and meeting the terms and conditions of the NCCP/HCP on behalf of landowners.[2] Figures are based on approved plans prior to public circulation of the Draft Supplemental EIR/EIS.
General	I-1-4	2. In general, the impression is that many of the maps throughout the current document were made for the original 1991 ETC Draft EIR/EIS and have not been updated. This results in incorrect information in the current document. For example: Fig 1.2, and all figures that repeat it (Fig 1.6 et seq.) give the impression that the area labeled "Unincorporated Orange County" is just open land. In fact the area encompasses a mosaic of reserve lands under varied land ownership, as is shown on other maps in other parts of the document. It is confusing that these first maps convey a misleadingly simplistic view.	All figures in the Draft Supplemental EIR/EIS were based on current information at the time that document was prepared. The purpose of Figure 1.2 is to show the project location and surrounding jurisdictions (e.g., County of Orange).The purpose of Figure 1.6 is to show Traffic Data Map Points with respect to the Project Area. Please refer to Response to Comment I-1-2 regarding the purpose of the figures.
Land Use	I-1-5	3. Fig. 3.1.1 shows areas labeled as "Undeveloped" and Fig. 3.1.2. shows the same areas as "Residential." Both maps were devised in 2012. Since then, the "Undeveloped/Residential" areas have been set aside as reserve areas, under OC Parks. These maps should be updated.	Figure 3.1.1 was updated in the Final Supplemental EIR/EIS to show the Mountain Park Specific Plan (MPSP) area as Open Space and Recreation. Figure 3.1.2 was updated in the Final Supplemental EIR/EIS to indicate that the MPSP area has been designated as open space.
Land Use	I-1-6	4. Figs. 3.1.1, 3.1.2, and 3.1.3 show the outline of a study area that covers more territory than does the 1/2-mile radius of the project area shown on subsequent maps in this and later Chapters. It would be helpful if the two outlines could be overlain for comparison of what they bound.	Please be advised that Study Areas are developed for each topic, based on the type of impacts evaluated. The rationale for the Study Area for each topic is described in each pertinent section of the Draft Supplemental EIR/EIS. For example, refer to the first paragraph on page 3.1-1 for the rationale for the land use Study Area. Refer to Section 3.1.3.2, page 3.1-35, of the Draft Supplemental EIR/EIS, for the discussion of the parks and recreation Study Area.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
Natural Communities	I-1-7	5. The 5 acres to be permanently acquired should be indicated on Sheets 7 and 8 of Fig. 3.15.1.	The area to be acquired was added to Figure 3.15.1 in the Final Supplemental EIR/EIS as requested.
Plant Species	I-1-8	6. Section 3.17.2.2 describes Coulter's Matilija poppy (Romneya coulteri) as having " … large paper mâchélike flowers …" The petals would be better described as crepe-paper-like: thin but crisp in substance and wrinkly/pleated in texture. Papier-mâché is usually stiff, thicker than crepe paper, and painted and/or coated with lacquer or similar preservative.	Section 3.17.2.2, page 3.17-4 of the Draft Supplemental EIR/EIS was revised in the Final Supplemental EIR/EIS as requested.
Plant Species	I-1-9	7. We note that patches of cactus (possible Cactus wren habitat) and matilija poppy and are found within the 5 acres that are to be acquired by CalTrans. We request that propagules be taken from these plants and used in the restoration to be done around the Windy Ridge Wildlife Crossing and elsewhere in the project area, as possible.	Caltrans will consider the feasibility of the commenter's request during Final Design.
Plant Species	I-1-10	8. We are pleased that Mitigation Measure V-4, Landscaping, specifies "…. Drought-tolerant native species shall be used adjacent to areas of native habitat. Enhanced plantings shall occur adjacent to wildlife crossings…." The native species used in landscaping should be species that naturally grow in the native habitat, and should be used for landscaping throughout the project.	Please refer to Appendix D, Avoidance, Minimization, and/or Mitigation Summary, of the Draft Supplemental EIR/EIS for the list of environmental commitments for the Project. Measure NC-10 requires restoration of Windy Ridge Wildlife Undercrossing with native vegetation.
P-1 Comment Letter from Alex Park			
General	P-1-1	Just want to personally address my proponent and strong support for the 241/91 connector (241 North to 91 East) - direct toll connection. As a daily carpool commuter from Eastvale to Irvine… many of my friends and neighbors have expressed the need for the direct connector (even with additional toll fee). This was discussed many years ago amongst ourselves and anxious to hear the progression is taking place. 9. I have been commuting via 241 to 91 since 2009. Initially, the commute via 241/91 was bearable and even acceptable. However, with the population growth and economic recovery, the commuter volume has exponentially grown. Last few years have been the worst.	The comment in support of the Proposed Project is noted for the public record.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
		It was unheard of to sit and wait on the northbound 241 for over 25 minutes to just merge onto the 91 eastbound freeway. My commute increased from 50 minutes to over hour and 20minutes. That's half hour increase for the same commute! Not to mentioned, the congestion has increased the commuters incidents/motivation to 'cut' into narrow gaps or even stopping middle of the lanes to merge, all while going downhill at high rate of speed. I have witnessed few accidents and dangerous close calls many times. The proposed 241/91 connector is well over due to relieve the congestion and dangerous stand stills (on downhill grade). I, along with many of my counterparts, are willing to pay additional toll fees to have the option to directly connect to the 91 eastbound from the North 241 to save time and ensure better safety.	
Project Description and Transportation	P-1-2	Final thought… would it be possible to extend the 241/91 to three lanes instead of the two lanes currently in place? The N241 to West Bound 91 traffic is very light and don't see the need to have 2 dedicated lanes for this merge.	Based on the operational analysis in the *Traffic Analysis Report*, additional lanes on the SR-241/SR-91 Express Lanes Connector would increase congestion in the *91 Express Lanes* and were not further considered because this alternative is inconsistent with the Proposed Project objectives to improve traffic flow and operation, enhance the efficiency of the tolled system, and implement the buildout of the ETC as approved in 1994, and would not reduce one or more impacts of the Proposed Project.
Project Description and Transportation	P-1-3	Rather, might be more efficient to allow 3 of the 4 lanes on N241 to be used for Eastbound 91 merge to help relieve some of the congestion until the 241/91 connector is finished. Hoping this may prevent some dangerous standstills. Also, a recommendation is to install temporary dividers between the dedicated lanes so it prevents commuters from cutting toward end of the merge.	Please refer to Response to Comment P-1-2 regarding the connection to eastbound SR-91. As discussed in Chapter 2, page 2-20 of the Draft Supplemental EIR/EIS, additional pavement would be added on SR-241 to accommodate a barrier separation to prevent vehicles traveling in the northbound SR-241 to westbound SR-91 general purpose connector lanes to "queue jump" into the eastbound SR-91 general purpose connector lanes. Initially, pavement delineation and signing will be implemented to delineate the separation. In the future, a standard concrete barrier will be installed if required.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
P-2 Comment Letter from Andrea Gladson			
General	P-2-1	Yes! Please continue to improve traffic flow along the 91. This connector should have been built in the original constructions of the express lanes. Please complete it.	The comment in support of the Proposed Project is noted for the public record. Please refer to page 1-9 of the Draft Supplemental EIR/EIS, which explains that the ETC project was planned to be staged such that a median connector from SR-241 to SR-91 would be constructed in the future.
P-3A Comment Letter from Becky Johnson			
General	P-3A-1	I was unfortunately unable to make the open house last night. I do not find that the online information helps me get answers to several of my questions and concerns. Will there be another public meeting?	No additional public meetings are planned during the environmental document phase; however, additional public meetings are planned prior to construction.
Transportation	P-3A-2	For the Westbound AM commute, I am wondering if most of the traffic that needs to move across the westbound 91 freeway is more traffic from the 71 and also from Green River Road. The only way to get into the FastTrack lanes is to maneuver through the lanes and the proposed connector does not solve that problem. With the soon to be completed Foothill Parkway/Green River Road project, even more cars will me merging onto the freeway at Green River Road. Those cars from the 71 or Green River Road that will travel to the 241, do not need an connector as it is safer to stay in the right hand lanes and use the present exit ramp.	The Proposed Project would accommodate the weaving from SR-71 and Green River Road along westbound SR-91. However, the southbound SR-241/SR-91 Express Lanes Connector is for traffic traveling in the westbound *91 Express Lanes* from I-15. Signing of the access to the Express Lanes would be further evaluated during Final Design.
Transportation	P-3A-3	When traveling the PM commute on the Fast Tract/Express Lanes from OC to Riverside County esp. during peak times, the traffic is most often very slow from the 55 Freeway to Wier Canyon area. It makes one wonder why are we paying a pricey toll while the traffic in the regular lanes zips by???? Yet, there is often relief of the congestion at about Weir Canyon area.	Prior to completion of the SR-91 CIP, the eastbound *91 Express Lanes* ended at the county line. At the end point, the *91 Express Lane*s transitioned to a single HOV lane east of Green River Road. From the county line to the single HOV lane, vehicles were allowed to exit and enter into the left-most lane as they wish (continuous access). Because the eastbound HOV and general purpose lanes were congested from SR-241 to I-15, the HOV lane backed up into the eastbound *91 Express Lanes*. This has changed now that the SR-91 CIP Interim Phase is open to traffic. The SR-91 CIP Interim Phase converted the single HOV lane into two toll lanes through Corona. The

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
			SR-91 CIP Interim Phase also converted the continuous access between SR-241 and Green River into a controlled access in which the two *91 Express Lanes* from Orange County feed directly into the two RCTC SR-91 Express Lanes without interruption. Because the toll lanes will be price-controlled, the congestion in the Express Lanes will be eliminated. This will happen with or without the Proposed Project.
Transportation	P-3A-4	If the relief from sitting in the congested Fast Tract/Express Lanes does not happen till the Weir Canyon area, how will adding cars to the east bound Express Lanes from the proposed 241 connector improve flow on the east bound 91 Fast Track/Express Lanes???	The RCTC SR-91 Express Lanes and County Line access point opened to traffic on March 20, 2017. The Proposed Project would provide acceptable operations within the SR-91 Express Lanes. Please refer to Table 3.5-11, page 3.5-29, and Table 3.5.12, page 3.5-31 of the Draft Supplemental EIR/EIS, for the improvements in traffic operations with the Proposed Project under the existing conditions for the start of project operations (2017) and for the year 2040, respectively. Please refer to Response to Comment L-6-3 below for a discussion of the revised project Opening Year and the validity of the existing traffic analysis.
Transportation	P-3A-5	And if the temporary flow that is experienced on the eastbound 91 bottles up because of the addition of cars from the connector, for how long will that relieve the 241 jam? (20 seconds as per your chart?—see below)	The *Traffic Analysis Report* focused on the movement through the SR-91 corridor within the Study Area, which shows a minor reduction in travel time. When calculated separately, in the existing conditions, it takes approximately 30 minutes to travel from the Windy Ridge toll plaza on northbound SR-241 to eastbound the SR-91 Green River Road interchange during the weekday PM peak period. With the project, in 2017, the same movement would take approximately 7 minutes. Therefore, the Proposed Project would provide approximately 23 minutes of congestion relief for the northbound SR-241 to eastbound SR-91 movement via the Express Lanes Connector.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
Transportation	P-3A-6	The renderings seem to show that it is proposed to widen the freeway so as to accommodate another Express Lane to accommodate the merging traffic to the 91 Express Lanes. If so, to what point will the added lane transition to the current existing two lanes? The Riverside County line?	The Proposed Project would extend the eastbound SR-91 express auxiliary lane (part of the SR-91 CIP Initial Phase) approximately 4,575 feet to the east. Similarly, the Proposed Project would extend the westbound express auxiliary lane (part of the SR-91 CIP Initial Phase) approximately 3,460 feet to the west. The lengths of the auxiliary lanes are preliminary and subject to refinement based on further evaluation during Final Design.
Transportation	P-3A-7	I also often drive the 241 northbound and sit in the congested traffic waiting to merge onto the 91 Freeway. • In the rendering, it appears there will be added an additional lane to the Express lane to accommodate the connector? Again, for what distance with that lane last?	The additional lane for the northbound SR- 241 Express Lanes Connector would be approximately 2,500 feet long. The length of the auxiliary lane is preliminary and subject to refinement based on further evaluation during Final Design.
Transportation	P-3A-8	I hope the follow through does not stop at the Riverside County line—even with the addition of the Express Lanes through Corona. I wonder if the backup will just be pushed a short distance up the rode because cars will continue to exit and maneuver to Green River/Foothill and then for the 71 freeway.	The *Traffic Analysis Report* evaluated the Proposed Project relative to the RCTC 91 Express Lanes access point at Green River Road. The Project would improve operations of eastbound SR-91 based upon avoiding the merging from the northbound SR- 241 general purpose lane connector to the eastbound SR-91 Express Lanes. Additionally, traffic using the SR-241/SR-91 Express Lanes Connector would not be allowed to exit the *91 Express Lanes* until I-15. Travelers going to Green River Road from northbound SR- 241 would have to continue using the existing northbound SR-241/eastbound SR-91 connector.
Transportation	P-3A-9	Without adding additional lanes to the Express Lanes for long enough distances to accommodate the traffic from the northbound 241—without reducing the number of regular lanes which are already insufficient in number— to comfortably and safely absorb the increased traffic and lane change issues, nothing will change. I do not see how the traffic on the 241 which is often backed up to the Windy Ridge toll booth will improve!	Based on the results of the *Traffic Analysis Report,* the existing northbound SR- 241 general purpose lane connector operations and queue would improve with the Proposed Project. The SR-91 Express Lanes have been extended to I-15 as part of the SR-91 CIP Interim Phase. The SR-91 CIP Interim Phase converted the single HOV lane into two toll lanes through Corona. Because the toll lanes are price-controlled, the congestion in the SR-91 Express Lanes will be reduced. This will happen with or without the Proposed Project.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
Transportation	P-3A-10	I'm not sure if I am interpreting the data below from one of your charts correctly. Is it saying that when 91 Express Lanes through Corona are built that time saved on the 241 will be 38 seconds? And when the connector project is completed and beyond an additional 20 second 241 commute time will be saved???? How is it that you project the number of vehicle throughput within the project limits? Average 2000 cars compared to the 40000 that currently travel the route is a only 5 %. Please explain this data and project your results beyond the project limits to the overall traffic problem. **Traffic Transportation Summary** Measure Year Results Increase in vehicle throughput within project limits. Build Alternative will: • Help overall traffic flow for region 2017 2,586 vehicles (+7%) • Draw vehicles from I-5, SR-55 and other major streets during peak hours 2040 1,239 vehicles (+3%) • Enhance travel and relieve traffic congestion between Orange/Riverside Counties. Travel speed enhanced by 2017 +1.9 MPH (+6%) 2040 +2.7 MPH (+7%) Travel time decreased by 2017 -38 seconds/vehicle (-12%) 2040 -48 seconds/vehicle (-17%) *Based on seven hours of results for combined AM peak (three hours) and PM peak (four hours)*	The time saved is related to travel time on SR-91. Please refer to Response to Comment P-3A-5 for discussion regarding the total time saved from SR-241 to SR-91/Green River Road. Numbers of vehicles and vehicle volumes were developed based upon the Orange County Transportation Analysis Model (OCTAM) and 2012 SCAG RTP model. The Project Limits and associated traffic methodology were approved by Caltrans, OCTA, F/ETCA, and RCTC on April 25, 2013. The Traffic Transportation Summary includes results from the *Traffic Analysis Report* and microsimulation prepared for the proposed improvements.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
Transportation	P-3A-11	Even though Express lanes are being constructed through Corona, I fail to see PROOF that there will be an improvement in traffic flow especially since more people/cars are being projected to travel through an area that is heavily congested most weeks at all seven days. Not to forget that homes and apartments in Corona, Eastvale, Riverside…are continuing to be built which adds a significant traffic burden.	Please refer to Table 3.5-11, page 3.5-29 and Table 3.5.12, page 3.5-31 of the Draft Supplemental EIR/EIS, for the summary of improvements in traffic operations with the Proposed Project in 2017 and 2040, respectively. The traffic model accounts for approved and planned development through 2040.
Project Description and Transportation	P-3A-13	I have long hoped for a connector ramp to be built from the 91/71 into the car pool, or now express lanes similar the 55/5 and the 55/405. Is there any conversation about SIMULTANEOUSLY building connector ramps at the 91/71 junction?	Please refer to the Purpose and Need for the Project stated in Section 1.2, page 1-11, and Chapter 1 of the Draft Supplemental EIR/EIS. There are no proposed future connections to the HOV or Express Lanes at the SR-91/SR-71 interchange.
Transportation	P-3A-14	Do your studies show if a large number of travelers in the 91 Express Lanes and the 241 Northbound lanes also make multiple lane changes to be able to connect to the 71 freeway?	The *Traffic Analysis Report* used detailed microsimulation analysis to evaluate weaving from the *91 Express Lanes* and northbound SR- 241 connector traveling to SR-71.
Transportation	P-3A-15	Have you addressed the traffic issues at Green River Road—esp. with the soon to open Foothill Parkway project?	As shown on Figure 3.1.3 and Table 3.1.3, in Section 3.1 of the Draft Supplemental EIR/EIS, Foothill Parkway Westerly Expansion was included as part of the planned projects. The traffic model accounts for planned development through 2040.
P-4A Comment Letter from Bob Lampley			
Project Description	P-4A-1	I do not wish to suffer any increased “TOLL-ROAD” costs as a result of this project. Provided all funding can be resolved through other means, I have no objection.	As discussed on page 2-23 of the Draft Supplemental EIR/EIS, the Build Alternative would have dynamic traffic management technology (toll pricing based on demand). In addition to providing revenue, tolling the connector limits the number of vehicles utilizing the connector to avoid overwhelming the *91 Express Lanes*. Furthermore, the Proposed Project provides a direct connector for the existing gap between the SR-241 and SR-91 *Express Lanes* to complete the system. No new toll roads are proposed.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
P-4B Comment Letter from Bob Lampley			
Transportation	P-4B-1	During "Peak times" (mornings/afternoons) there is considerable congestion on both the 91 and 241 freeways due to the lengthy and ongoing construction on the 91 freeway. In as much, with regards to this proposed addition, consider the following; 1. Wait for "all construction" to end on the 91 freeway, in all directions. 2. Monitor the traffic speeds for these concerns over a "one (1) year" period of time to better determine a proper course of correction. 3. Consider during this period whether there is a need to only resolve heavy traffic transition from two directions. a. Specifically the W/B 91 to the S/B 241 (AM traffic), and the N/B 241 to the E/B 91 (PM traffic). Ensure that no "current" Toll Road users will be impacted financially for this endeavor.	The SR-91 CIP Express Lanes opened on March 20, 2017. As discussed in Section 2.3, page 2-28 of the Draft Supplemental EIR/EIS, the Proposed Project was planned to begin construction in 2018 and to open in 2020. The Project is now planned for start of construction in 2021 and opening in 2023. As shown in Table 3.1.3 in this Final Supplemental EIR/EIS, two SR-91 projects are planned in the Project Vicinity and construction dates may overlap with the Proposed Project. The Proposed Project would be coordinated with OCTA and RCTC. The Project Limits and associated traffic methodology were approved by Caltrans, OCTA, F/ETCA, and RCTC on April 25, 2013. The traffic model accounts for planned development through 2040. The Proposed Project accommodates peak hour traffic in the two directions specified. The connector would be tolled. Please refer to Response to Comment P-4A-1.
P-5 Comment Letter from Dave Alford			
General	P-5-1	The graph on the fact sheet shows construction from mid-2018 to the end of 2020. However, the Quick Facts below the graph state that construction could begin in late 2020 while according to the graph construction should be completed then.	As discussed in Response to Comment P-4B-1, construction is anticipated to last approximately 18 months. The Project was planned to be completed in 2020 and is now planned to begin construction in 2021 and to be completed in 2023.
P-6 Comment Letter from David Wright			
General	P-6-1	I think this would be a very good addition to that interchange. Eliminating the need for people to try to push left across 5 lanes of bumper to bumper traffic will not only help alleviate the congestion created by these lane changes, but could literally save lives.	The comment in support of the Proposed Project is noted for the public record.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
Transportation	P-6-2	The 241 to 91 Express is one of two spots where drivers will be trying to cross all lanes, undoubtedly causing extreme traffic issues. The 91 Express East to Green River is the another spot where I anticipate many, many accidents as people attempt to exit the Express Lanes and get off on Green River to bypass Corona to the south, via the soon-to-open Foothill Extension. There really should be a Green River center-exit from the Express Lanes - not sure how the current project was ever approved without that!	Based on the results of the *Traffic Analysis Report*, the SR-91 Express Lanes would operate at acceptable level of service. At Green River Road, there would only be access to and from the SR-91 Express Lanes. That is, access to and from SR-241 and the SR-91 ramps at Green River Road would only be via the existing general purpose lane connectors and not via the proposed Express Lanes Connector. Providing ramps to and from Green River Road and the SR-91 Express Lanes does not meet the Purpose and Need for the Proposed Project. Please refer to Chapter 1, page 1-11 of the Draft Supplemental EIR/EIS.
General	P-6-3	Good luck and hope to see this approved	The comment in support of the Proposed Project is noted for the public record.
P-7 Comment Letter from Dianne Chavarria			
General	P-7-1	I could not make the meeting, but I am all for the 241/91 connector.	The comment in support of the Proposed Project is noted for the public record.
Transportation	P-7-2	It is horrible coming from Orange county on the 241 and then coming to a dead stop and standing in line for 30 minutes or more to get onto the 91 Fwy. And of course there are always those idiots who drive in lane #3 all the way to the end so they can cut in and not wait like the rest of us.	As discussed in the Summary in Section 3.5, page 3.5-33 of the Draft EIR/EIS, with the Project, “The length of the northbound SR-241 to the eastbound SR-91 queue on the general purpose ramp would shorten in the PM peak period.” Please refer to Response to Comment P-1-3 for discussion regarding improvements to prevent queue jumping (cutting-in).
Transportation	P-7-3	I do not feel that right now I am getting my money's worth for the tolls I am paying for this road, and also the 91 Fwy. Sometimes when I first get on the 91 fwy. From orange county, the regular freeway is going faster than our two toll lanes. It is annoying to see we are not getting our money's worth on that freeway too.	The Proposed Project would provide an overall benefit in the SR-91 Corridor in the traffic Study Area. As discussed in the Summary in Section 3.5, page 3.5-33 of the Draft EIR/EIS, with the Project, vehicle throughput in the SR-91 corridor would improve, vehicles miles traveled would increase, and travel time would decrease; and traffic would shift from other regional routes (SR-91, SR-55, and surface streets) to SR-241 as a result of the additional capacity of the new connector.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
Transportation	P-7-4	So I will be glad when the connector from the 91 to the 15 fwy is done next year, and I am looking forward to seeing the 91/241 eventually done too. I don't mind paying as long as it delivers what it promises.....a faster commute home.	The comment in support of the Proposed Project is noted for the public record.
P-8 Comment Letter from Douglas DeNardo			
Transportation	P-8-1	The eastbound 91 express lanes are currently congested during the entire afternoon/evening commute times. A connector from the northbound 241 to the eastbound 91 express lanes will add to the current congestion and create road rage especially for those "express" lane customers who pay up to a $10.45 toll for travel between the 55 freeway and the Riverside county line.	As discussed in Chapter 2, page 2-18, of the Draft Supplemental EIR/EIS, where the northbound SR-241 to eastbound SR-91 Express Lanes Connector meets the *91 Express Lanes*, an eastbound auxiliary express lane would begin approximately 2,000 feet east of Gypsum Canyon Road Undercrossing to Coal Canyon Undercrossing joining the RCTC SR-91 Express Lanes at Coal Canyon Undercrossing. These improvements would provide a four-lane express lane facility, tapering down to three lanes between the connector and Coal Canyon Undercrossing. The extra lane would reduce congestion during the merge of the Express Lanes Connector to SR-91.
P-9 Comment Letter from Douglas DeNardo			
Transportation	P-9-1	I live in Corona, near the Cajalco off ramp of 15 fwy. Eagle Glen HOA. Work in Aliso Viejo, Orange County. Currently in the am I take the Corona streets to Green River to enter the 91 west to get to the 241 South. I haven't used the 91 in 2 years!! Afternoons. BAD, BAD, & WORSE. I get to the 241 North/91 East curve about 4:10. Every day for 2-3 years the 241 North is backed up. Road rage is obvious. CHP doesn't make much of an effort. Currently I get off 91 east and Green River to get home. Takes 24 minutes now off the freeway. Foothill west extension will help. I'd rather stay on the 91 east express toll to the 15 and get off Cajalco.	The Proposed Project would provide an overall benefit in the SR-91 Corridor in the traffic Study Area. As discussed in the Summary in Section 3.5, page 3.5-33 of the Draft Supplemental EIR/EIS, with the Project, vehicle throughput in the SR-91 corridor would improve, vehicles miles traveled would increase, and travel time would decrease. Please refer to Response to Comment P-3A-9 for discussion regarding the improvements to be constructed as part of the SR-91 CIP.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
Growth and Transportation	P-9-2	.....Future housing developments i.e., Arantine Hills project off Cajalco will make it bad again.	According to the City of Corona's website,[3] the Arantine Hills project is on the west side of I-15, south of Cajalco Road. The future year traffic forecasts were developed from the SR-91 CIP and OCTA Tolling/Revenue Study, which includes future land development (and the trips associated with the development) in the Corona area including the Arantine Hills project. The Proposed Project would improve the vehicle, person, and goods movement travel times on SR-241 and the *91 Express Lanes* to more effectively serve existing and future travel demand between and within the counties of Orange, Riverside, and San Bernardino.
P-10 Comment Letter from Ed Gray			
Project Description and Transportation	P-10-1	Please add an extension lane from the east 91 to 241 toll road entry. During large volume of traffic, entering the 91 east from the Weir Canyon on ramp, there is a back-up of vehicles trying to enter the 241. The right lane on the 91 east does not continue to get on the 241. You have to merge onto to the 91 and then exit to the 241.	The requested lane does not meet the requirements of the Purpose and Need of the Project, discussed in Chapter 1, Section 1.2, page 1-11 of the Draft Supplemental EIR/EIS. The comment is noted for the public record. Proposed improvements between SR-91/Weir Canyon Road interchange and the eastbound SR- 91/southbound SR-241 connector would be addressed as part of a future project.
P-11 Comment Letter from Hryze			
Transportation	P-11-1	This should have been done when originally built. Now when traffic is unbearable you decide to build and of course charge extra to use it. I have been a tollroads user from the beginning and still haven't figured out why this was not done when it was built.	Please refer to Response to Comment P-2-1 for discussion regarding the timing of the Express Lanes Connector.
P-12 Comment Letter from J Delmer			
General	P-12-1	I don't use the 91/241 connecter. I want to tell you though, your request for input for the proposed change impresses me. This is the first time, and I've been around for a long time, I've had anyone ask me for input about an impending project. Thank you for keeping me informed about the 91 freeway project. I do us that information. I leave for work, from Corona, at 3:15 AM. I need to go east on the 91 to north on the 15. Your emails help me decide what route I'll need to negotiate. You are doing a good job. I just wanted to take this chance to thank you.	The comment is noted for the public record.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
P-13 Comment Letter from Jason Zinkin			
Transportation	P-13-1	At rush hour, traffic backs up for a good 20 minutes on the transition. This negates almost any incentive to take the 241. Might as well just take the 55 to the 91.	The Proposed Project would provide an overall benefit in the SR-91 Corridor in the traffic Study Area. As discussed in the Summary in Section 3.5, page 3.5-33 of the Draft EIR/EIS, with the Project, the length of the northbound SR-241 to the eastbound SR-91 queue on the general purpose ramp would shorten in the PM peak period, due to an additional connection to SR-91.
P-14 Comment Letter from John Fox			
Transportation	P-14-1	My concern is the effect the project will have on lane changes at the toll lane access just west of Green River. Seems like dedicated toll lane on and off ramps should be a high priority either at or somewhere near Green River to mitigate what is sure to become another bottleneck due to increased lane changes due to increased demand for the toll lanes as a result of the 241-91 Express Connector project.	Based on the results of the *Traffic Analysis Report*, the SR-91 Express Lanes would operate at acceptable level of service. At Green River Road, there would only be access to and from the SR-91 Express Lanes. That is, access to and from SR-241 and the SR-91 ramps at Green River Road would only be via the existing general purpose lane connectors and not via the proposed Express Lanes Connector.
Transportation	P-14-2	The 241-91 Express Connectors will affect the 91 ten or more miles beyond the project's borders. There will be a 7% increase in toll lane use according to your figures. You've also stated that one of the goals of the project is to cut down on lane changes. But won't this increase in toll traffic also increase lane changes at the county line as many of that 7% attempt to enter WB and exit EB at Green River? Let's face it, the 91 is still going to jam through Corona, including the toll lanes – EB especially, due to continuing and increasing bottlenecks at La Sierra and El Cerrito. And now that Green River is six lanes, it'll be even more of a favorite alternate, leading to an increase in lane changes – up to six lanes in less than a mile to access and egress the toll lanes west of Green River.	Please refer to Response to Comment P-14-1 for discussion regarding traffic operations at Green River Road.

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Topic	No.	Comment	Response
P-15A Comment Letter from Kyle Tate			
Transportation	P-15A-1	I am an Anaheim Hills Resident who works in Irvine. I take the 241 daily and have valuable insight into your projects The 241 North is 4 lines wide when you are at windy ridge. The 2 left lanes go Westbound on the 91 and the 2 right lanes go East Bound on the 91. Attached is an image noting the typical traffic which is 100% EASTBOUND 91 commuters. What happens on the 241 is selfish commuters want to skip the line so they block the left 2 lines waiting for an opportunity to cut in front of someone. Not only is it selfish, but it is also very dangerous. Many of these vehicle have to stop completely in the number 2 lane while they bully their way into the number 2 lane. My suggestion is putting a DIVIDER between the number 2 and number 3 lanes. This divider will start at WINDY RIDGE. Left 2 lanes will be designated for WESTBOUND 91. Right 2 lanes will be designated for EASTBOUNT 91. Windy Ridge toll booths should be removed New signage approaching Windy Ridge will notify drivers that all EASTBOUND drivers MUST go on the right side of the divider approaching windy ridge. This will solve the problem of dangerous drivers and road rage among drivers who are cut off by these selfish drivers. It will also alleviate congestion for the drivers who are destined to go westbound on the 91 as they only make up roughly 1-5% of the total 241 north bound traffic.	Please refer to Response to Comment P-1-3 regarding features to prevent queue jumping.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
Transportation	P-15A-2	In fact, the westbound destined drivers only need 1 lane to travel, but that would not solve the problem the eastbound drivers face since there are only 2 lanes that merge onto the 91.	Please refer to Responses to Comments P-13-1 and P-1-2 for discussion regarding the Project benefits.
Transportation	P-15A-3	Now regarding a 91 express lane to the 241. That will only be beneficial for 91 Westbound drivers Anyone who is on the 91 eastbound in the toll lanes will not be interested in going south on the 241. If they are near the 55 and 91, they will just take the 55 to the 5 south. Going westbound it would be very beneficial especially after the 91 tollroads in riverside are complete.	Please refer to Response to Comment P-13-1 for discussion regarding the Project benefits.
P-15B Comment Letter from Kyle Tate			
Transportation	P-15B-1	I looked at the project area and it seems like a good idea. However, that depends WHERE the flyover is. If the 241 flyover to the 91 express lanes is on the right side of the 241 north, then it will be fine. However, if you put the flyover on the left side, that means that in the event of the 91 being stopped for an accident (every day), the ENTIRE 241 north will be blocked even for commuters who are going to Anaheim hills/Yorba Linda area. The Corona commuters already block all of the lanes on the 241 as they try to weasel their way to the front of the line. If the flyover is on the left side, all of the lanes will be blocked. This will lead to ALL Yorba Linda/Anaheim commuters to get off the tollroads and take Chapman to Santiago Canyon to Cannon. This flyover MUST be on the right side, not the left!	Please refer to Chapter 2, Figure 2.1, Sheets 2 and 3 in the Draft Supplemental EIR/EIS. The Express Lanes Connector would be constructed between the general purpose lane connectors and would connect to the median of SR-91. Therefore, as currently proposed, the Express Lanes Connector (both directions) would be constructed on the left side of the northbound SR-241 to the westbound SR-91 general- purpose connector. It is understood that the comment is referring to an accident on eastbound SR-91 that could cause traffic to back-up onto the northbound SR-241 general purpose lane connector to eastbound SR-91. During Final Design, lane assignments on SR-241 will be evaluated in further detail to improve traffic operations in this area. Please also refer to Response to Comment P-1-3 for discussion regarding improvements to prevent queue jumping (cutting-in) from the connector to westbound SR-91 to the connector to eastbound SR-91.

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Topic	No.	Comment	Response
P-16A Comment Letter from Leif Grane			
Transportation	P-16A-1	Hello, I would like to be sure that my concern is address prior to the official approval of the 241/91 Express Connector. On both the east-bound and west bound 91 as it approaches the 241, there are five (5) regular lanes (outside of the 91 Express Lanes). As the 91 passes the 241, the fifth lane is lost as an off ramp to the 241 Toll Road on both the eastbound and west-bound 91, reducing the number of lanes to four (4) and creating a huge bottleneck for traffic. I officially request that the 5th lane be extended on the east-bound and west-bound lanes, passing the 241 as part of this project - if this is not done, the 241/91 Express Connector should not be approved. I would appreciate immediate confirmation that my concerns are being addressed. I am hopeful that this is already included in the plan - but I felt the need to make it official, just in case.	The comment requests expansion of the SR-91 at the SR-241 such that there are five lanes in each direction. The requested lanes do not meet the requirements of the Purpose and Need of the Project, discussed in Chapter 1, page 1-11, of the Draft Supplemental EIR/EIS. Please refer to Response to Comment P-1-2 for discussion regarding the Project Objectives. The comment is noted for the public record. Caltrans is currently separately evaluating the addition of a fifth lane along SR-91 at the SR-241 interchange. These improvements may be part of a future project.
P-16B Comment Letter from Leif Grane			
General	P-16B-1	Hello, I have not yet gotten a response to my comment. Please respond a soon as possible. Until I have confirmation the 5th lanes will be connected, this will not be closed. Please respond officially to my comment below - I need something to submit to all local newspapers.	The following automatic reply email was sent to the commenter on December 14, 2016: “Thank you for your interest in the State Route 241/State Route 91 Tolled Express Lanes Connector Project (Project). This email confirms receipt of your comment on the Project’s Draft Supplemental Environmental Impact Report/ Environmental Impact Statement and Section 4(f) Evaluation. After close of the public review period on January 9, 2017, Caltrans and the Foothill/Eastern Transportation Corridor Agency Project Development Team will review and evaluate all comments received. Responses to the comments submitted will be included in the Final Environmental Impact Statement/ Record of Decision (Final EIS/ROD) and will be made available to the public in December 2017. The Final EIS/ROD will be made available for viewing at Caltrans and on the TCA project website.”

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Topic	No.	Comment	Response
			Please see Response to Comment P-16A-1 for the response to the comment provided.
P-16C Comment Letter from Leif Grane			
Project Description, Transportation, and Greenhouse Gas Emissions	P-16C-1	In addition to the previous comments I made back in November, I have additional comments. I did not notice anything in the environmental study about the huge increase in emissions that will be the result of only having 4 Lanes passing the 241 toll roads on the 91 freeway... They need to change the plan to make it 5 lanes. This shortsightedness not only will increase traffic congestion dramatically it will also have an incredibly negative impact on the greenhouse gases as a result of cars idling through there. This absolutely must be addressed to not do so would be a travesty, California is a green state, or so at least pretends to be... This needs to be addressed on the environmental impact study please correct... If necessary, I may consider legal action...	The comment refers to Comment 16A-1, previously submitted. Please see Response to Comment P-16A-1. CEQA requires a lead agency to make a good faith effort to identify impacts and gives the lead agency discretion on the approach to analyze impacts. Caltrans has used the best available modeling data (EMFAC2014) to analyze greenhouse gas (GHG) emissions related to the project and has disclosed a projected increase/decrease in GHG emissions. Caltrans is committed to reducing GHG emissions as outlined in Table 4.2 of the environmental document. As discussed in Chapter 4, page 4-66, and shown in Table 4.1 of the Draft Supplemental EIR/EIS, both the future with project and future No Build conditions show decreases in carbon dioxide (CO_2) emissions over existing levels. This is due to both reduced congestion associated with the SR-91 CIP improvements with and without the Build Alternative, as well as improvements in vehicle technology. As shown in Table 4.1 of the Draft Supplemental EIR/EIS, the Build Alternative would not substantially alter the long-term GHG emissions when compared to the No Build Alternative. The proposed project is included in the 2012–2035 RTP/SCS. As such, it is part of a regional multimodal plan to reduce greenhouse gases on a regional scale and is consistent with Assembly Bill (AB) 32 and Senate Bill (SB) 375. As discussed in Chapter 4, page 4-61, of the Draft Supplemental EIR/EIS, SB 375 requires the California Air Resources Board (ARB) to set regional emissions reduction targets from passenger vehicles. In accordance with SB 375,

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Topic	No.	Comment	Response
			Southern California Associated Governments (SCAG) developed a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan for the achievement of the emissions target in its region (Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties). The most current SCAG SCS is the 2016 RTP/SCS. ARB has determined that SCAG's SCS meets SB 375 GHG reduction requirements. As discussed in Chapter 1, Section 1.1 of the Draft Supplemental EIR/EIS, the Proposed Project is included in SCAG's 2016 RTP/SCS. As discussed in Chapter 4, page 4-66, of the Draft Supplemental EIR/EIS, under SB 375, the primary goal of the SCS is to provide a vision for future growth that will decrease per capita GHG emissions from automobiles and light trucks. By providing improved freeway connections, the Build Alternative would help achieve the improved access and mobility goals of SCAG's RTP/SCS.
P-16D Comment Letter from Leif Grane			
General	P-16D-1	Since I never received a previous confirmation. on my comments from November 29th 2016, I am resubmitting them again today... I sent an additional comment today and did receive a confirmation today so I am extremely worried that my first comment was ignored or not received here is my original comment: Please be sure to confirm receipt this time!!!!!	The November 29, 2016, comment was received; please refer to Response to Comment P-16A-1. The following automatic reply email was sent to the commenter on December 14, 2016: "Thank you for your interest in the State Route 241/State Route 91 Tolled Express Lanes Connector Project (Project). This email confirms receipt of your comment on the Project's Draft Supplemental Environmental Impact Report/ Environmental Impact Statement and Section 4(f) Evaluation. After close of the public review period on January 9, 2017, Caltrans and the Foothill/Eastern Transportation Corridor Agency Project Development Team will review and evaluate all comments received. Responses to the comments

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Topic	No.	Comment	Response
			submitted will be included in the Final Environmental Impact Statement/ Record Of Decision (FEIS/ROD) and will be made available to the public in December 2017. The FEIS/ROD will be made available for viewing at Caltrans and on the TCA project website."
P-17A Comment Letter from Lindon Baker			
Visual	P-17A-1	I wish to raise two concerns about lighting and light pollution resulting from the proposed project. The project as presented at the public meeting of 29 November included new bridges at a significant height above grade. These present two separate lighting concerns. First, a new tolling gantry is proposed atop one of the bridges. The constant strobe flashes from the camera systems located this high above grade will be highly visible and annoying to residents and commuters alike. Residents of both Yorba Linda and Anaheim Hills will have their nighttime sky constantly disturbed by these "lightning flashes".	The camera light on a toll gantry is directed downward at the license plates and involves a momentary flash. The lights are 19–21 feet above the roadway. This technology is currently in use on SR-241 and throughout the U.S. It is not uncommon for motorists to notice the lights when they are first installed, but experience shows that within a couple of weeks of installation drivers grow accustomed to them.[4] There are no residences adjacent to the proposed elevated part of the Express Lanes Connector. The closest residences are in Anaheim Hills at a higher elevation than the proposed connector. As a result, the strobe lights are anticipated to be only minimally visible from those residences.
Visual	P-17A-2	In addition, based on driving the existing toll roads after dark, the strobe flashes at both Windy Ridge and especially at Irvine Ranch are very bright and temporarily obscure driver vision. Fortunately, both of these existing locations are straight roadways with no urgent need to maneuver or deal with merging traffic.	Please refer to Response to Comment P-17A-1 for discussion regarding strobe lights.
Visual	P-17A-3	However, the proposed new gantry location appears to be on or very near a curve on the bridge, requiring positive driver vision and control. I suggest the gantry be relocated to be coincident with the existing Windy Ridge toll station, or at another grade level or below grade level location where the flashes are not visible from homes.	Please refer to Response to Comment P-17A-1 for discussion regarding strobe lights.

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Topic	No.	Comment	Response
Visual	P-17A-4	Second, there will be a need for roadway lighting on the proposed new, high elevation bridges. Standard freeway light poles place downward directed light sources high over the roadway, but when placed on a high bridge, these are very visible and disturbing light sources in the night sky as viewed from Yorba Linda and Anaheim Hills. I suggest alternative lighting be explored, such as strip lighting placed within guard rail structures on both sides of the bridge roadway, located just above the roadway surface and directed downward across the roadway surface.	Lighting for the new connector bridges would be consistent with Caltrans standards. As discussed in Section 3.6.4.2, page 3.6-9 of the Draft EIR/EIS, the Express Lanes Connector bridges would be approximately 60 feet high, consistent with the existing general-purpose lane bridges that connect the two freeways. The new lighting would be designed consistent with the existing lighting along SR-241 and SR-91 and would not be perceptibly higher than the existing lighting, when viewed from adjacent land uses. The Express Lanes Connector would be constructed in the median of SR-241 and SR-91; therefore, no additional lighting would be added closer to adjacent developed land uses. The lighting would be directed downwards, similar to the existing lighting on SR-241 and SR-91. Although additional lighting would be added, it would not be perceptibly higher than existing lighting or closer to developed land uses than existing lighting. As discussed in Section 3.6.4.2 of the Draft Supplemental EIR/EIS, the visual character/quality of the views experienced within the View Corridor from Yorba Linda or Anaheim Hills would not be substantially reduced as a result of the Build Alternative.
P-17B Comment Letter from Lindon Baker			
Project Description and Transportation	P-17B-1	I believe that the plan as presented at the public meeting on November 29 is deficient and fails to adequately address traffic concerns of Orange County citizens who need to travel the toll roads within Orange County. Specifically, the plan fails to include an explicit remediation for the unsafe traffic mess occurring nightly at the transition 241 north to 91 east and 91 west.	The Draft Supplemental EIR/EIS focuses on the impacts of the Proposed Project improving traffic flow and operations by reducing weaving across multiple general purpose lanes between the SR-91 Express Lanes and the SR-241 general purpose lane connectors and enhancing the efficiency of the tolled system, thereby reducing congestion on the non-tolled system on SR-91, which are identified in the Proposed Project Purpose and Need. Accordingly, the Lead Agency responds as follows. The comment does not identify a specific traffic safety concern. Therefore, a general response is appropriate. Please refer to Response to Comment P-7-2 for discussion regarding the queue on northbound SR-241 to eastbound SR-91. Please also refer to Section 3.5, Table 3.5.11 and Table 3.5.12 of the Draft Supplemental EIR/EIS

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
			for a summary of the traffic benefits of the Proposed Project.
Project Description and Transportation	P-17B-2	I recommend that the plan be expanded to include reconfiguration of the 241 lanes northbound from the Windy Ridge toll plaza into 3 physically separated extended length transition ramps. The rightmost two lanes should go only to the eastbound 91, the center lane should go only to the proposed new connector to the eastbound 91 Express toll lanes, and the far left lane should go exclusively to the 91 westbound. It is necessary to increase the length of the physically divided transition ramps to enable each transition ramp to accommodate and contain all vehicles choosing that path. By ensuring that all vehicles are contained within a dedicated queue, the motivation for lane jumping, weaving, cutting in, etc, will be entirely eliminated. Each queue must be large enough to ensure that the queue does not overflow into general traffic lanes of the 241.	Please refer to Responses to Comments P-1-3 and P-7-2 for discussion regarding the queue on northbound SR-241 to eastbound SR-91.
P-17C Comment Letter from Lindon Baker			
Project Description	P-17C-1	I believe it is customary in Environmental review documents to consider and compare alternatives to the proposed project. The only options I found in the documents were build, or no build.	Project Alternatives are discussed in Chapter 2 of the Draft Supplemental EIR/EIS. CEQA requires that an EIR include a reasonable range of alternatives, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project. CEQA does not require that a specific number of alternatives be analyzed. The Council on Environmental Quality's NEPA implementing regulations require that an EIS analyze reasonable alternatives to the proposed action. What constitutes a reasonable range of alternatives under NEPA, similarly to CEQA, depends on the nature of the proposal and the facts of each case. As discussed in Chapter 2, page 2-2 of the Draft Supplemental EIR/EIS, the median-to-median connector is a later phase of the Eastern Transportation Corridor (ETC)

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
			project, which was analyzed in a 1991 ETC Draft EIR/EIS, the 1992 ETC Final EIR, and the 1994 ETC Final EIS, and approved in 1994. The objectives of the Proposed Project are: to implement the build out of the ETC, as approved in 1994; attain compatibility with the SR-91 mainline and SR-91 Express Lanes; improve traffic flow and operations by reducing weaving across multiple general purpose lanes between the SR-91 Express Lanes and the SR-241 general purpose lane connectors; and enhance the efficiency of the tolled system, thereby reducing congestion on the non-tolled system on SR-91. The Build Alternative selected for detailed study in the Draft Supplemental EIR/EIS meets most of the project objectives and is feasible.
Project Description	P-17C-1	I would like to propose an alternate project design that would, when completed, deliver greater traffic congestion relief, and during construction, be less disruptive to traffic flow and to the neighborhoods near the 241-91 interchange. I propose construction of 3 million square feet of Class A hi-tech office and office/R&D space at a site to be acquired in the Inland Empire. This space would be offered for lease to qualified firms at 25% of the prevailing lease rate in OC, or around 50 cents a square foot, triple net. In order to qualify for a long term lease at the reduced rate firms would have to demonstrate that greater than 50% of the workers at the location presently commute on the 91-241 corridor, and would no longer need to commute on that route. This project would potentially remove between 10,000 and 15,000 daily commuters from the 91 freeway, measured at the Riverside/Orange county line. The project would be funded by the same bond issues proposed for the 241-91 connector project, and bonds would be repair by lease income from the new office space.	Please refer to Response to Comment P-17C-1 for a discussion of CEQA and NEPA's requirements for alternatives that may be carried forward for analysis in an Supplemental EIR/EIS. The alternative suggested by the commenter does not meet the Purpose and Need of the Project, discussed in Chapter 1, page 1-11, of the Draft Supplemental EIR/EIS. The alternative suggested by the commenter is also not feasible because the F/ETCA is not authorized to issue bonds for private development and has no jurisdiction over development in the Inland Empire.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
		Because no construction would occur at the 241-91 interchange there would be no traffic disruption, and there would be no disruption to nearby neighborhoods.	
P-18 Comment Letter from Lynda Jenkins			
General	P-18-1	This is a great idea to mitigate more congestion. However, additional tolls for this should not come into play. The tolls on the 241 are substantial.	Please refer to Response to Comment P-4A-1 for discussion regarding the tolling of the connector.
P-19 Comment Letter from Mark and Kimberly Zimmermann			
Project Description	P-19-1	I find it a huge lack of foresight that when the 241 Toll road was built that there was no direct connection to the 91 Express lanes. AS this should have been part of the original build, fixing this problem now as soon as possible would only benefit all motorists.	Please refer to Response to Comment P-2-1 for discussion regarding the staging of the components of the ETC project.
Project Description	P-19-2	I also feel there should NOT be an extra toll to utilize this fix. A new 241/91 Express Connector would offer an alternative to the existing incomplete connector	Please refer to Response to Comment P-4A-1 for discussion regarding the tolling of the connector.
P-20 Comment Letter from Norma Barrientos			
General	P-20-1	This cannot happen soon enough, it could be fast-tracked and incentives given to make this happen yesterday it could not be soon enough.	The comment in support of the Proposed Project is noted for the public record.
General	P-20-2	If there was a way to connect the 241 to Foothill Parkway even better.	The suggested connection does not meet the Purpose and Need of the Project, discussed in Chapter 1, page 1-11, of the Draft Supplemental EIR/EIS. The comment is noted for the public record.
Transportation	P-20-3	Some of us who have lived in Corona for almost two decades are increasingly held hostage by the lack of much needed alternatives. We live in Corona because it's a great place to raise a family. Poor planning has made getting around nearly impossible if you have to leave your neighborhood. Since non tolled roads will never be improved to the extent needed, give the people willing to pay tolls these options.	Please refer to Response to Comment P-13-1 for discussion regarding the Project benefits.
Transportation	P-20-4	Also much needed would be a way to hop on/off the toll road at weir canyon. Those of us who have to go just to weir or gypsum for sports, doctors, etc would really appreciate not sitting on a parking lot. Its all about convenience and being willing to pay for that convenience.	The suggested connection does not meet the Purpose and Need of the Project, discussed in Chapter 1, page 1-11 of the Draft Supplemental EIR/EIS. The comment is noted for the public record.

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Topic	No.	Comment	Response
P-21 Comment Letter from Randall Black			
Transportation	P-21-1	Commuting from Irvine to UC Riverside in a vanpool, I can verify that currently a significant amount of lane changing is required to get into the diamond lane, when going East, and out of the diamond lane, when going West. Especially, when crossing several lanes going West to get out of the express lane and onto the 241, one encounters a large number of drivers accelerating past as 91 congestion eases. The proposed 241/91 Express Connector Project would make the drive safer.	The comment in support of the Proposed Project is noted for the public record.
P-22 Comment Letter from Rick Cleveland			
Transportation	P-22-1	You can't get to the express lanes now and why do you need to? Go 2 miles and enter like you do now and spend less money on roads!	The comment is a general comment regarding the need for the Proposed Project. A general response is appropriate. Please refer to Chapter 1, page 1-11 of the Draft Supplemental EIR/EIS, for the Purpose and Need for the Project. Please refer to Response to Comment P-13-1 for discussion regarding the Project benefits.
P-23 Comment Letter from Ruth Quinnan			
Transportation	P-23-1	I don't believe this is a necessary project. It's a way to "encourage" more people to use the toll lanes and increase revenue for the tollway. Millions of dollars will be spent to construct this, which will result in increased toll fees, and inflict great inconvenience on drivers during the construction project which the 91 hardly needs more of, all to solve a problem that doesn't actually exist.	Please refer to Chapter 1, page 1-11 of the Draft Supplemental EIR/EIS, for the Purpose and Need for the Project. Please refer to Response to Comment P-13-1 for discussion regarding the Project benefits.
P-24 Comment Letter from Scott Cop			
Project Description	P-24-1	Please help all of us that travel this route frequently, pay for express lane access, and have to go through general purpose lanes to utilize the services we are paying to participate in and maintain! This is a fair and logical fix. Please get started right away!	The comment is noted for the public record and expresses support for the project.

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Topic	No.	Comment	Response
P-25 Comment Letter from Tony Richardson			
Project Description	P-25-1	Regretfully, I was unable to attend the meeting in person as I was on the 91 Express Lanes on my way home to Corona as this meeting began. I have traveled the 91, 91 Express Lanes and 241 in this area for the past 15 years. I offer my perspective of the proposed project: This project is piggybacking on the improvements built by the Riverside CIP program scheduled for completion Summer 2017. This project stated improvements would not occur without the expanded capacity currently being built.	As discussed in Chapter 1, Section 1.1.2, page 1-9, of the Draft Supplemental EIR/EIS, the proposed median-to-median connector is a later phase of the Eastern Transportation Corridor (ETC) project, previously approved in 1994. It was originally evaluated as an SR-241/SR-91 direct connector in the 1991 ETC Draft Environmental Impact Report/Environmental Impact Statement (Draft EIR/EIS), 1992 ETC Final EIR, and the 1994 ETC Final EIS. If the *91 Express Lanes* and the SR-91 CIP express lanes did not replace the HOV lanes on SR-91, then an SR-241 HOV direct connector would have been constructed consistent with the approved ETC project. The SR-91 CIP does not provide the benefits of the Proposed Project because it does not provide a direct connection between the SR-241 and the SR-91 Express Lanes.
Transportation	P-25-2	This project will increase eastbound congestion in the 91 eastbound express lanes between the 55 freeway and the proposed connector, creating more congestion on the 91 East Express Lanes and resulting in longer commute times for current express lane commuters. It would provide 241 eastbound commuters a few minutes improvement in their commute times.	Based on the results of the *Traffic Analysis Report*, congestion between SR-55 and SR-241 along SR-91 would exist in the No Build condition. The Proposed Project would increase vehicle throughput, increase average speed per vehicle, and decrease average delay per vehicle along SR-91 within the project limits. In addition, SR-241 Express Lanes Connector users would experience a greater delay reduction. Please refer to Responses to Comments P-3A-3 and P-3A-5 for discussion regarding the improvements with the SR-91 CIP Interim Phase and the SR-241 to SR-91 commute time.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
Transportation	P-25-3	There is no need for a westbound connector, freeway speeds during peak times will remain acceptable for years to come.	The westbound SR- 91 to southbound SR- 241 Express Lane Connector would minimize weaving from traffic that would otherwise exit the SR-91 Express Lanes and change several lanes to access the general purpose lane connector to southbound SR-241. As shown in Section 3.5, Table 3.5.11 (2017) and Table 3.5.12 (2040) in the Draft Supplemental EIR/EIS, in the AM peak period (i.e., commuters on westbound SR-91), average vehicle speeds would increase with the Proposed Project.
Transportation	P-25-4	The proposed project benefits sound very good to anyone who hasn't driven this section of road on a regular basis. They are however, not based in fact. The stated weaving across lanes does not occur in the 2 miles between the 241 eastbound ramp and 91 express lanes entrance, it occurs in the .85 miles between the eastbound 91 express lanes exit and the Green River Road off ramp. Getting on the 91 Express Lanes is easy, getting off and across to Green River Road, not so much.	The *Traffic Analysis Report* used detailed microsimulation analysis to study the interaction of the general purpose lanes and express lanes from Weir Canyon to Serfas Club on SR-91. Therefore, the analysis accounted for the egress and ingress at the SR-91 Express Lanes with the proposed geometry. The analysis also accounted for the weaving of traffic exiting the SR-91 Express Lanes to destinations in Corona such as the Green River off-ramp. Please refer to Response to Comment P-3A-2 for discussion regarding improvements associated with the SR-91 CIP Interim Phase. Please note that without the Proposed Project, with the completion of the SR-91 CIP Interim Phase (opened on March 20, 2017), vehicles will have to weave across several lanes from the SR-241 general purpose lane connector to enter the SR-91 CIP Express Lanes. As such, one of the purposes of the Proposed Project could not be attained.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
Transportation	P-25-5	A better use of funds would be the connection of La Palma Avenue and Green River Road. A single artery between Anaheim and Corona is one of the reasons for the ridiculous congestion this area suffers. Furthermore, a better use of funds to increase safety would be to build direct on and off ramps from Green River Road to the 91 Express Lanes.	Please refer to Response to Comment P-25-4 regarding access at Green River Road. Providing ramps to and from Green River Road and the SR-91 Express Lanes does not meet the Purpose and Need for the Proposed Project. Please refer to Chapter 1, page 1-11 of the Draft Supplemental EIR/EIS. Constructing a single artery between Anaheim and Corona would not meet the majority of the Project objectives because it would not implement the Proposed Project as approved in 1994 as part of the overall ETC project, improve traffic circulation, or improve the efficiency of the toll system.
Project Description and Transportation	P-25-6	In short, this is an unnecessary project, with overstated benefits. Use the funds to connect an alternate to the 91 for residents of Orange and Riverside Counties.	Please refer to Responses to Comments P-25-1 through P-25-5 for discussion regarding the Project's traffic benefits.
P-26 Comment Letter from Turi Daniels			
General	P-26-1	It's about time!! I sincerely hope that construction goes faster than that of the 5 & 91, they are moving at snail pace!! PS I have ALWAYS been in favor of the extension!!!!!!	The comment in support of the Proposed Project is noted for the public record.
P-27 Comment Letter from Don Paul			
General	P-27-1	I frequently drive from our home in Newport Beach to Corona & Riverside. The proposed "Express Connector" is a NO BRAINER which should have been a part of the 241 Toll Road when it was built !!! This "Express Connector" would also: 1. decrease traffic congestion 2. enhance safety by reducing weaving across lanes 3. improve toll lane access in Orange and Riverside Counties increase 241 Toll Road usage since people like me coming from South O.C. avoid the 241 since the current JAM at the 241 / 91 interchange negates most of our time savings using the 241 vs. using the 91 Express Lanes to avoid the 241 / 91 JAM	The comment states that the Proposed Project will improve the traffic congestion between Orange Count and Riverside County. The comment is consistent with the Purpose and Need of the Proposed Project that discussed in Section 1.2, page 1-11, and Chapter 1 of the Draft Supplemental EIR/EIS. The comment in support of the Proposed Project is noted for the public record.
P-28 Comment Letter from Bob Hughes			
General	P-28-1	Please keep the jobs building this new project to United States citizens only. Hire U.S.	The Proposed Project would benefit job-creation in the region.

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Topic	No.	Comment	Response
P-29 Comment Letter from TB Barnes			
Transportation	P-29-1	Hello - after review part of the documents provided on the proposed project, please find my thoughts/comments/suggestions below: • Reasons against the project: the purpose of the current 91 expansion project is to alleviate traffic congestion; no need for an additional project that will cause more of a long-term inconvenience to current residents	The comment is a general comment regarding the need for the Proposed Project. A general response is appropriate. Please refer to Chapter 1, page 1-11, of the Draft Supplemental EIR/EIS for the Purpose and Need of the Project.
Transportation	P-29-2	Corona has recently been made attractive as a transplant city for Orange County residents; decreasing traffic would make the city even more attractive and ultimately cause more congestion than any proposed traffic-reducing project will resolve.	Section 3.2.2 of the Draft Supplemental EIR/EIS discusses growth trends in the Study Area including the City of Corona. Population will continue to grow in Corona with or without the Proposed Project; however, Table 3.2.1, page 3.2-8 of the Draft Supplemental EIR/EIS, shows that between 2012 and 2040, job growth in Riverside County will be much higher than in Orange County.
Transportation	P-29-3	if the connector project is approved, I propose there be an optional lane to continue on the non-tolled general purpose lanes (similar to the current 55 North to 91 West connector split) so anyone not wanting to use the new lanes will not be forced to pay an extra toll; an optional non-tolled lane would also serve as an alternate when there is a tie-up and/or accident in the Express Lanes	The existing SR-241 general purpose lane connectors would be available for non-tolled travelers.
Transportation	P-29-4	have the new proposed connector lane be an HOV access lane only so everyone is not forced to pay an additional toll	The Proposed Project would connect to the SR-91 Express Lanes, which do not have an HOV restriction. Please refer to Response to Comment P-4A-1 for discussion regarding the purpose of a tolled connector.
Transportation	P-29-5	open a street exit route before Green River so traffic could migrate off and around the freeway	The suggested alternative does not meet the Purpose and Need for the Project stated in Section 1.2, page 1-11, and Chapter 1 of the Draft Supplemental EIR/EIS. Please refer to Response to Comment P-14-1 for discussion regarding the Express Lanes connection between SR-241 and SR-91.
Transportation	P-29-6	Metrolink to create a non-stop express route from Tustin station to Corona to attract more riders; the current schedule has many stops from the Riverside to Orange County area and does not save time due the frequent stops	The comment does not identify concerns about the adequacy of the Draft Supplemental EIR/EIS and no further response is required.

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Topic	No.	Comment	Response
P-30 Comment Letter from Hatem Tadros			
Transportation	P-30-1	As a resident of Yorba Linda east of Gypsum Canyon Rd, I thought it necessary to provide comment related to the proposed Express connector project. Residents of my area of Yorba Linda will no doubt be subject to the greatest degree of inconvenience and delays during construction of this proposed project. Though this inconvenience by itself is not reason to support the "no build" option, I would expect to know in detail what steps are going to be taken to minimize closures and detours of Gypsum Canyon Rd in particular.	As stated in Section 3.5.3.1, page 3.5-5 of the Draft Supplemental EIR/EIS, traffic delays are expected during construction. Temporary detours and weekend or nighttime closures would be required at the Gypsum Canyon Road on- and off-ramps and at the northbound SR-241 to the eastbound SR-91 connector. A Transportation Management Plan (TMP) would be prepared and implemented to minimize circulation and delay impacts (Section 3.5, Minimization Measure TR-1).
Transportation	P-30-2	Just as importantly, as a current daily user of the 241 North to 91 West connector, I have observed every day firsthand the congestion, delays, and frankly the dangerous conditions caused by disparity of traffic flow between the 241 North to 91 East vs. 91 west connectors.	Please refer to Responses to Comments P-1-3, P-7-2, and P-17B-2 for discussion regarding the Proposed Project's improvements to the northbound SR-241 to eastbound SR-91 connection.
Project Description and Transportation	P-30-3	Can you clarify how the project will address the following points: 1. Will there be a raised divider / permanent separator between the lanes leading to the existing 241 North to 91 East connector and the 241 North to 91 West connector? This separator is vital and needs to extend from the toll booth, spanning as far north as the 91 freeway to prevent the last minute weaving of stopped traffic into lanes of fast moving westbound 91 motorists. Allowing last minute merging between these lanes has caused severe slowing of 241 lanes leading to westbound 91.	Please refer to Responses to Comments P-1-3, P-7-2, and P-17B-2 for discussion regarding the Proposed Project's improvements to the northbound SR-241 to eastbound SR-91 connection.
Transportation	P-30-4	2. Will the project decrease or hold constant the number of lanes for the current connectors? If the impact of the project will be to reduce the number of lanes available for non 91 express lane users, I along with broad groups of residents would vehemently oppose this project.	The existing SR-241 to SR-91 connectors would remain in place with the Proposed Project.
Transportation	P-30-5	3. Will this project create any means of bypass of the 241-to-91 connectors to allow right of way directly to Gypsum Canyon Rd from the 241 road? At present, it is required that drivers use the 241 north / 91 west connector to exit Yorba Linda / Weir Canyon Rd., and then backtrack east to reach Gypsum Canyon Road. Will this project (and can this project) include a direct access link from the 241 to Gypsum Canyon Road to further alleviate traffic and allow additional access to eastern Yorba Linda	A direct access from SR-241 to Gypsum Canyon Road would not be provided as part of the Proposed Project.

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Topic	No.	Comment	Response
Project Description and Transportation	P-30-6	The most critical question remains question 1. The lack of a permanent separator between the two sets of lanes on the 241 N remains a serious risk to motorists.	Please refer to Responses to Comments P-1-3, P-7-2, and P-17B-2 for discussion regarding the Proposed Project's improvements to the northbound SR-241 to eastbound SR-91 connection.
P-31 Comment Letter from Jeff Gros			
Transportation	P-31-1	At around 6 pm on 12/9 I spent over an hour going north on the 241 attempting to transition to the 91-West. Had I been going to the 91-East, this would be understandable. For going west spending this is completely unacceptable. I feel like I've been cheated. When I finally inched my way to where I would transition to the 91-West, I saw the problem. People were selfishly trying to cut into the east bound traffic at the last minute with no regard to people behind them trying to go westbound. This is not an uncommon problem and can make using the toll road to go west bound very difficult.	Please refer to Responses to Comments P-1-3, P-7-2, and P-17B-2 for discussion regarding the Proposed Project's improvements to the northbound SR-241 to eastbound SR-91 connection. .
Transportation	P-31-2	I don't think your express connector is going to be very effective in reducing Orange County traffic. You cannot fix traffic going east to Riverside. It's like scooping water out of a sinking boat with a thimble.	Please refer to Response to Comment P-7-3 for discussion regarding the overall benefit of the Project.
Transportation	P-31-3	As an agency of Orange County, it is your responsibility to reduce traffic in Orange County. Riverside County traffic is not your charter.	The Proposed Project would provide an overall benefit in the SR-91 Corridor in the traffic Study Area. As discussed in the Summary in Section 3.5, page 3.5-33 of the Draft EIR/EIS, with the Project, the length of the northbound SR-241 to the eastbound SR-91 queue on the general purpose ramp would shorten in the PM peak period, due to an additional connection to SR-91.
Project Description and Transportation	P-31-4	I think the best solution is to isolate Riverside county traffic on the toll roads as much as possible. Put up a divider that runs the entire length of the 241 from where the 133 meets it. This simple fix would keep Orange County bound traffic flowing smoothly.	The suggested alternative does not meet the Purpose and Need for the Project stated in Section 1.2, page 1-11, and Chapter 1 of the Draft Supplemental EIR/EIS.

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Topic	No.	Comment	Response
P-32 Comment Letter from Charles Perrigoue			
General	P-32-1	Thank you for the opportunity to comment on the proposed 91/241 direct connector. I am a resident of South Orange county (Ladera Ranch.) Additionally I am a frequent user of the current connector. For the reasons stated in your "meeting" video I strongly support the construction of the proposed connector. The reduction of traffic, creation of jobs, and improvement of our infrastructure are laudable goals which this project directly supports. Excellent work TCA!	The comment in support of the Proposed Project is noted for the public record.
P-33 Comment letter from Gary Hickenbottom			
Transportation	P-33-1	Comment on The 241/91 Express Connector To be Added ; The amount of traffic that would actually use this; Added Connector would be to minimal as to construct.	Please refer to Response to Comment P-13-1 for discussion regarding the Proposed Project benefits. The westbound SR-91 to southbound SR-241 Express Lanes Connector would primarily reduce the weaving that would occur from vehicles exiting the SR-91 Express Lanes to get to SR-241. The northbound SR-241 to eastbound SR-91 Express Lanes Connector would substantially reduce the queue at the general-purpose lanes connector and reduces delay for vehicles using this connector. Please refer to Response to Comment P-3A-5 for discussion regarding the delay reduction.
P-34 Comment Letter from Adrian Koval			
Transportation	P-34-1	I am writing to ask why would state and private entities mask to reduce traffic when you are actually creating more traffic by adding toll lanes. You want to take “freeway” lanes and make them toll roads. It only eases traffic for those that can afford them and not for many of the public who does have to travel through this miserable highway. I am not a law maker, nor an engineer, but I can see that this is all about money masked as a solution to heavy traffic. All of you should be ashamed of yourselves.	The Lead Agency respectfully disagrees with the commenter’s claim that the Proposed Project would create more traffic. The Proposed Project would provide an overall benefit in the SR-91 Corridor within the traffic Study Area. As discussed in the Summary in Section 3.5, page 3.5-33 of the Draft EIR/EIS, with the Proposed Project, the length of the northbound SR-241 to the eastbound SR-91 queue on the general purpose ramp would shorten in the PM peak period, due to an additional connection to SR-91. The Proposed Project would not remove any “freeway” lanes and make them toll roads. The existing general purpose lane connectors between SR-241 and SR-91 would remain. Please refer to Chapter 1, Table 1.1, page 1-19 of the Draft Supplemental EIR/EIS for the projected volumes in 2017 and

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Topic	No.	Comment	Response
			2040, which would occur with or without the Project. Please refer to Response to Comment P-25-1 for discussion regarding the history of the Proposed Project. Please also refer to the Purpose and Need for the Project stated in Section 1.2, page 1-11, and Chapter 1 of the Draft Supplemental EIR/EIS.
P-35 Comment Letter from Norm & Linda Williams			
General	P-35-1	We support this proposal. We were once stuck on the 241 northbound to the 91 eastbound for 90 minutes. We literally crawled that last mile. We currently live in Highland and will be moving to San Clemente next year. We will be traveling the 241 to the 91 at least once a week for business and to be active grandparents for our granddaughter living in Norco. We have been lamenting the drive. So happy to read about this proposal!	The comment in support of the Proposed Project is noted for the public record.
P-36 Comment Letter from Norman L. Williams			
General	P-36-1	This is an idea that is long over due. Such a transition would relieve a major part of the bottle neck as you travel east on the 91 into Corona.	The comment in support of the Proposed Project is noted for the public record.
P-37 Comment Letter from Johnathan H. McDowell			
Transportation	P-37-1	I would like to go on record saying that I believe the 241/91 express connector would be a great project. I use the 241 to get to the 91 quite often. There are countless times that the current connector is backed up. I would love to be able to get right into the 91 express lane heading east and shorten my commute time.	The comment in support of the Proposed Project is noted for the public record.
P-38 Comment Letter from Roy Center			
Project Description and Transportation	P-38-1	I am in full support of the connector but you should also consider a direct connector from the Greenriver overpass to and from the west bound 91 fast track lanes	The comment in support of the Proposed Project is noted for the public record. Please refer to Responses Comments P-25-4 and P-25-5 regarding operations at Green River Road.

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Topic	No.	Comment	Response
P-39 Comment Letter from Diana Hearn			
Transportation	P-39-1	We wholeheartedly support this project. It would greatly enhance travel between southeastern Orange County and the 91 freeway.	The comment in support of the Proposed Project is noted for the public record.
P-40 Comment Letter from Sean Bryant			
Transportation	P-40-1	My wife and I travel to Orange County weekly for work. We absolutely approve of this expansion. We think it's vital to reducing traffic to and from Orange County and improving the area we live in (Corona) in general. We wish the timeline was sooner/faster as it's such a small bridge that needs to be created. My only concern is making sure the money is properly budgeted and scheduling isn't abnormally buffered.	The comment in support of the Proposed Project is noted for the public record. .
P-41 Comment Letter from William Lopez			
Project Alternatives	P-41-1	Will the existing ramps be left alone? I would suggest that they should be left there. The challenge that I see is that the existing Fastrack lanes will already have a steady flow of traffic. Now add two more lanes from the 241 and you will get congestion. Even if flow from green river towards riverside is clear, adding two lanes to the existing two will slow things down.	The existing general purpose lane connectors between SR-241 and SR-91 would remain. Please refer to Response to Comment P-8-1 for discussion regarding the Express Lane Connector merge at SR-91.
Project Alternatives	P-41-2	Also..... Have you considered putting barriers further up the 241 to prevent last minute mergers from fast lanes onto the eastbound flowing lanes.	Please refer to Responses to Comments P-1-3, P-7-2, and P-17B-2 for discussion regarding the Proposed Project's improvements to the northbound SR-241 to eastbound SR-91 connection.
P-42 Comment Letter from Xico Salazar			
Project Description	P-42-1	Was not there the provision for the toll roads revert to free after 30 years?	TCA opened the first modern tolled road that was not a bridge in the State of California in 1993. Construction of the tolled roads was funded by issuing non-recourse toll revenue bonds, and the tolls collected are used to pay off that debt. In 2013 and 2014, the bonds were restructured with lower interest rates to lower annual debt service growth and align with recalibrated revenue projections based on more than 20 years of actual tolled road operating history. The current final

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Topic	No.	Comment	Response
			maturity dates of the F/ETCA and San Juan Hills Transportation Corridor Agency (SJHTCA) bonds are 2053 and 2050, respectively. Please note that OCTA operates the 91 Express Lanes, RCTC operates the SR-91 CIP express lanes (SR-91 Express Lanes), and F/ETCA would operate the SR-241/SR-91 Express Lanes Tolled Connector and each facility was or will be completed at a different date.
Project Description	P-42-2	After TCA bought out the operators of the toll portion of the 91 freeway fees shot up to punishing heights never charged before and now fluctuate hourly reaching sometimes one dollar per mile. Will there be additional fees after the connector? Will they be as brutal? How long will the tolls be collected?	The Express Lanes Connector would be a tolled facility. Please refer to Response to Comments L-6-6 and P-41-1 for discussion regarding the coordination and operation of tolled roads. Please note that the *91 Express Lanes* are owned and operated by OCTA.
P-43 Comment Letter from Melinda Alvarez			
Project Description and Transportation	P-43-1	I think this project is a great idea; however a permanent barrier needs to be established at the top of the hill at the 241 dividing the on ramps to the 91 east and 91 west. We are paying good money to use the 241, so people who take the 91 west should not sit in traffic because of the 91 east traffic.	The comment in support of the Proposed Project is noted for the public record. Please refer to Responses to Comments P-1-3, P-7-2, and P-17B-2 for discussion regarding the Proposed Project's improvements to the northbound SR-241 to eastbound SR-91 connection.
Project Description and Transportation	P-43-2	Signs can be placed as drivers are going up the hill, and the toll booth should be split and a permanent structure (cement island, etc.) should be put in place to direct traffic in both directions on the 91 freeway well before the fork.	Signage will be placed throughout the project limits to direct traffic to the correct lanes. Please refer to Responses to Comments P-1-3, P-7-2, and P-17B-2 for discussion regarding the Proposed Project's improvements to the northbound SR-241 to eastbound SR-91 connection.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
P-44 Comment Letter from Patrick Dreis			
Transportation	P-44-1	This proposal to build connectors to the 91 express from and to the 241 is a bad idea. The 91 is already at capacity. Add lanes to the 91 first, before you increase connections.	As discussed in Chapter 1, Section 1.1.3.1, page 1-10, of the Draft Supplemental EIR/EIS, as part of the ultimate phase of the SR-91 CIP, one general purpose lane on SR-91 in each direction, between the junction of SR-241 and SR-91 and Pierce Street in the City of Riverside is included; and is planned for completion by 2035. This phase would also add an additional toll lane on SR-91 in each direction between I-15 and SR-241. Please also refer to Response to Comment P-8-1 for discussion regarding the Proposed Project's connection to SR-91. Please refer to Response to Comment P-25-4 for discussion regarding the scope of the work conducted for the *Traffic Analysis Report*.
P-45 Comment Letter from John Boyd			
General	P-45-1	All, please accept this email as a supporter of this process. This should have been considered and rights of way obtained as necessary prior to the completion of the 241 Toll Road. Transportation officials need to treat highway development the same way that private development is treated, i.e., contribution at the time of the development for existing and future infrastructure. Transportation officials need to project a ride sharing and toll road systems that is seamless as possible and this has been a glaring example far too long of lack of coordination. Agency jurisdiction should never block or hinder cooperation and compromise.	The comment in support of the Proposed Project and request for efficient project coordination is noted for the public record.
Project Description	P-45-2	With all that said some suggestions: 91 West/South to the 241 should be the easiest to construct but the congestion is more in the other direction. Priority should be for the 241 Northbound-91 East/North.	As discussed in Section 2.4, page 2-28, in Chapter 2 of the Draft Supplemental EIR/EIS, construction would occur in two main stages: Stages 1 and 2; and Stage 1 would occur in two phases identified as Stages 1A and 1B. The majority of the work would occur in Stage 1A. Construction of the SR-241 northbound to *91 Express Lanes* east would be part of the Stage 1A construction.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
Project Description and Transportation	P-45-3	The transition 241 Northbound-91 East/North should come from the 241 Northbound-91 West/South overpass already in existence to save costs and time of construction since the overpass is in place already. Your plan online doesn't provide details or scale.	Please refer to Response to Comment P-15B-1 for discussion regarding the location of the proposed Express Lanes Connector. With respect to design details and scale, as discussed in Chapter 2, Section 2.7, page 2-41 of the Draft Supplemental EIR/EIS, a Value Analysis Study was conducted to consider design refinements. A decision regarding implementation of these refinements would be made during the Final Design phase.
Transportation	P-45-4	I assume the overpass necessary from the 91 Express Westbound will be shared for the 241 Northbound Connector, if not it should.	Please refer to Response to Comment P-45-3 regarding the Value Analysis process. The northbound and southbound SR- 241 traffic to and from the *91 Express Lanes* may use the same structure. The proposed improvements are preliminary and subject to refinement based on further evaluation during the Final Design phase.
PHC-1 Public Hearing Comment Card from Marty De Sollar			
General	PHC-1-1	Thank you for the open house, but would ask that you have more outreach to Yorba Linda residents.	Consistent with the requirements of CEQA and NEPA, as discussed in Chapter 5, Section 5.2.1, page 5-1 of the Draft Supplemental EIR/EIS, a Notice of Preparation of a Supplemental EIR/EIS for the Proposed Project was mailed on March 13, 2015, to occupants and property owners within 0.25 mile of the Project Footprint. This included numerous residents in Yorba Linda. No public comments were received. A public notice to announce the Public Hearing and availability of the Draft Supplemental EIR/EIS for public review was published in the following newspapers on November 7, 11, and 21, 2016: *Press-Enterprise*, *Orange County Register*, and *Excélsior*. The public notice was also mailed on November 4, 2016 to occupants and property owners within 0.25 mile of the Project Footprint. This included numerous residents in Yorba Linda.

Table 5.4 Response to Public Review Comments on the Draft Supplemental EIR/EIS

Topic	No.	Comment	Response
			Your name has been added to the mailing list for future notifications, which will continue during the Final Design and Construction phases.
General	PHC-1-2	I would also suggest that your information sheets have a more detail schematic of the project	Please refer to Figure 2.1 in the Draft Supplemental EIR/EIS for an illustration of the project alignment, limits, and features. The Draft Supplemental EIR/EIS is available at TCA's office and at Caltrans District 12.
PHC-2 Public Hearing Comment Card from Matt Olsen			
Project Alternatives	PHC-2-1	I encourage TCA and other agencies to add travel time signage (travel with and without toll facility usage) at all ingress points. Also, please thoroughly communicate that connector users are locked in until I-15.	Signage would be provided throughout the Project Limits. The details of signage placement and content would be refined during the Final Design phase. Actual travel time information on that signage would be provided for the Express Lanes Connector but not for the general purpose lanes connector.
PHC-3 Public Hearing Comment Card from Rich Gomez			
Project Description	PHC-3-1	This connector should have been designed and improved with 241 when it was first designed. It is long overdue.	Please refer to Response to Comment P-2-1 for discussion regarding the timing for the Proposed Project.
General	PHC-3-2	As a union carpenter who worked on the original 241/261 Toll Roads. From start to the end. We would love to be part of this connector. It would employee a lot of local carpenters who live and spend our money in our local communities.	The comment in support of the Proposed Project is noted for the public record.
PHC-4 Public Hearing Comment Card from Sally Wurtenberg			
Project Description and Transportation	PHC-4-1	I live off of Weir Canyon and I am not able to access the 91 Express Lanes at my on-ramp. Is there a way to help us that live in the area to access 91 Express Lanes?	Access to the Express Lanes on SR-91 would be available at SR-55, SR-241, SR-91 at the Orange/Riverside County Line, and on northbound I-15, south of SR-91. Please refer to Response to Comment P-31-3 for discussion regarding the Purpose and Need for the Proposed Project.
Transportation	PHC-4-2	The 241 from Weir Canyon is blocked by 91 Freeway traffic, so we are often locked up with that traffic and can't easily get on the 241.	Please refer to Response to Comment P-13-1 for discussion regarding the Project benefits.

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Topic	No.	Comment	Response
PHC-5 Public Hearing Comment Card from Sally Wurtenberg			
General	PHC-5-1	I am highly in favor of this project and am satisfied with the info presented tonight. Please proceed full-speed ahead.	The comment in support of the Proposed Project is noted for the public record.

[1] County of Orange. *Final Natural Communities Conservation Plan/Habitat Conservation Plan.* County of Orange Central & Coastal Subregion, Parts I & II: NCCP/HCP. July 17, 1996.

[2] Irvine Ranch Conservancy. Website: http://www.irconservancy.org/resource-management.html (accessed June 21, 2017).

[3] City of Corona. 2017. Website: http://www.discovercorona.com/City-Departments/Community-Development/Planning-Division/Arantine-Hills-Project.aspx (accessed March 28, 2017).

[4] Toll Roads Blog. Website: https://thetollroadsblog.com/2014/02/07/new-lights-installed-at-tolling-locations/ (accessed April 27, 2017).

Table 5.5 Response to Public Review Comments on the Draft Supplemental EIR/EIS Received After the Public Review Period

Topic	No.	Comment	Response
F-2: Letter from the United States Department of the Interior			
Natural Environment	F-2-1	The U.S. Fish and Wildlife Service (FWS) and the National Park Service (NPS) have reviewed the above referenced Draft Environmental Impact Statement (EIS), dated October 2016. Our primary concern and mandate is the protection of public fish and wildlife resources and their habitats and the potential harmful impacts on the Irvine Ranch National Natural Landmark (NNL). We have legal responsibility for the welfare of migratory birds, anadromous fish, and endangered animals and plants occurring in the United States. We are also responsible for administering the Endangered Species Act of 1973 (Act), as am ended (16 U.S.C. 1531 et seq.). Service is a Participating Agency for this project. The project as proposed will result in the construction of a tolled median-to-median connector between State Route 241 (SR-241) and the tolled lanes in the median of State Route 91 (SR-91). The project is located in the cities of Anaheim, Yorba Linda, and Corona and the counties of Orange and Riverside, California.	The comment is introductory and does not raise any substantive environmental issues; therefore, no further response is necessary.
Natural Environment	F-2-2	The DEIS states, “The entire footprint of the ETC Corridor was assumed “take” through its construction, and per the NCCP/HCP documents, all development activities and uses addressed by the NCCP/HCP by participating landowners within the NCCP/HCP Plan Areas are considered fully mitigated by the NCCP/ HCP. No additional mitigation is required for impacts to identified species and their habitat or for species residing in covered habitats” (page 3.15-1). The DEIS should document that the current proposed project extends farther to the east along SR-91 than was previously proposed. Impacts to sensitive species and	Chapter 1, Section 1.1.2, page 1-9, of the Draft Supplemental EIR/EIS discusses the reason for preparation of a Supplemental EIR/EIS, which includes addressing the extended Project Limits on SR-91 to the east. This information is repeated in Chapter 2, Section 2.2, page 2-2, and the limits of the ETC project on SR-91 are shown in Figure 2.1, Sheet 4, of the Draft Supplemental EIR/EIS. As requested, the limits of the ETC project on SR-91 have been added to Figures 3.15.1 and 3.15.2 in the Final Supplemental EIR/EIS. A statement was added to Section 3.15.2.1, page 3.15-1, of the Final Supplemental EIR/EIS to indicate the Project Area extends farther east on SR-91 than the ETC project. Table 3.15.2 in the Final Supplemental EIR/EIS was revised as requested. The revisions to Table 3.15.2 do not change the impact conclusions provided in the Draft Supplemental EIR/EIS.

Table 5.5 Response to Public Review Comments on the Draft Supplemental EIR/EIS Received After the Public Review Period

Topic	No.	Comment	Response
		habitats that were not previously analyzed and offset through the 1994 Biological Opinion and NCCP/HCP will need to be quantified and should be offset. The FEIS should include in the project figures the mapped eastern limit of the previously analyzed project. Table 3.15.2 should be revised to include separate columns for the project area previously analyzed under the 1994 Biological Opinion and NCCP/HCP, and the new eastern portion of the project that has not been analyzed and offset.	
Natural Environment	F-2-3	The project will result in permanent impacts to 5 acres of land located within the Gypsum Canyon Nature Preserve that is protected by a Conservation Easement held by The Nature Conservancy. The project proposes to use the area for construction staging (page S-11), for the construction of a maintenance access road (page S-10), and for slope grading to accommodate the realigned eastbound SR-91 lanes (page 2-18). The DEIS proposes a de minimis finding for these impacts to the Gypsum Canyon Nature Preserve under section 4(f) of the Department of Transportation Act of 1966 (page 3.1-56). The de minimis finding is not appropriate. Under section 4(f) these lands may only be affected for a transportation use if there is no prudent and feasible alternative and the project includes all possible planning to minimize harm to the site.	The partial acquisition area (approximately 5 acres on a County of Orange parcel [APN 085-071-56]) would be used for construction access, a maintenance road, and slope grading to accommodate the realigned eastbound SR-91 lanes. The area would be used for construction access but not for construction staging. As discussed in Chapter 2, page 2-23, of the Draft Supplemental EIR/EIS, the acquisition area is currently part of the Irvine Ranch National Natural Landmark (NNL), owned by the County of Orange with a Conservation Easement held by The Nature Conservancy. The Conservation Easement allows for “necessary infrastructure improvement.” The acquisition area is in the northeastern part of the Gypsum Canyon Nature Preserve, which is one of three separate areas in the Gypsum Canyon Nature Preserve. Caltrans requires a permanent access road in the acquisition area in order to maintain the slope. Slope maintenance includes monitoring slope stability, erosion, and drainage and making any needed repairs. The Build Alternative will not include any permanent surface, subsurface, or aerial easements at the NNL. No temporary construction easements or other temporary uses of land outside the defined project limits are anticipated in the NNL. As discussed in Appendix B, Section B.5.2, a de minimis impacts determination for the use of the Gypsum Canyon Nature Preserve is appropriate because use of the acquisition area would not affect any connections to other open space or wilderness areas. The Build Alternative also would not substantially impact the natural resources in the NNL or affect the access into/out of the Nature Preserve, and there would be no interference

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Topic	No.	Comment	Response
			with the features, activities, attributes, or purposes of the Nature Preserve or the NNL, on either a temporary or permanent basis under the Build Alternative. It should be noted that Gypsum Canyon Nature Preserve was evaluated for protection under Section 4(f) as a public recreation resource. It should be noted that Gypsum Canyon Nature Preserve was evaluated for protection under Section 4(f) as a public recreation resource. A de minimis determination under Section 4(f) does not require evaluation of a prudent and feasible alternative. On July 11, 2017, Caltrans submitted a letter to OC Parks requesting concurrence that the Proposed Project would not interfere with the features, activities, attributes, or purposes of the Nature Preserve or the NNL that are subject to protection under Section 4(f). OC Parks provided written concurrence on July 25, 2017. As discussed in Response to Comment I-1-1, the engineering feasibility of a retaining wall (soil nail wall) to avoid/minimize impacts to the NNL would be evaluated in the Final Design phase.
Natural Environment	F-2-4	To minimize harm to the site, the proposed construction staging should be relocated to existing developed / disturbed areas, such as the junction of SR-241 and SR-91 in the existing Caltrans right-of-way, to avoid impacts to sensitive habitats and species. The need for a maintenance access road at this location is not clearly explained in the DEIS, and the road appears to impact adjacent habitat unnecessarily (Figure 2.1, Sheet 4). The project should be redesigned to remove or relocate the maintenance access road. If it is not feasible to relocate the maintenance access road, the FEIS should provide a clear description of the need for the road. The proposed slope grading should be minimized through the use of a retaining wall.	As discussed in Response to Comment F-2-3, construction staging would not occur within the 5-acre acquisition area. Please refer to Response to Comment F-2-3 for discussion regarding the Proposed Project features in APN 085-071-56. Additional text was added to Chapter 2, Section 2.2.1.2, page 2-19, of the Final Supplemental EIR/EIS, to indicate that the purpose of the maintenance access road is to maintain the slope. As discussed in Response to Comment I-1-1, the engineering feasibility of a retaining wall to avoid/minimize impacts to the NNL would be evaluated in the Final Design phase.

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Topic	No.	Comment	Response
Natural Environment	F-2-5	The DEIS states that the proposed impacts to the Gypsum Canyon Nature Preserve did not warrant the proposed activity approval process within the grant deed of the Conservation Easement (page 5-19 to 5-20). The FEIS should provide the relevant language from the Conservation Easement that was used to reach the decision that the proposed activity approval process is not warranted for this project. Regardless of the language in the Conservation Easement, we recommend that the project be designed to avoid and minimize impacts to this conserved area.	The referred to language in the Conservation Easement is as follows: ***Specific New Roads.*** *A depiction of the existing Orange County Transportation Authority (OCTA) Master Plan of Arterial Highways effective as of December 11, 2000 (the "MPAH") is included in the Easement Documentation Report. Grantor shall be entitled to cooperate with the appropriate federal, state, and local authorities with respect to, and undertake in all respects, the development, construction, improvement, maintenance, repair, replacement, relocation and use of all roads as shown and described on such existing MPAH, together with all utilities and other facilities ordinarily constructed or installed within or adjacent to such roads, and all improvements related thereto (collectively, the "MPAH Roads") in the relevant area (the "Allowable MPAH Area"), subject to the following conditions:* *(a) If and to the extent Grantor is undertaking the development of any MPAH Road, Grantor shall use its reasonable best efforts to ensure that such MPAH Road is undertaken in such a manner as will minimize as much as reasonably possible the impact on the design and construction of such MPAH Road of wildlife underpasses, where appropriate pursuant to any existing completed wildlife movement studies for the Property previously funded by Grantor. Grantee understands and acknowledges that Grantor may not be the party undertaking development of each MPAH Road. In those instances where Grantor is nonetheless participating in the development of the MPAH Road, Grantor shall use its reasonable best efforts to provide the party undertaking the MPAH Road with the awareness of the desirability of considering the incorporation into the design and construction of such roads of wildlife underpasses and to deliver to such party copies of any existing completed wildlife movement studies for the Property previously funded by Grantor.* *(b) Notwithstanding any other provision of this Deed to the contrary, either before or after the time that any MPAH Road permitted under this Paragraph is commenced or completed, Grantor shall have the right to transfer to any appropriate agency, entity or individual fee title, easement, license and/or other possessory interest to the Allowable MPAH Area related to such MPAH Road, in the form or manner required by the recipient (including without limitation with title acceptable to the recipient),*

Table 5.5 Response to Public Review Comments on the Draft Supplemental EIR/EIS Received After the Public Review Period

Topic	No.	Comment	Response
			and without compensation to Grantor or Grantee and without requiring the recipient to resort to its powers of eminent domain (if any) or other similar legal process in such endeavor. Grantee shall cooperate with Grantor, as reasonably requested and at no out-of-pocket cost to Grantee, to ensure Grantor may exercise said right to transfer the Allowable MPAH Area. To that end, if requested, Grantee shall execute and record an amendment to this Deed releasing the Allowable MPAH Area from this Deed, provided that Grantee shall be entitled to require that any such release from this Deed explicitly confirm the provisions of subparagraph 5(d) below with respect to the released Allowable MPAH Area. In transferring title to the Allowable MPAH Area as permitted in this Paragraph 5, subject to acceptance by the recipient, Grantor shall use its reasonable best efforts to restrict use of the Allowable MPAH Area to the applicable MPAH Road in a recorded document encumbering the Allowable MPAH Area. *(c) Again assuming Grantor is the party seeking a permit for the MPAH Road, prior to submitting an application for that permit, Grantor shall provide copies of (or allow Grantee to review) any and all applications for permits filed by grantor for such MPAH Road. Nothing herein is intended or shall be deemed to require Grantee's consent or approval to any MPAH Road.* *(d) For all purposes, in deriving the fair market value of the Property as encumbered by the Easement (e.g., in deriving the Original Easement Value under Paragraph 18 of the main body of this Deed), Grantor shall be deemed to have retained the total value of all Allowable MPAH Areas permitted to be used for MPAH Roads under this Paragraph 5, along with any and all potential uses or activities thereon, without regard to the terms of this Easement or the restriction imposed by this Deed, and without regard to whether or not the total Allowable MPAH Areas will actually be so used.* Please refer to Response to Comment I-1-1 for discussion regarding future review of a retaining wall. Please refer to Appendix B, Section B.5.1.1, of the Draft Supplemental EIR/EIS, for a discussion of the avoidance, minimization, and mitigation measures applicable to the 5-acre acquisition area.

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Topic	No.	Comment	Response
Natural Environment	F-2-6	The DEIS states that the construction activities and project improvements would be entirely within the Caltrans right-of-way, in the median, and along existing paved roads, in the vicinity of Gypsum Canyon, Coal Canyon and B Canyon and, therefore, would not impact the use or operation of the undercrossings as wildlife crossings (pages 3-45 and 3.15-55). All wildlife undercrossings are located within the right-of-way of the roads under which they are located. In the FEIS, this analysis needs to be revised to examine more critically the function of wildlife crossings in the project footprint and how the proposed use of wildlife crossings for construction access and staging will impact their functioning as wildlife crossings. Specifically, the analysis should address any potential impacts from changes in noise and lighting, bridge or culvert widening, changes to vegetation cover adjacent to culvert or bridge openings, changes to substrate within or at either end of the crossing (e.g., placement or rip-rap at either end of a bridge or culvert would inhibit wildlife dispersal), and reduction in visibility (e.g., vertical or horizontal bends would impede the ability of wildlife to look through the crossing to habitat on the other side of the road). The project should incorporate wildlife connectivity benefits to offset any unavoidable impacts to wildlife crossings.	Section 3.15, page 3.15-55, of the Draft Supplemental EIR/EIS, provides that "the Build Alternative would not result in temporary or permanent impacts to the wildlife linkages in Gypsum Canyon, Coal Canyon, and B Canyon." Section 3.15, page 3.15-55, of the Draft Supplemental EIR/EIS, provides that the "Build Alternative would widen the existing southbound bridge structure at the Windy Ridge Wildlife Undercrossing." The commenter is referred to the discussion of impacts to the Windy Ridge Wildlife Undercrossing provided on pages 3.15-55 through 3.15-56 of the Draft Supplemental EIR/EIS. The Coal Canyon undercrossing is not a designated wildlife corridor. With respect to changes in noise and lighting, as discussed in the Draft Supplemental EIR/EIS, Minimization Measure NC-11 requires that construction equipment maintenance, lighting, and staging must be in designated areas, away from Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing. Minimization Measure NC-12 requires avoidance of the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing to the degree feasible, and has been revised in the Final Supplemental EIR/EIS to indicate that construction will be limited to daylight hours. Additionally, Minimization Measure NC-13 requires that Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing be kept clear of all equipment or structures that could potentially serve as barriers to wildlife passage. Mitigation Measure NC-14 requires that structures required for bridgework at Windy Ridge Wildlife Undercrossing be erected so as not to block the main underpass and that scaffolding and false work be restricted to the side of the underpass to maintain the functionality of the crossing for wildlife movement. Construction Staging Areas are shown on Figure 2.1 in the Draft Supplemental EIR/EIS. The nearest construction staging area to the wildlife linkages described above is within the SR-91 eastbound loop on-ramp at Gypsum Canyon Road (Sheet 3). This area is lighted at night by existing light fixtures along the existing roadway facilities and is affected by existing traffic noise. Construction access to the SR-91 median would be provided via Coal Canyon Road as shown on Figure 2.1, Sheet 4, of the Draft Supplemental EIR/EIS. The existing dirt area provided for wildlife crossing would not be impacted. This text was added to Section 3.15 in the Final Supplemental EIR/EIS. Measures

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Topic	No.	Comment	Response
			to minimize impacts are included on pages 3.15-62 and 3.15-63 of the Draft Supplemental EIR/EIS. Windy Ridge Wildlife Undercrossing would be widened as discussed on Section 3.15.3, pages 3.15-55 and 3.15-57 of the Draft Supplemental EIR/EIS. Disturbed habitat in this area would be revegetated (Measure NC-10) after construction is complete. Measure NC-10 was modified in the Final Supplemental EIR/EIS to include revegetation at Coal Canyon Undercrossing as well. Measures to minimize impacts are included on pages 3.15-62 and 3.15-63 of the Draft Supplemental EIR/EIS. There would be no permanent changes to Coal Canyon Undercrossing. The Proposed Project would not replace culverts crossing under SR-241 and SR-91 at Windy Ridge, Gypsum Canyon, Coal Canyon, and B Canyon, and no reduction in visibility is anticipated. As shown on Figure 3.15.2, Sheets 7 and 8, construction grading would impact the entrance to culverts at Drainage Features 4, 5, and 6. The culvert at Drainage Feature 4 would be extended to the south to accommodate the realignment of SR-91, but there would be no changes to the substrate within or at the end of the culvert. No vertical or horizontal curves would be constructed in the culvert extension. Disturbed areas will be replaced with native vegetation that will not obscure the culvert openings, consistent with the requirements in Measure V-4 in the Draft and Final Supplemental EIR/EIS. ETC Final EIR and EIS Measure B-13 (Section 3.16 of the Draft EIR/EIS) reads as follows: *In conjunction with final design, the TCA shall, to the extent feasible, construct stream bank reinforcements of ungrouted riprap gabions or other appropriate material at the shallowest possible slope (2:1 or less), allowing for the replacement of soil and the subsequent revegetation of these areas with riparian plant species.* This measure would minimize impacts on drainages and wildlife movement below SR-241 and SR-91. No other modifications to the wildlife linkages described above would occur. Please also refer to Measure TE-7 in Section 3.19 of the Final Supplemental EIR/EIS, which contains the conservation measures and terms and conditions required in the Biological Opinion for the Project to further protect wildlife crossings. Specifically, CM 2 in the Biological Opinion and Measure TE-7

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Topic	No.	Comment	Response
			requires permanent lighting to be of the lowest illumination necessary for safety and to be directed toward the roadway and away from sensitive habitats and wildlife crossings. In addition, light glare shields will be used to reduce the extent of illumination into sensitive habitats. Furthermore, the Caltrans Project Biologist will review the permanent lighting plans and submit them to the California Fish and Wildlife Office for review and approval at least 15 working days prior to initiating project impacts.
Natural Environment and Visual	F-2-7	The DEIS refers to advance signage in the vicinity of the Windy Ridge Wildlife Crossing and Coal Canyon Undercrossing (page S-9). The FEIS should provide detail on how the project will avoid light spill from signage lighting into areas of adjacent habitat, including wildlife crossing areas. Lit signs, and in particular changeable message signs and signs with blinking lights, should be located away from wildlife crossing areas. Lighting, including signage lighting, should be directed toward the freeway and shielded and directed away from adjacent habitat areas.	Page S-9 of the Draft Supplemental EIR/EIS refers to modifications to existing signage near Windy Ridge Wildlife Undercrossing. As discussed in Section 3.6.4.2, page 3.6-13, of the Draft Supplemental EIR/EIS, new lighting would be directed on site to minimize potential intrusion of light and glare onto nearby land uses. Lighting for the Proposed Project would be consistent with existing lighting along SR-241. These requirements are included in Measure V-1.
Natural Environment	F-2-8	The DEIS refers to restoring all disturbed habitat adjacent to the Windy Ridge Wildlife Undercrossing with native vegetation (pages S-40 to S-41 and 3.15-62) but does not mention restoration of native habitats at the other wildlife crossings within the project area. While the Coal Canyon undercrossing had previously been unvegetated and disturbed, in 2013 it was planted with native vegetation to encourage increased use of the undercrossing by wildlife. Impacts to native vegetation within all wildlife crossing areas should be avoided to the greatest extent feasible. Avoidance of native habitats, and restoration of habitats where avoidance is not feasible, should apply to all of the wildlife crossings in the project area. The DEIS states that “Enhanced plantings shall occur adjacent to wildlife crossings” (page S-21). The FEIS should	The Proposed Project would impact a small amount of native vegetation planted in 2013 in the SR-91 median near Coal Canyon Undercrossing to allow for construction access to the SR-91 median. This vegetation would be replaced with native vegetation after construction is complete. This requirement is part of Measure NC-10 in the Final Supplemental EIR/EIS as discussed in Response to Comment F-2-6. Replacement plantings at Windy Ridge Wildlife Undercrossing and near Coal Canyon Undercrossing would be consistent with the existing vegetation and would not obscure the openings and would encourage wildlife movement in these areas.

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Topic	No.	Comment	Response
		provide more detail regarding the proposed plantings at wildlife crossings. Plantings at undercrossings should consist of native species that will not obscure the opening of the crossing and will encourage wildlife movement.	

Table 5.5 Response to Public Review Comments on the Draft Supplemental EIR/EIS Received After the Public Review Period

Topic	No.	Comment	Response
Natural Environment	F-2-9	The DEIS refers to avoiding night work at the Windy Ridge and Coal Canyon wildlife undercrossings and the states, "If work must be done at night, noise and direct lighting will be directed away from Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing"(page S-41). It is not clear how noise and light could be directed away from the undercrossings in the event that night work is conducted within the undercrossings. The FEIS should specify that no night work will occur in or adjacent to these sensitive wildlife crossing areas. The DEIS also refers to use of noise barriers during vibratory pile driving at the Coal Canyon Undercrossing (Page 3.15-62). It is not clear why vibratory pile driving would need to occur in or adjacent to the Coal Canyon Undercrossing, which is mapped in the DEIS as an advanced signage area. It is also not clear whether vibratory pile driving is proposed at the Windy Ridge Wildlife Undercrossing, and if so, whether noise attenuation measures are proposed for this sensitive wildlife movement area. The project should avoid impacts, or incorporate noise attenuation measures at all affected wildlife crossing areas. The DEIS states that the Coal Canyon undercrossing ramps will be regraded so the area can be used as a construction turnaround and to access the median (page 2-25). This area has been planted with native habitats to encourage increased use of the undercrossing by wildlife. We are engaged in on-going coordination efforts aimed at closing the Coal Canyon off-ramps to encourage increased use of the undercrossing by wildlife. Regarding the ramps to allow for access by construction vehicles is counter to	Please refer to Section 3.15.4, page 3.15-62 of the Draft EIR/EIS. Measure NC-11 states that construction equipment maintenance, lighting, and staging must be in designated areas, away from Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing. Measure NC-12 states that construction activity that must take place at the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing will be done as quickly as possible and only during daylight hours. No work would occur in the separated wildlife crossing area at Coal Canyon, which is separated from Coal Canyon Road by a fence. The language "If work must be done at night, noise and direct lighting will be directed away from Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing" refers to work in the vicinity. Prohibiting night work is not feasible in light of public safety and technical considerations and the project development schedule. Sheet piles will be needed to support the existing freeway structure to provide a ramp from Coal Canyon Road to the SR-91 median for construction access. No pile driving is proposed at Windy Ridge Wildlife Undercrossing. As discussed in Section 3.15, Measure NC-12 has been revised in the Final Supplemental EIR/EIS to require the contractor to limit noise at Coal Canyon Undercrossing to 5 dBA above the ambient noise level within 100 feet of the edge of roadway so that nearby wildlife is not unduly disturbed. The new turnaround in the median in the vicinity of Coal Canyon is not large enough to accommodate construction vehicles.

Table 5.5 Response to Public Review Comments on the Draft Supplemental EIR/EIS Received After the Public Review Period

Topic	No.	Comment	Response
		our ongoing habitat restoration and access control efforts in this area and would have a negative effect on wildlife use of the undercrossing. The project should be redesigned to use the median for construction access and turnaround and to avoid all impacts to the Coal Canyon undercrossing.	
Natural Environment and Transportation	F-2-10	Page S-17. Emergency Services – It is our understanding that the freeway median in the vicinity of Coal Canyon is now being used as a turn-around by emergency vehicles, reducing vehicle use of the Coal Canyon undercrossing, which benefits both wildlife connectivity and human safety by providing a more accessible and rapid turn-around location that is outside of the wildlife undercrossing. The FEIS should address how the project will maintain the median turn-around and associated human safety and wildlife connectivity benefits.	The new turnaround in the median in the vicinity of Coal Canyon is not large enough to accommodate construction vehicles. Please refer to Responses to Comments F-2-6 and F-2-9 for discussion regarding project impacts and minimization measures at Coal Canyon Undercrossing. In response to coordination between Caltrans and the California Highway Patrol (CHP) regarding the potential to provide a locked gate at Coal Canyon Undercrossing requested by USFWS, the CHP representative stated, "The new turnaround in the Fastrak lanes is not feasible for patrol units to turn around from the general lanes of traffic."[1] Therefore, Coal Canyon Undercrossing will continue to be used as a turn-around for emergency vehicles.
Water Quality	F-2-11	Page S-25. Groundwater Dewatering – The DEIS does not provide detail to ensure that proposed dewatering will not affect riparian and riverine habitats along the Santa Ana River corridor. If necessary, the project should be modified to ensure that these sensitive riparian habitats are not affected by dewatering.	As discussed in Section 3.8.3.1, page 3.8-15, of the Draft Supplemental EIR/EIS, groundwater dewatering may be required during construction of footings for the proposed bridge at the junction of SR-241 and SR-91. This work is not in the vicinity of the Santa Ana River. In addition, the General Groundwater Permit (Section 3.8, Measure WQ-5) requires compliance with specific discharge restrictions. Dewatering would only be required for placement of the footings and the amount of groundwater withdrawn would be minimal and would not lower the groundwater level such that adjacent habitats would be impacted.

[1] Email correspondence from Todd Kovaletz, Administrative Sergeant, California Highway Patrol dated April 12, 2019.

Table 5.5 Response to Public Review Comments on the Draft Supplemental EIR/EIS Received After the Public Review Period

Topic	No.	Comment	Response
Hazardous Waste/ Materials	F-2-12	Pages S-29 and S-30. Hazardous Materials – The DEIS does not include specific measures that will be used to contain and dispose of materials contaminated with asbestos and lead within sensitive habitat areas, including Gypsum Canyon. The project should be modified to incorporate specific measures to contain and dispose of contaminated waste.	Please refer to Minimization Measure HAZ-2: Asbestos Containing Materials, for a discussion of the disposal and handling of any asbestos containing materials in the Gypsum Canyon Road Undercrossing. A Lead Compliance Plan will be prepared to address workers' health and safety in accordance with Minimization Measure HAZ-1: Aerially Deposited Lead. It should be noted that the hazardous materials expected are related to potential aerially deposited lead on roadway shoulders, asbestos in Gypsum Canyon Road Undercrossing, treated wood in guardrails, traffic striping, and an unused petroleum pipeline. Please refer to Section 3.11.3, page 3.11-15, of the Draft Supplemental EIR/EIS, which states that there are standard regulatory requirements to be followed with respect to handling and disposal of hazardous materials. No additional measures are required to protect sensitive habitats.
Natural Environment	F-2-13	Page S-36 and S-37 and Pages 3.15-58 to 59. Natural Communities, Coastal California Gnatcatchers – The DEIS states that, "…to the maximum extent practicable, no grading of CSS habitat that is occupied by nesting [coastal California gnatcatchers, Polioptila californica californica] CAGN will occur during the breeding season (February 15 through July 15)…subject to public health and safety considerations." The DEIS also states that in the event of such considerations, project proponents, "will provide USFWS/CDFW with the maximum practicable notice (or such notice as is specified in the NCCP/HCP) to allow for capture of CAGN". The FEIS should specify that all vegetation removal activities for the proposed project will occur outside of the bird breeding season. Although the NCCP/HCP includes language regarding the capture of coastal California gnatcatchers, we do not recommend capture and relocation of gnatcatchers as a project avoidance measure, and all references to capture of coastal California gnatcatchers should be removed from the project minimization measures. As appropriate, passive relocation through flushing will be addressed	The comment is referring to Measure NC-2, shown below. This measure is a requirement from the ETC Final EIR and EIS and the same language is in the NCCP/HCP EIR/EIS. **Measure NC-2 Nesting Coastal California Gnatcatcher.** *During clearing or construction, to the maximum extent practicable, no grading of CSS habitat that is occupied by nesting CAGN will occur during the breeding season (February 15 through July 15). It is expressly understood that this provision and the remaining provisions of these "construction-related minimization measures" are subject to public health and safety considerations. These considerations include unexpected slope stabilization, erosion control measures, and emergency facility repairs. In the event of such public health and safety circumstances, landowners or public agencies/utilities will provide USFWS/CDFW with the maximum practicable notice (or such notice as is specified in the NCCP/HCP) to allow for capture of CAGN, cactus wrens (Campylorhynchus brunneicapillus), and any other CSS Identified Species that are not otherwise flushed and will carry out the following measures only to the extent practicable in the context of the public health and safety considerations.* The breeding season is now considered to be from February 15 through August 31; therefore, these dates are applicable to this measure. Measure NC-2 is included in the Proposed Project to ensure that the Proposed

Table 5.5 Response to Public Review Comments on the Draft Supplemental EIR/EIS Received After the Public Review Period

Topic	No.	Comment	Response
		in the section 7 consultation for the project.	Project is in full compliance with the ETC Final EIR and EIS and the NCCP/HCP. Participating Landowners, such as TCA, are required by the NCCP/HCP Implementation Agreement to implement the minimization measures in the NCCP/HCP EIR/EIS (https://occonservation.org/wp-content/uploads/2015/04/NCCP-Part-III-EIR.pdf, page 7-145). There is no intent to capture coastal California gnatcatchers; such capture is at the sole discretion of the USFWS and CDFW. In the Final Supplemental EIR/EIS, the following text was added at the end of Measure NC-2: " (Note: While this text is taken directly from NCCP/HCP Construction Minimization Measures to preserve their integrity, the capture and relocation of birds is not encouraged or authorized by the USFWS.)."
Natural Environment	F-2-14	Page S-38. Natural Communities, Coastal Sage Scrub – The DEIS states that, "Waste dirt or rubble will not be deposited on adjacent CSS identified in the NCCP/HCP for protection." The document later states that dust control measures will be implemented for CSS identified in the NCCP/HCP for protection. The project should be modified to ensure that project construction impacts will be limited to the defined project footprint, and dust control measures will be implemented for adjacent native plant communities, regardless of whether the adjacent habitats are identified in the NCCP/HCP for protection.	The footprint of the disturbance area will be minimized to the maximum extent feasible. Construction employees will be required to limit their activities, vehicles, equipment, and materials to the footprint and designated staging areas and routes of travel, and dust control measures will be implemented for all sensitive and candidate species, special habitats, and other native plant communities. Please refer to Measures E-1, B-8, and B-11 in Appendix D of the Draft Supplemental EIR/EIS, which more generally describes these requirements.
Natural Environment	F-2-15	Figure 3.15.2, sheet 8. – The DEIS does not explain the need for the expansive temporary impact area south of SR-91 between the Gypsum Canyon Nature Preserve and Coal Canyon. The project should be redesigned to minimize impacts in this area to avoid sensitive habitats, including coastal sage scrub and Coulter's Matilija poppies. If this impact consists of a graded slope it should be mapped as a permanent impact area, and the impact should be minimized through the use of a retaining wall.	The area around Feature 4 (Figure 3.15.2, Sheet 7) would be temporarily impacted due to construction access in order to realign the freeway and construct drainage pipes adjacent to this area. The area east of Feature 5 is a graded slope area and it has been identified as a permanent impact on Figure 3.15.2, Sheet 8, and is calculated in Table 3.15.1 in the Draft Supplemental EIR/EIS. The area east of Feature 6 would be used as construction access to realign the freeway and construct a retaining wall. Please note that Measure PS-3, Section 3.17.4, page 3.17-8, of the Draft Supplemental EIR/EIS requires ESA fencing and other avoidance measures for Coulter's Matilija poppies. As discussed in Response to Comment F-2-14, additional measures are included to protect native plant communities during construction.

Table 5.5 Response to Public Review Comments on the Draft Supplemental EIR/EIS Received After the Public Review Period

Topic	No.	Comment	Response
General	F-2-16	We appreciate the opportunity to comment on the Draft EIS and to participate in the transportation planning process. If you have any questions regarding this letter, please contact Sally Brown of the Carlsbad Fish and Wildlife Office at 760-431-9440, extension 278.	Contact information is noted for the public record. Ms. Brown is included in the distribution list (Chapter 7 of the Draft Supplemental EIR/EIS).
Natural Environment	F-2-17	Please be advised that this proposed project potentially impacts the Irvine Ranch National Natural Landmark (NNL). The NNL contains a diverse landscape dominated by chaparral and coastal sage scrub associations. These Mediterranean-type shrublands are a core element of concern for the South Pacific Border Biophysiographic Province. Both associations are represented by extensive stands with high biological diversity. The range of community composition present in the coastal sage scrub associations makes Irvine Ranch NNL one of the larger remaining areas of this threatened ecosystem. Other associations present on the Irvine Ranch considered as associated communities include live oak woodlands, riparian woodlands, Tecate cypress woodlands and grasslands. Woodlands and grasslands communities cover smaller areas of favorable habitat within the matrix of chaparral and coastal sage scrub. These habitats contribute to the biodiversity of the Irvine Ranch and are spatially and ecologically integrated into the chaparral and coastal sage scrub communities.	Please refer to Response to Comment F-2-3. As shown on Figure 3.15.2, Sheets 7 and 8, the part of the NNL that would be acquired contains coastal cage scrub and a small amount of chaparral. No Tecate cypress woodlands, native grasslands, or native woodlands are located in the part of the NNL that would be acquired.
Paleontology	F-2-18	Irvine Ranch NNL also contains a remarkably complete stratigraphic succession ranging in age from late Cretaceous to the present (last ~80 million years). This succession records the transition through several plate tectonic frameworks that are key to understanding the evolution of the South Pacific Border Biophysiographic Province. It also captures the	As discussed in Section 3.10.2.3, page 3.10-13, of the Draft Supplemental EIR/EIS, no special paleontological situation would be anticipated in the Area of Potential Disturbance (APD) within the NNL. The geologic units that would be encountered in the APD within the NNL are all present in other parts of the NNL and other areas in Southern California. There are no known unique paleontological resources specific to the geologic units exposed or in the subsurface in the part of the NNL within the APD that helped to contribute to

Table 5.5 Response to Public Review Comments on the Draft Supplemental EIR/EIS Received After the Public Review Period

Topic	No.	Comment	Response
		sedimentologic and paleoenvironmental responses to evolving plate tectonic settings. A diverse spectrum of rock types and fossils beautifully illustrates the pageant of changing landscapes, seascapes and paleogeographies at the junction of the Peninsular Ranges and Transverse Ranges geological provinces. The site presents a coastline to rugged mountain spectrum of landscapes shaped by tectonic uplift and erosional sculpting during the past 4 million years.	the NNL listing.
Natural Environment	F-2-19	Irvine Ranch NNL possesses significant biological resources of Mediterranean shrublands, including extensive areas of chaparral and coastal sage scrub associations. These chaparral resources are equal to those of other significant areas within the South Pacific Border Biophysiographic Province (such as the Santa Monica Mountains National Recreation Area), and the coastal sage scrub areas present one of the largest extant areas of this association remaining in California. It is the presence of these large and relative undisturbed ecosystems and their biological diversity that provides the uniqueness of this area. Important rare and endangered plants and animals are present in these habitats. Additionally, the NNL contains significant resources of live oak woodlands, riparian woodlands, and rare Tecate cypress woodlands, with their associated biota. Beyond their conservation significance, these biological resources have great value for research and education.	Please refer to Response to Comment F-2-17 for discussion regarding the habitat types in the part of the NNL that would be impacted by the Proposed Project.
Paleontology	F-2-20	A remarkably unique, long time-range stratigraphic succession in the Irvine Ranch shows the linkage between tectonic framework, provenances, sedimentology, paleoenvironments, paleontology, paleoclimate, landscape evolution and geologic history. In this regard it is not only outstanding, but represents one of the most critical time intervals and	Please refer to Response to Comment F-2-18 for discussion regarding the geologic units located in the part of the NNL that would be acquired as part of the Proposed Project.

Table 5.5 Response to Public Review Comments on the Draft Supplemental EIR/EIS Received After the Public Review Period

Topic	No.	Comment	Response
		locations in the evolution of the South Pacific Border Biophysiographic Province. A diverse spectrum of fossil faunas and floras, including invertebrates, vertebrates, and plants, add an important significance component to the stratigraphy of the Irvine Ranch from the perspectives of evolutionary events and important biostratigraphic reference sections. The tectonic geomorphology is particularly well-displayed and illustrates young mountain building processes through a combination of uplift and sea-level changes that have left their signature landforms well expressed throughout the site. This NNL is the best of a rare set of places within the South Pacific Border Biophysiographic Province where a long time-range, intact and structurally uncompromised stratigraphic section that records important earth history events are preserved.	
Land Use	F-2-21	The NNL protected area includes approximately 36,398 acres, and is depicted on the attached map (see below) of the project area (the green shading is Irvine Ranch NNL). For additional information or assistance with addressing this matter in preparing the Final EIS, please contact Ms. Laurie Lee Jenkins, National Natural Landmarks Coordinator, Pacific West Region, National Park Service, 810 State Route 20, Sedro Woolley, Washington, 98284, telephone (360) 854-7206.	Please refer to Figure 3.1.4 in the Draft Supplemental EIR/EIS, which shows the boundaries of the NNL in the Project Vicinity, and which are consistent with the map provided by this commenter. The provided contact information and map boundary are noted for the public record. Ms. Jenkins was added to the distribution list (Chapter 7 of the Final Supplemental EIR/EIS).

Table 5.5 Response to Public Review Comments on the Draft Supplemental EIR/EIS Received After the Public Review Period

Topic	No.	Comment	Response
P-3B Comment Letter from Becky Johnson			
Transportation	P-3B-1	I would like to add to my email below, the idea of putting in a tolled connector ramp/s for morning traffic from northbound Green River Road to the westbound 91 and for evening traffic from the east bound 91 up on to southbound Green River Road. I wonder if the flow of traffic could be managed on a single ramp that allows for the change of traffic direction primarily based on the time of day (i.e., the ramp being used for one direction only.)	Please refer to Response to Comment P-6-2 for discussion regarding a connection to Green River Road.

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Notice of Preparation, Notice of Intent, and Public Notice

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SCH NO. 89010410

NOTICE OF PREPARATION

To: _____

From: California Dept. of Transportation
3347 Michelson Drive, Suite 100
Irvine, CA 92612

Subject: **Notice of Preparation of a Supplemental Draft Environmental Impact Report**
Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

Project Title: SR-241/SR-91 Express Lanes Connector Project

Project Location: Junction of SR-241 and SR-91; Orange County and Riverside County, California

Project Description: Median-to-median connector between SR-241 and the SR-91 Express Lanes

This is to inform you that the California Department of Transportation will be the lead agency and will prepare a Supplemental Draft Environmental Impact Report (Supplemental DEIR) for the project described below. Your participation as a responsible agency is requested in the preparation and review of this document.

We need to know the views of your agency as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the Supplemental DEIR prepared by our agency when considering your permit or other approval for the project.

A project location map and further project description details are contained in the attached Public Notice.

A copy of the Initial Study (___is) (__X__is not) attached. Environmental effects anticipated for update in the Supplemental DEIR include: Land Use, Growth, Community Impacts, Utilities and Emergency Services, Traffic and Transportation/Pedestrian and Bicycle Facilities, Visual/ Aesthetics, Cultural Resources, Water Quality and Storm Water Runoff, Geology/Soils/Seismic/ Topography, Paleontology, Hazardous Waste/Materials, Air Quality/Climate Change, Noise, Energy, Biological Environment, and Cumulative Impacts. Topics that will not be included in the Supplemental DEIR are: Coastal Zone, Wild and Scenic Rivers, Farmlands/Timberlands, Hydrology and Floodplain. These topics will not be covered in the Supplemental DEIR because the Project, as originally approved, was found to not impact on these environmental parameters along the project limits and the proposed Project will not change that conclusion.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please direct your response to Bahar Heydari, (949) 724-2703, or at the following email address: D12.NOP241.91@dot.ca.gov. Please supply us with the name for a contact person in your agency.

Date 03/13/2015

Signature Amir Deshpande
Title Chief, Division of Environmental Analysis

NOTICE OF INTENT

[4910-22]

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

Environmental Impact Statement: Orange County and Riverside County, California

AGENCY: Federal Highway Administration (FHWA), DOT

ACTION: Notice of Intent

SUMMARY: The FHWA, on behalf of the California Department of Transportation (Caltrans), is issuing this notice to advise the public that a Supplemental Draft Environmental Impact Statement (Supplemental Draft EIS) will be prepared for a proposed highway project in Orange County and Riverside County, California. The original Notice of Intent was published on October 22, 1986 and revised on March 16, 1988.

DATES: The deadline for comments is Monday, April 13, 2015.

FOR FURTHER INFORMATION CONTACT: Smita Deshpande; 3347 Michelson Drive, Suite 100; Irvine, CA 92612; (949) 724-2245; D12.NOP241.91@dot.ca.gov; Chief, Division of Environmental Analysis. SUPPLEMENTARY INFORMATION:

Effective July 1, 2007, the Federal Highway Administration (FHWA) assigned, and the California Department of Transportation (Caltrans) assumed, environmental responsibilities for this project pursuant to 23 U.S.C. 327. Caltrans as the assigned National Environmental Policy Act (NEPA) agency, in cooperation with the United States Fish and Wildlife Service and United States Army Corps of Engineers, will

prepare a Supplemental Draft EIS on a proposal for a median-to-median connector between State Route 241 (SR-241) and the State Route 91 (SR-91) Express Lanes, project in Orange County and Riverside County, California.

The proposed median-to-median connector project encompasses 12-ORA-241 (PM 36.1/39.1), 12-ORA-91 (PM 14.7/18.9), and 08-RIV-91 (PM 0.0/1.5) for a length of approximately 8.7 miles. Anticipated federal approvals include an FHWA Air Quality Conformity Determination, Biological Opinion Amendment and permits under Section 404 and 401 of the Clean Water Act.

Caltrans District 12, in cooperation with the Foothill/Eastern Transportation Corridor Agency (F/ETCA), proposes to construct the median-to-median connector from State Route 241 (SR-241) to the State Route 91 (SR-91) Express Lanes. The proposed median-to-median connector is phase 2 of the Eastern Transportation Corridor (ETC) project previously approved in 1994. It will provide improved access between SR-241 and SR-91 and is proposed to be a tolled facility. Caltrans will be the lead agency for the project. The United States Army Corps of Engineers and the United States Fish and Wildlife Service were identified as cooperating agencies in the corresponding 1991 ETC Draft EIS and 1994 ETC Final EIS.

The SR-241/SR-91 Express Lane Connector was originally evaluated as a SR-241/SR-91 high-occupancy vehicle (HOV) direct connector in the 1991 ETC Draft EIS and 1994 ETC Final EIS (both of which studied a broader project area with improvements on SR-133, SR-241 and SR-261). The Systems Management Concept (SMC) for the ETC project proposed that the project would be staged, incorporating general purpose traffic

and eventually HOV lanes, to meet the forecasted demand. Under the SMC, ETC construction would be completed in one stage with three or more phases.

To implement Phase 2 of the ETC project, a Supplemental Draft EIS is being prepared to focus on the eastern portion of the original project and to address changes to environmental conditions and regulatory requirements. Various alternatives were studied in the 1991 ETC Draft EIS and 1994 ETC Final EIS; however, the Supplemental Draft EIS will include a No Build and one Build Alternative for the median-to-median connector only.

Letters describing the proposed action and soliciting comments will be sent to appropriate Federal, State, cooperating agencies, participating agencies, local agencies, and to private organizations and citizens who have previously expressed or are known to have interest in this proposal. Environmental Review of the project is anticipated to occur from 2015 through 2017. A public scoping meeting is not scheduled at this time; should you be interested, please let us know in writing. A public hearing will be held in 2016. Public notice will be given of the time and place of the hearing. The Supplemental Draft EIS will be available for public and agency review and comment prior to the public hearing.

To ensure that the full range of issues related to this proposed action are addressed and all significant issues identified, comments, and suggestions are invited from all interested parties. Comments or questions concerning this proposed action and the Supplemental Draft EIS should be directed to Caltrans at the address provided above. (Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction. The regulations implementing Executive Order 12372 regarding

intergovernmental consultation on Federal programs and activities apply to this program.)

Issued on: March 16, 2015

Shawn Oliver

Team Leader, Right of Way and Environment

Federal Highway Administration

Sacramento, California

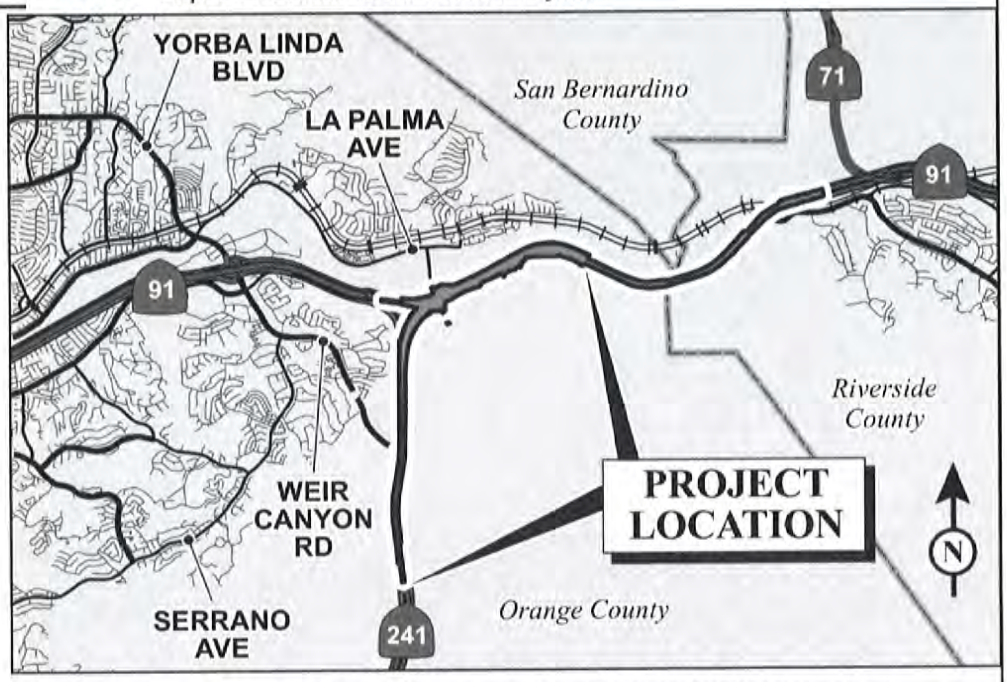
Caltrans

Transportation Corridor Agencies™

Public Notice

To Initiate Preparation of a Supplemental Draft Environmental Impact Report/Statement

Proposed Changes for a SR-241/SR-91 Express Lanes Connector Project



WHAT'S BEING PLANNED

The California Department of Transportation District 12 (Caltrans), in cooperation with the Foothill/Eastern Transportation Corridor Agency (F/ETCA), proposes to construct a median-to-median connector between State Route 241 (SR-241) and the State Route 91 (SR-91) Express Lanes. The project, located at the junction of SR-241 and SR-91 and in the cities of Anaheim, Yorba Linda and Corona, Orange County and Riverside County, California, will provide improved access between SR-241 and SR-91 and is proposed to be a tolled facility. The proposed median-to-median connector project encompasses 12-ORA-241 (PM 36.1/39.1), 12-ORA-91 (PM 14.7/18.9), and 08-RIV-91 (PM 0.0/1.5) for a length of approximately 8.7 miles. Caltrans will be the lead agency and will prepare a Supplemental Draft Environmental Impact Report/Environmental Impact Statement (Supplemental DEIR/DEIS) for the project.

WHY THIS AD

The proposed median-to-median connector is phase 2 of the Eastern Transportation Corridor (ETC) project previously approved in 1994. It was originally evaluated as a SR-241/SR-91 high-occupancy vehicle (HOV) direct connector in the 1991 ETC Draft EIR/EIS, 1992 ETC Final EIR, and the 1994 ETC Final EIS (all of which studied a broader project area with improvements on SR-133, SR-241 and SR-261). Various alternatives were studied in the 1991 ETC Draft EIR/EIS, 1992 ETC Final EIR and 1994 ETC Final EIS; however, this Supplemental DEIR/DEIS will study a No Build and one Build Alternative.

WHAT'S AVAILABLE	The Notice of Preparation/Notice of Intent (NOP/NOI) is available at the following libraries and Caltrans and TCA website:		
	East Anaheim; 8201 East Santa Ana Canyon Road; Anaheim, CA 92808; anaheim.net (714) 765-3887	Corona Public; 650 South Main Street; Corona, CA 92882; coronapubliclibrary.org (951) 736-2381	El Modena Branch; 380 South Hewes Street; Orange, CA 92869; cityoforange.org (714) 288-2450
	Caltrans Website:	http://www.dot.ca.gov/dist12/DEA/241-91ELC/	
	TCA Website:	http://www.thetollroads.com/241-91connector	
WHERE YOU COME IN	Do you have comments regarding the NOP/NOI? Or would you like a Public Information Meeting? Please submit your comments no later than April 13th, 2015, at 5:00 pm to Caltrans D12 Office, 3347 Michelson Drive, Suite 100, Irvine, CA 92612-8894 (Attn: Bahar Heydari) or via email: D12.NOP241.91@dot.ca.gov.		
CONTACT	For further information contact: Bahar Heydari at 949-724-2703.		
SPECIAL ACCOM-MODATIONS	Individuals who require documents in alternative formats are requested to contact the District 12 Public Information Office at 949-724-2000. TDD users may contact the California Relay Service TDD line at 1-800-735-2929 or Voice Line at 1-800-735-2922.		

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Comment Letters on the Notice of Preparation and Notice of Intent

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CITY OF CORONA FIRE DEPARTMENT

735 PUBLIC SAFETY WAY • CORONA, CA 92880 • (951) 736-2220 • FAX (951) 736-2497
WWW.DISCOVERCORONA.COM

March 19, 2015

California Department of Transportation
Caltrans D12 Office
3347 Michelson Drive, Suite 100
Irvine, CA. 92612-8894

RE: **Notice of Preparation of a Draft EIR SR-241/SR-91 Express Lanes Connector Project**

To Whom It May Concern,

The Corona Fire Department is in receipt of your notice regarding the SR-241/SR-91 Project. Our Department does respond to your project area with the Orange County Fire Authority and the Anaheim Fire Department. Please include the Corona Fire Department in your scope of work so that we receive all notifications that would affect our Department's emergency response protocols to the project area.

If you have any questions, please feel free to call me directly at 951-736-2220.

Sincerely,

David P. Duffy

David Duffy
Fire Chief

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

March 19, 2015

Bahar Heydari
California Department of Transportation
3347 Michelson Drive, Suite 100
Irvine, CA 92612

Notice of Preparation of a CEQA Document for the
SR-241/SR-91 Express Lanes Corridor Project

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the above-mentioned document. The SCAQMD staff's comments are recommendations regarding the analysis of potential air quality impacts from the proposed project that should be included in the draft CEQA document. Please send the SCAQMD a copy of the CEQA document upon its completion. Note that copies of the Draft EIR that are submitted to the State Clearinghouse are not forwarded to the SCAQMD. Please forward a copy of the Draft EIR directly to SCAQMD at the address in our letterhead. **In addition, please send with the draft EIR all appendices or technical documents related to the air quality and greenhouse gas analyses and electronic versions of all air quality modeling and health risk assessment files. These include original emission calculation spreadsheets and modeling files (not Adobe PDF files). Without all files and supporting air quality documentation, the SCAQMD will be unable to complete its review of the air quality analysis in a timely manner. Any delays in providing all supporting air quality documentation will require additional time for review beyond the end of the comment period.**

Air Quality Analysis

The SCAQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from the SCAQMD's Subscription Services Department by calling (909) 396-3720. More recent guidance developed since this Handbook was published is also available on SCAQMD's website here: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993). SCAQMD staff also recommends that the lead agency use the CalEEMod land use emissions software. This software has recently been updated to incorporate up-to-date state and locally approved emission factors and methodologies for estimating pollutant emissions from typical land use development. CalEEMod is the only software model maintained by the California Air Pollution Control Officers Association (CAPCOA) and replaces the now outdated URBEMIS. This model is available free of charge at: www.caleemod.com.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project. Air quality impacts from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, that is, sources that generate or attract vehicular trips should be included in the analysis.

The SCAQMD has also developed both regional and localized significance thresholds. The SCAQMD staff requests that the lead agency quantify criteria pollutant emissions and compare the results to the recommended regional significance thresholds found here: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2. In addition to analyzing regional air quality impacts, the SCAQMD staff recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs). LST's can be used in addition to the recommended regional significance thresholds as a second indication of air quality impacts when preparing a CEQA document. Therefore, when preparing the air quality analysis for the proposed project, it is

recommended that the lead agency perform a localized analysis by either using the LSTs developed by the SCAQMD or performing dispersion modeling as necessary. Guidance for performing a localized air quality analysis can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds.

In the event that the proposed project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the lead agency perform a mobile source health risk assessment. Guidance for performing a mobile source health risk assessment ("*Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis*") can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mobile-source-toxics-analysis. An analysis of all toxic air contaminant impacts due to the use of equipment potentially generating such air pollutants should also be included.

In addition, guidance on siting incompatible land uses (such as placing homes near freeways) can be found in the California Air Resources Board's *Air Quality and Land Use Handbook: A Community Perspective*, which can be found at the following internet address: http://www.arb.ca.gov/ch/handbook.pdf. CARB's Land Use Handbook is a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process.

Mitigation Measures

In the event that the project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize or eliminate these impacts. Pursuant to state CEQA Guidelines §15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed. Several resources are available to assist the Lead Agency with identifying possible mitigation measures for the project, including:

- Chapter 11 of the SCAQMD *CEQA Air Quality Handbook*
- SCAQMD's CEQA web pages at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mitigation-measures-and-control-efficiencies.
- CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures* available here: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf.
- SCAQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook for controlling construction-related emissions
- Other measures to reduce air quality impacts from land use projects can be found in the SCAQMD's Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. This document can be found at the following internet address: http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf?sfvrsn=4.

Data Sources

SCAQMD rules and relevant air quality reports and data are available by calling the SCAQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available via the SCAQMD's webpage (http://www.aqmd.gov).

The SCAQMD staff is available to work with the Lead Agency to ensure that project emissions are accurately evaluated and mitigated where feasible. If you have any questions regarding this letter, please contact me at Jwong1@aqmd.gov or call me at (909) 396-3176.

Sincerely,

Jillian Wong

Jillian Wong, Ph.D.
Program Supervisor
Planning, Rule Development & Area Sources

ORC150313-04
Control Number

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

April 8, 2015

Ms. Bahar Heydari
California Department of Transportation, District 12
3347 Michelson Drive, Suite 100
Irvine, CA 92612
Bahar.Heydari@dot.ca.gov

Subject: Comments on the Notice of Preparation of a Supplemental Draft Environmental Impact Report for the SR-241/SR-91 Express Lanes Connector Project

Dear Ms. Heydari:

The California Department of Fish and Wildlife (Department) has reviewed the above-referenced Notice of Preparation (NOP) for the SR-241/SR-91 Express Lanes Connector Project Supplemental Draft Environmental Impact Report (SDEIR). The following statements and comments have been prepared pursuant to the Department's authority as Trustee Agency with jurisdiction over natural resources affected by the project (California Environmental Quality Act, [CEQA] Guidelines § 15386) and pursuant to our authority as a Responsible Agency under CEQA Guidelines section 15381 over those aspects of the proposed project that come under the purview of the California Endangered Species Act (Fish and Game Code § 2050 *et seq.*) and Fish and Game Code section 1600 *et seq.* The Department also administers the Natural Community Conservation Planning (NCCP) program.

The project area is located on State Route (SR-) 241 from post mile (PM-) 36.1 to PM 39.1 and on SR-91 from PM 14.7 to PM 18.9 in Orange County, and on SR-91 from PM 0.0 to PM 1.5 in Riverside County. The project involves a proposed median to median connector as phase 2 of the Eastern Transportation Corridor (ETC) project approved in 1994. The project provides for a tolled facility to improve connections between the roadways.

The Department offers the following comments and recommendations to assist the California Department of Transportation in avoiding or minimizing potential project impacts on biological resources.

Specific Comments

1. Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

   a) The Department is responsible for ensuring appropriate conservation of fish and wildlife resources including threatened, endangered, and/or candidate plant and animal species, pursuant to the CESA, and administers the Natural Community Conservation Plan Program (NCCP Program). Within the Inland Deserts Region, the Department issued Natural Community Conservation Plan Approval and Take Authorization for the MSHCP per Section 2800, *et seq.*, of the California Fish and Game Code on June 22, 2004. The MSHCP establishes a multiple species conservation program to minimize and mitigate habitat loss and provides for the incidental take of covered species in association with activities covered under the permit.

b) Compliance with approved habitat plans, such as the MSHCP, is discussed in CEQA. Specifically, Section 15125(d) of the CEQA Guidelines requires that the CEQA document discuss any inconsistencies between a proposed Project and applicable general plans and regional plans, including habitat conservation plans and natural community conservation plans. An assessment of the impacts to the MSHCP as a result of this Project is necessary to address CEQA requirements. To obtain additional information regarding the MSHCP please go to: http://rctlma.org/epd/WR-MSHCP.
c) The eastern portion of the proposed Project occurs within the MSHCP area and is subject to the provisions and policies of the MSHCP. In order to be considered a covered activity, Permittees must demonstrate that proposed actions are consistent with the MSHCP and its associated Implementing Agreement. Caltrans is the Lead Agency, and is signatory to the Implementing Agreement of the MSHCP.

2. Wildlife Corridors

a) The project area includes important wildlife linkages at Gypsum and Coal Canyon in Orange County, and B Canyon in Riverside County. These are core wildlife dispersal corridors that link the Santa Ana Mountains to the Chino Hills-Puente Hills. Species of concern within this area include but are not limited to: mountain lion, bobcat, Santa Ana sucker, southwestern willow flycatcher, least Bell's vireo, and coastal California gnatcatcher. The forthcoming CEQA document should include an analysis of the potential impacts on wildlife movement through Gypsum, Coal, and B Canyon wildlife corridors, including impacts from construction noise, lighting, and increased human presence during construction, as well as from the project itself. Staging for the project within or adjacent to these corridors should be avoided, as should normal operational activities. The Department requests the impacts to wildlife connectivity from this project should be addressed in the document.

General Comments

1. The Department has responsibility for wetland and riparian habitats. It is the policy of the Department to strongly discourage development in wetlands or conversion of wetlands to uplands. We oppose any development or conversion which would result in a reduction of wetland acreage or wetland habitat values, unless, at a minimum, project mitigation assures there will be "no net loss" of either wetland habitat values or acreage. Development and conversion include but are not limited to conversion to subsurface drains, placement of fill or building of structures within the wetland, and channelization or removal of materials from the streambed. All wetlands and watercourses, whether ephemeral, intermittent, or perennial, should be retained and provided with substantial setbacks which preserve the riparian and aquatic values and maintain their value to on-site and off-site wildlife populations. Mitigation measures to compensate for impacts to mature riparian corridors must be included in the SDEIR and must compensate for the loss of function and value of a wildlife corridor.

a) The project area supports aquatic, riparian, and wetland habitats; therefore, a jurisdictional delineation of the creeks and their associated riparian habitats should be included in the SDEIR. The delineation should be conducted pursuant to the U. S. Fish and Wildlife Service wetland definition adopted by the Department.[1] Please note that some wetland and riparian habitats subject to the Department's authority may extend beyond the jurisdictional limits of the U.S. Army Corps of Engineers.

b) The Department also has regulatory authority over activities in streams and/or lakes that will divert or obstruct the natural flow, or change the bed, channel, or bank (which may include associated riparian resources) of a river or stream, or use material from a streambed. For any such activities, the project applicant (or "entity") must provide written notification to the Department pursuant to section 1600 et seq. of the Fish and Game Code. Based on this notification and other information, the Department determines whether a Lake and Streambed Alteration Agreement (LSA) with the applicant is required prior to conducting the proposed activities. The Department's issuance of a LSA for a project that is subject to CEQA will require CEQA compliance actions by the Department as a Responsible Agency. The Department as a Responsible Agency under CEQA may consider the local jurisdiction's (lead agency) Negative Declaration or Environmental Impact Report for the project. To minimize additional requirements by the Department pursuant to section 1600 *et seq.* and/or under CEQA, the document should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the LSA.[2]

2. The Department considers adverse impacts to a species protected by the California Endangered Species Act (CESA), for the purposes of CEQA, to be significant without mitigation. As to CESA, take of any endangered, threatened, or candidate species that results from the project is prohibited, except as authorized by state law (Fish and Game Code, §§ 2080, 2085). Consequently, if the Project, Project construction, or any Project-related activity during the life of the Project will result in take of a species designated as endangered or threatened, or a candidate for listing under CESA, the Department recommends that the project proponent seek appropriate take authorization under CESA prior to implementing the project. Appropriate authorization from the Department may include an incidental take permit (ITP) or a consistency determination in certain circumstances, among other options (Fish and Game Code §§ 2080.1, 2081, subds. (b),(c)). Early consultation is encouraged, as significant modification to a project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, may require that the Department issue a separate CEQA document for the issuance of an ITP unless the project CEQA document addresses

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[1] Cowardin, Lewis M., et al. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service.

[2] A notification package for a LSA may be obtained by accessing the Department's web site at www.wildlife.ca.gov/habcon/1600.

all project impacts to CESA-listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of an ITP. For these reasons, biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA ITP.

3. To enable the Department to adequately review and comment on the proposed project from the standpoint of the protection of plants, fish and wildlife, we recommend the following information be included in the SDEIR.

   a) A complete discussion of the purpose and need for, and description of, the proposed project, including all staging areas and access routes to the construction and staging areas.

   b) A range of feasible alternatives to ensure that alternatives to the proposed project are fully considered and evaluated; the alternatives should avoid or otherwise minimize impacts to sensitive biological resources particularly wetlands. Specific alternative locations should be evaluated in areas with lower resource sensitivity where appropriate.

Biological Resources within the Project's Area of Potential Effect

4. To provide a complete assessment of the flora and fauna within and adjacent to the project area, with particular emphasis upon identifying endangered, threatened, sensitive, and locally unique species and sensitive habitats, the SDEIR should include the following information.

   a) Per CEQA Guidelines, section 15125(c), information on the regional setting that is critical to an assessment of environmental impacts, with special emphasis placed on resources that are rare or unique to the region.

   b) A thorough, recent floristic-based assessment of special status plants and natural communities, following the Department's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (see http://www.dfg.ca.gov/habcon/plant/). The Department recommends that floristic, alliance- and/or association-based mapping and vegetation impact assessments be conducted at the Project site and neighboring vicinity. The Manual of California Vegetation, second edition, should also be used to inform this mapping and assessment (Sawyer et al. 2008[1]). Adjoining habitat areas should be included in this assessment where site activities could lead to direct or indirect impacts offsite. Habitat mapping at the alliance level will help establish baseline vegetation conditions.

   c) A current inventory of the biological resources associated with each habitat type on site and within the area of potential effect. The Department's California Natural Diversity Data Base in Sacramento should be contacted at www.wildlife.ca.gov/biogeodata/ to obtain current information on any previously reported sensitive species and habitat,

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[1] Sawyer, J. O., T. Keeler-Wolf and J.M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society Press, Sacramento.

including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code.

d) An inventory of rare, threatened, endangered and other sensitive species on site and within the area of potential effect. Species to be addressed should include all those which meet the CEQA definition (see CEQA Guidelines, § 15380). This should include sensitive fish, wildlife, reptile, and amphibian species. Seasonal variations in use of the project area should also be addressed. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with the Department and the U.S. Fish and Wildlife Service.

Analyses of the Potential Project-Related Impacts on the Biological Resources

5. To provide a thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts, the following should be addressed in the SDEIR.

   a) A discussion of potential adverse impacts from lighting, noise, human activity, exotic species, and drainage should also be included. The latter subject should address: project-related changes on drainage patterns on and downstream of the project site; the volume, velocity, and frequency of existing and post-project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and post-project fate of runoff from the project site. The discussions should also address the proximity of the extraction activities to the water table, whether dewatering would be necessary, and the potential resulting impacts on the habitat, if any, supported by the groundwater. Mitigation measures proposed to alleviate such impacts should be included.

   b) Discussions regarding indirect project impacts on biological resources, including resources in nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed or existing reserve lands (e.g., preserve lands associated with a NCCP). Impacts on, and maintenance of, wildlife corridor/movement areas, including access to undisturbed habitats in adjacent areas, should be fully evaluated in the SDEIR.

   c) The zoning of areas for development projects or other uses that are nearby or adjacent to natural areas may inadvertently contribute to wildlife-human interactions. A discussion of possible conflicts and mitigation measures to reduce these conflicts should be included in the environmental document.

   d) A cumulative effects analysis should be developed as described under CEQA Guidelines, section 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.

Mitigation for the Project-related Biological Impacts

6. The SDEIR should include mitigation measures for adverse project-related impacts to sensitive plants, animals, and habitats. Mitigation measures should emphasize avoidance and reduction of project impacts. For unavoidable impacts, on-site habitat restoration or enhancement should be discussed in detail. If on-site mitigation is not feasible or would not be biologically viable and therefore not adequately mitigate the loss of biological functions and values, off-site mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed.

7. For proposed preservation and/or restoration, the SDEIR should include measures to perpetually protect the targeted habitat values from direct and indirect negative impacts. The objective should be to offset the project-induced qualitative and quantitative losses of wildlife habitat values. Issues that should be addressed include restrictions on access, proposed land dedications, monitoring and management programs, control of illegal dumping, water pollution, increased human intrusion, etc.

8. The Department recommends that measures be taken to avoid project impacts to nesting birds. Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (Title 50, § 10.13, Code of Federal Regulations). Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA). Proposed project activities (including, but not limited to, staging and disturbances to native and nonnative vegetation, structures, and substrates) should occur outside of the avian breeding season which generally runs from February 1- September 1 (as early as January 1 for some raptors) to avoid take of birds or their eggs. If avoidance of the avian breeding season is not feasible, the Department recommends surveys by a qualified biologist with experience in conducting breeding bird surveys to detect protected native birds occurring in suitable nesting habitat that is to be disturbed and (as access to adjacent areas allows) any other such habitat within 300 feet of the disturbance area (within 500 feet for raptors). Project personnel, including all contractors working on site, should be instructed on the sensitivity of the area. Reductions in the nest buffer distance may be appropriate depending on the avian species involved, ambient levels of human activity, screening vegetation, or possibly other factors.

9. The Department generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species. Studies have shown that these efforts are experimental in nature and largely unsuccessful.

10. Plans for restoration and revegetation should be prepared by persons with expertise in southern California ecosystems and native plant revegetation techniques. Each plan should include, at a minimum: (a) the location of the mitigation site; (b) the plant species to be used, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity.

We appreciate the opportunity to comment on the referenced NOP. Questions regarding this letter and further coordination on these issues should be directed to Tim Dillingham at (858) 467-4250 and Tim.Dillingham@wildlife.ca.gov or Heather Pert at (858) 395-9692 and Heather.Pert@wildlife.ca.gov.

Sincerely,

FOR Gail K. Sevrens
Environmental Program Manager
South Coast Region

ec: Jeff Brandt, CDFW, Region 6
Heather Pert, CDFW, Region 6
Gabe Quillman, CDFW, Region 6
Sally Brown, U.S. Fish and Wildlife Service
Scott Morgan, State Clearinghouse

City of Anaheim
PLANNING DEPARTMENT

April 13, 2015

Bahar Heydari
Caltrans District 12 Office
3341 Michelson Drive, Suite 100
Irvine, CA 92612-8894

by email to: D12.NOP241.91@dot.ca.gov

Subject: NOP/NOI for the Supplemental Draft Environmental Impact Report/Statement for the Proposed Changes for a SR-241-SR-91 Express Lanes Connector Project

Dear Ms. Heydari:

Thank you for the opportunity to review and comment on the above-referenced document. City of Anaheim staff offers the following comments:

1. Please notify the City of Anaheim, attn: Christine Saunders, as to the date, time and location of the public scoping meeting. Since the project is located within the City of Anaheim, the City requests that the Supplemental Draft EIR/EIS be provided for agency review and comment prior to the public hearing.

Planning Department: Planning Services Division

Please contact Christine Saunders at 714-765-5238 or csaunders@anaheim.net with questions pertaining to this section.

2. In August 2014, The Irvine Company permanently dedicated to the County of Orange the final 2,500 acres of land in the area of the City of Anaheim's Mountain Park Specific Plan as permanent open space. Therefore, the proposed development according to the Mountain Park Specific Plan is no longer expected to occur. However, the City's General Plan and Zoning Code still reflect the proposed development in the Mountain Park Specific Plan. Additionally, the development agreements between the City, County of Orange, and the Irvine Company are still in place. The General Plan and Zoning Code may be updated at a future time to reflect the permanent open space designation, once the development agreements are terminated.

Public Utilities Department: Water Engineering

Please contact Sara Mathis at 714-765-4298 or smathis@anaheim.net with questions pertaining to this section.

3. The Supplemental Draft EIR/EIS shall address Utilities – Water Service, specifically whether the project requires temporary or permanent water service, and if so, from which agency/provider.

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Fax: (714) 765-5280
www.anaheim.net

Please forward any subsequent public notices regarding this project to my attention at the address listed at the bottom of the first page of this letter. If you have any questions regarding this response, please do not hesitate to contact Christine Saunders at (714) 765-5238 or csaunders@anaheim.net or me at (714) 765-4958 or skim@anaheim.net.

Sincerely,

Susan Kim, AICP, LEED AP ND
Acting Principal Planner

Cc: Christine Saunders, Planning Department
Sara Mathis, Public Utilities Department
Rafael Cobain, Public Works Department
Adrian Pauna, Public Works Department

WARREN D. WILLIAMS
General Manager-Chief Engineer

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RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

April 13, 2015

Emailed this date to: D12.NOP241.91@dot.ca.gov

Ms. Bahar Heydari
Caltrans – District 12
3347 Michaelson Drive, Suite 100
Irvine, CA 92612-8894

Dear Ms. Heydari:

Re: Notice of Preparation/Notice of Intent for the SR-241/SR-91 Express Lanes Connector Project

This letter is written in response to the Notice of Preparation/Notice of Intent (NOP/NOI) for the SR-241/SR-91 Express Lanes Connector Project. The project consists of the construction of a median-to-median connector between SR-241 and SR-91 Express Lanes.

The District has reviewed the NOP/NOI and has the following comment/concern that should be addressed in the Supplemental Environmental Impact Report/Statement:

> Construction of the project may affect the United States Army Corps of Engineers Santa Ana River Mainstream Project, which is designed to provide flood protection to the growing urban communities in Orange, Riverside and San Bernardino Counties. Please be sure to include an evaluation of the project's potential impacts on the Santa Ana River Mainstream Project.

Thank you for the opportunity to review the NOP/NOI. Any further questions concerning this letter may be referred to Kevin Cunningham at 951.955.1526 or me at 951.955.8581.

Very truly yours,

KRIS FLANIGAN
Engineering Project Manager

cc: Komy Ghods
Zully Smith

KCC:mcv
P8\169171

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Alan Wapner, San Bernardino Associated Governments

April 13, 2015

Ms. Bahar Heydari
California Department of Transportation, District 12
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Phone: (949) 724-2703
Email: D12.NOP241.91@dot.ca.gov

RE: SCAG Comment on the Notice of Preparation of a Draft Environmental Impact Report for the SR-241/SR-91 Express Lanes Connector Project [SCAG NO. IGR8410]

Dear Mr. Ross,

Thank you for submitting the Notice of Preparation of a Draft Environmental Impact Report for the SR-241/SR-91 Express Lanes Connector Project ("proposed project") to the Southern California Association of Governments (SCAG) for review and comment. SCAG is the authorized regional agency for Inter-Governmental Review (IGR) of programs proposed for federal financial assistance and direct development activities, pursuant to Presidential Executive Order 12372. Additionally, SCAG reviews the Environmental Impact Reports of projects of regional significance for consistency with regional plans pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.

SCAG is also the designated Regional Transportation Planning Agency under state law, and is responsible for preparation of the Regional Transportation Plan (RTP) including its Sustainable Communities Strategy (SCS) component pursuant to SB 375. As the clearinghouse for regionally significant projects per Executive Order 12372, SCAG reviews the consistency of local plans, projects, and programs with regional plans.[1] Guidance provided by these reviews is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of the regional goals and policies in the RTP/SCS.

SCAG staff has reviewed the Notice of Preparation of a Draft Environmental Impact Report for the SR-241/SR-91 Express Lanes Connector Project in Orange County and Riverside County. The proposed project consists of the construction of a median-to-median connector between State Route 241 and the State Route 91 Express Lanes, a length of approximately 8.7 miles.

When available, please send environmental documentation to SCAG's *office in Los Angeles or by email to sunl@scag.ca.gov* providing, at a minimum, the full public comment period for review. If you have any questions regarding the attached comments, please contact Lijin Sun, Esq., Senior Regional Planner, at (213) 236-1882 or sunl@scag.ca.gov. Thank you.

Sincerely,

Ping Chang

Ping Chang,
Program Manager II, Land Use and Environmental Planning

[1] SB 375 amends CEQA to add Chapter 4.2 Implementation of the Sustainable Communities Strategy, which allows for certain CEQA streamlining for projects consistent with the RTP/SCS. Lead agencies (including local jurisdictions) maintain the discretion and will be solely responsible for determining "consistency" of any future project with the SCS. Any "consistency" finding by SCAG pursuant to the IGR process should not be construed as a finding of consistency under SB 375 for purposes of CEQA streamlining.

COMMENTS ON THE NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE SR-241/SR-91 EXPRESS LANES CONNECTOR PROJECT [SCAG NO. IGR8410]

CONSISTENCY WITH RTP/SCS

SCAG reviews environmental documents for regionally significant projects for their consistency with the adopted RTP/SCS.

2012 RTP/SCS Goals

The SCAG Regional Council adopted the 2012 RTP/SCS in April 2012. The 2012 RTP/SCS links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transportation-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic and commercial limitations (see http://rtpscs.scag.ca.gov). The goals included in the 2012 RTP/SCS may be pertinent to the proposed project. These goals are meant to provide guidance for considering the proposed project within the context of regional goals and policies. Among the relevant goals of the 2012 RTP/SCS are the following:

SCAG 2012 RTP/SCS GOALS	
RTP/SCS G1:	*Align the plan investments and policies with improving regional economic development and competitiveness*
RTP/SCS G2:	*Maximize mobility and accessibility for all people and goods in the region*
RTP/SCS G3:	*Ensure travel safety and reliability for all people and goods in the region*
RTP/SCS G4:	*Preserve and ensure a sustainable regional transportation system*
RTP/SCS G5:	*Maximize the productivity of our transportation system*
RTP/SCS G6:	*Protect the environment and health for our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking)*
RTP/SCS G7:	*Actively encourage and create incentives for energy efficiency, where possible*
RTP/SCS G8:	*Encourage land use and growth patterns that facilitate transit and non-motorized transportation*
RTP/SCS G9:	*Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies*

For ease of review, we encourage the use of a side-by-side comparison of SCAG goals with discussions of the consistency, non-consistency or non-applicability of the policy and supportive analysis in a table format. Suggested format is as follows:

SCAG 2012 RTP/SCS GOALS		
Goal		Analysis
RTP/SCS G1:	*Align the plan investments and policies with improving regional economic development and competitiveness*	*Consistent: Statement as to why;* *Not-Consistent: Statement as to why;* *Or* *Not Applicable: Statement as to why;* *DEIR page number reference*
RTP/SCS G2:	*Maximize mobility and accessibility for all people and goods in the region*	*Consistent: Statement as to why;* *Not-Consistent: Statement as to why;* *Or* *Not Applicable: Statement as to why;* *DEIR page number reference*
etc.		etc.

RTP/SCS Strategies

To achieve the goals of the 2012 RTP/SCS, a wide range of strategies are included in SCS Chapter (starting on page 152) of the RTP/SCS focusing on four key areas: 1) Land Use Actions and Strategies; 2) Transportation Network Actions and Strategies; 3) Transportation Demand Management (TDM) Actions and Strategies and; 4) Transportation System Management (TSM) Actions and Strategies. If applicable to the proposed project, please refer to these strategies as guidance for considering the proposed project within the context of regional goals and policies. To access a listing of the strategies, please visit http://rtpscs.scag.ca.gov/Documents/2012/final/f2012RTPSCS.pdf (Tables 4.3 – 4.7, beginning on page 152).

Regional Growth Forecasts

At the time of this letter, the most recently adopted SCAG forecasts consists of the 2020 and 2035 RTP/SCS population, household and employment forecasts. To view them, please visit http://scag.ca.gov/Documents/2012AdoptedGrowthForecastPDF.pdf. The forecasts for the region and applicable jurisdictions are below.

	Adopted SCAG Region Wide Forecasts		Adopted City of Corona Forecasts	
	Year 2020	Year 2035	Year 2020	Year 2035
Population	19,663,000	22,091,000	155,800	164,600
Households	6,458,000	7,325,000	46,100	48,800
Employment	8,414,000	9,441,000	88,300	105,000

	Adopted City of Anaheim Forecasts		Adopted City of Yorba Linda Forecasts	
	Year 2020	Year 2035	Year 2020	Year 2035
Population	369,100	405,800	69,700	69,400
Households	107,600	124,700	22,600	22,800
Employment	193,700	224,200	17,200	17,300

MITIGATION

SCAG staff recommends that you review the SCAG 2012 RTP/SCS Final Program EIR Mitigation Measures for guidance, as appropriate. See Chapter 6 (beginning on page 143) at:
http://rtpscs.scag.ca.gov/Documents/peir/2012/final/Final2012PEIR.pdf

As referenced in Chapter 6, a comprehensive list of example mitigation measures that may be considered as appropriate is included in Appendix G: *Examples of Measures that Could Reduce Impacts from Planning, Development and Transportation Projects.* Appendix G can be accessed at:
http://rtpscs.scag.ca.gov/Documents/peir/2012/final/2012fPEIR_AppendixG_ExampleMeasures.pdf

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

In Reply Refer To:
FWS-OR-14B0086-15CPA0224

APR 13 2015

Ms. Bahar Heydari
Associate Environmental Planner
California Department of Transportation
District 12
3347 Michelson Drive, Suite 100
Irvine, California 92612-1692

Subject: Notice of Intent (NOI) to Prepare a Draft Environmental Impact Statement (DEIS) for the SR-241/SR-91 Express Lanes Connector, Riverside and Orange Counties, California

Dear Ms. Heydari:

We have reviewed the above referenced NOI, which was received on March 13, 2015. We offer the following comments pursuant to the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*), and in keeping with our agency's mission to work "with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people." We recently accepted your invitation to provide technical assistance as a participating agency in accordance with the project delivery provisions of the Moving Ahead for Progress in the 21st Century Act (MAP-21) and Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) for this project.

The project as proposed would construct a median-to-median connector between State Route 241 (SR-241) and the State Route 91 Express Lanes in Riverside County and Orange County, California. To facilitate the evaluation of the proposed project from the standpoint of fish and wildlife protection, we recommend that the DEIS include the following information:

I. General

a. A description of the proposed project and the environment in the vicinity of the project, from both local and regional perspectives, including all practicable alternatives that have been considered to avoid and/or reduce project impacts to federally listed and other sensitive species and vegetation types (e.g., coastal sage scrub, riparian). Include specific acreages and descriptions of the types of wetlands, sage scrub, riparian, and other sensitive habitats that may be affected by the project alternatives as well as aerial photographs, mapping, and tables to summarize such information;

b. Include detailed information on the number and distribution of all Federal candidate, proposed, and listed species, and their critical habitats; State-listed species; and locally

sensitive species on or near the project site that may be affected by the proposed project or project alternatives;

c. Ensure that project information is collected on a sufficiently wide region such that the DEIS addresses the entire project footprint, including borrow and fill sites, staging areas, and fuel modification and maintenance zones, as well as areas that may be restored to offset these impacts; and

d. An analysis of cumulative effects from proposed developments in the surrounding area, including past, present, and future SR-91 corridor projects and any associated mitigation with the potential to be impacted from the proposed project. Note that recently restored riparian habitat is present in the vicinity of the proposed project. The DEIS should document any proposed impacts to the habitats restored for mitigation in the project vicinity.

II. Orange County

a. We are concerned about the effects of the proposed project on wildlife connectivity, including wildlife corridors at Gypsum Canyon and Coal Canyon (Missing Linkage SC 43 from Missing Linkages: Restoring Connectivity to the California Landscape Conference. 2000. http://www.scwildlands.org/#projects). We request that the DEIS include a detailed analysis of impacts of the proposed project on the movement of wildlife and measures proposed to avoid, minimize, and offset impacts to wildlife movement.

III. Riverside County

a. On June 22, 2004, we issued a section 10(a)(1)(B) permit for the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The MSHCP establishes a multiple species conservation program to minimize and mitigate habitat loss and the incidental take of covered species in association with activities covered under the permit. We recommend that the DEIS provide a thorough review of how the proposed project will reach consistency with the MSHCP. We request that this review include, but not be limited to, the following MSHCP objectives, permit conditions, policies, procedures and guidelines:

i. Species-specific objectives for MSHCP Covered Species that will likely be affected by the project (MSHCP volume II)

ii. Impacts to MSHCP Public/Quasi-Public (PQP) Lands, Existing Core A (MSHCP 3.2.3 page 3-31)

1. See U.S. Fish and Wildlife Service MSHCP Permit (Permit) Condition 5 and 17. Permit and map available online:
http://www.fws.gov/carlsbad/HCPs/WRivMSHCPBOdocs.htm
http://www.wrc-rca.org/library.asp

iii. Impacts within MSHCP Criteria Cells 1612, 1616, 1702 and 1704 (MSHCP Table 3-17: pages 3-458 and 3-460)

iv. Guidelines for the Siting and Design of Roads (MSHCP 7.5.1 page 7-80)

v. General Construction Guidelines (MSHCP 7.5.3 page 7-87)

vi. Guidelines for the Construction of Wildlife Crossings (MSHCP 7.5.2 page 7-81)

1. Proposed constrained linkage 1 (PCL 1)(MSHCP 3.2.3 page 3-74)

a. "...as SR-91 intersects the Linkage [PCL1] at its northern terminus, an adequate wildlife underpass or overpass may need to be implemented to insure movement of species in this area and to reduce the chance of mortality from vehicle collision."

2. Proposed constrained linkage 2 (PCL 2)(MSHCP 3.2.3 page 3-75)

a. "...as SR-91 intersects the Linkage [PCL2] at its northern terminus, an adequate wildlife underpass or overpass may need to be implemented to insure movement of species in this area and to reduce the chance of mortality from vehicle collision."

b. For PCL 1 and 2 see also Missing Linkages: Restoring Connectivity to the California Landscape. 2001. Missing Linkage SC 44 http://www.scwildlands.org/#projects

vii. Best Management Practices (MSHCP Appendix C)

viii. Fuels Management (MSHCP 6.4 page 6-72)

ix. Guidelines Pertaining to the Urban/Wildlands Interface (MSHCP 6.1.4 page 6-42)

x. Protection of Narrow Endemic Plant Species Policy (MSHCP 6.1.3 page 6-28)

1. Narrow Endemic Species within Survey Area 7

a. San Diego ambrosia (*Ambrosia pumila*)

b. Brand's phacelia (*Phacelia stellaris*)

c. San Miguel savory (*Satureja chandleri*)

xi. Additional Survey Needs and Procedures Policy (MSHCP 6.3.2 page 6-65)

1. Burrowing Owl (*Athene cunicularia hypugaea*) Survey Area

xii. Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools Policy (MSHCP 6.1.2 page 6-20)

1. Riparian, riverine, vernal pool, and fairy shrimp habitat

2. Riparian/Riverine and Vernal Pool Species

a. Vernal pool fairy shrimp (*Branchinecta lynchi*)

b. Riverside fairy shrimp (*Streptocephalus woottoni*)

c. Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)

d. Southwestern willow flycatcher (*Empidonax traillii extimus*)

e. Least Bell's vireo (*Vireo bellii pusillus*)

We appreciate the opportunity to comment on the referenced NOI and to participate in the transportation planning process. If you have any questions regarding this letter, please contact Sally Brown of this office at 760- 431-9440, extension 278.

Sincerely,

for Karen A. Goebel
Assistant Field Supervisor

cc:
Tim Dillingham, California Department of Fish and Wildlife, San Diego, CA 92123

Settle, Jean

Subject: FW: SR-241/SR-91 Express Lanes Connector Project-Initial Study

---

From: Judi Tamasi [mailto:judi.tamasi@mrca.ca.gov]
Sent: Wednesday, April 15, 2015 11:43 AM
To: D12 NOP241-91@DOT
Subject: RE: SR-241/SR-91 Express Lanes Connector Project-Initial Study

Hello, Can you please make sure that my agency is added to the contact list for future public review documents? Thank you.
Here is my contact information:

Judi Tamasi
Wildlife Corridor Conservation Authority
570 West Ave. 26, Suite 100
Los Angeles, California 90065
ph: 310-589-3230, ext. 121
fax: 310-589-2408
judi.tamasi@mrca.ca.gov

From: Judi Tamasi
Sent: Monday, April 06, 2015 4:51 PM
To: 'D12.NOP241.91@dot.ca.gov'
Subject: SR-241/SR-91 Express Lanes Connector Project-Initial Study

Hello,
I found the NOI and NOP on the website for this project. Is there an actual Initial Study that was prepared and is it available for public comment? Thank you.

Judi Tamasi
Wildlife Corridor Conservation Authority
570 West Ave. 26, Suite 100
Los Angeles, California 90065
ph: 310-589-3230, ext. 121
fax: 310-589-2408
judi.tamasi@mrca.ca.gov

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Cooperating Agency Correspondence

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U.S. Army Corps of Engineers

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
915 WILSHIRE BOULEVARD, SUITE 930
LOS ANGELES, CA 90017-3401

May 1, 2015

Ms. Sylvia Vega
Deputy District Director
California Department of Transportation, District 12
Division of Environmental Analysis
3347 Michelson Drive, Suite 100
Irvine, CA 92612

Dear Ms. Vega:

I am responding to your invitation, dated March 13, 2015, for the U.S. Army Corps of Engineers (Corps) to be a cooperating agency on the preparation of a supplemental draft environmental impact statement (EIS) for the proposed ***State Route 241(SR-241) / State Route 91 (SR-91) Express Lanes Connector Project*** located in Orange and Riverside Counties, California. I understand the California Department of Transportation (Caltrans) has assumed the lead Federal agency responsibilities under the National Environmental Policy Act (NEPA) on behalf of the U.S. Department of Transportation, Federal Highway Administration, pursuant to 23 U.S.C. 327(a)(2)(A), and therefore, will prepare the EIS in accordance with the Council of Environmental Quality (CEQ) regulations on implementing NEPA procedures (40 C.F.R. Parts 1500 – 1508). In addition, your letter requests we be a participating agency as defined by the Efficient Environmental Review Process codified in 23 U.S.C. 139.

Based on our jurisdiction by law and special expertise pursuant to section 404 of the Clean Water Act (33 U.S.C. 1344) and section 14 of the Rivers and Harbors Act (33 U.S.C. 408), the Corps accepts your invitation to cooperate and participate on the development of the SR-241 / SR-91 Express Lanes Connector Project EIS. We will do so based on the availability of our resources and funding and at a level commensurate with the extent of impacts to jurisdictional waters of the United States. As a cooperating agency, we anticipate our role will facilitate the Corps' ability to adopt Caltrans' Final EIS, or portions thereof, should we determine a need to do so to fulfill our independent NEPA responsibilities for our Federal action. The Corps expects to participate in the NEPA process in the following ways:

- Provide input on defining the purpose and need statement;
- Offer input on the range of alternatives to be evaluated in the EIS;
- Provide guidance on the methodologies and level of detail required in the alternatives analysis, including the requirements of the section 404(b)(1) Guidelines (as applicable);
- Issue an approved or preliminary jurisdictional determination (JD) to establish the Corps' geographic jurisdiction;
- Review of engineering and hydraulic analyses related to the effects of maintenance and operation of Corps-built flood control projects;

- Review and approve any compensatory mitigation measures for unavoidable impacts to waters of the United States (as applicable);
- Participate in coordination meetings and field visits; and
- Provide timely review comments on administrative draft and final and public versions of the NEPA document(s), including but not limited to, the adequacy of technical documents, alternatives considered, anticipated impacts to the aquatic ecosystem, study methodologies and proposed mitigation.

In addition, should the SR-241 / SR-91 Express Lanes Connector Project result in five or more acres of permanent impacts to waters of the United States, Caltrans would need to ensure the environmental review process follows the coordination, checkpoint agreement response, and dispute resolution procedures set forth in the *NEPA and Clean Water Section 404 Integration Process for Federal Aid Surface Transportation Projects in California Memorandum of Understanding* (April 2006).

As you complete your formal NEPA scoping process and begin to define the project purpose and need statement, identify significant issues to be considered in the EIS, and determine the range of alternatives that will be evaluated, we encourage you to find ways to avoid and minimize adverse impacts on the aquatic environment and to ensure your proposal is not contrary to the public interest. The Corps looks forward to working with you on the preparation of the EIS. Should you have any questions or require further information, please contact Ms. Veronica Li, Senior Project Manager, in our Transportation and Special Projects Branch at (213) 452-3292 or at Veronica.C.Li@usace.army.mil regarding CWA section 404 issues or Mr. Stephen Vaughn, in our Engineering Division at (213) 452-3654 or Stephen.H.Vaughn@usace.army.mil regarding 33 U.S.C section 408 issues. Alternatively, you may contact me at (805) 585-2152 or at Spencer.D.Macneil@usace.army.mil. Please refer to the Corps File No. SPL-2015-00304-VCL in all future correspondence.

Sincerely,

MACNEIL.SPENCER.D.1228487852
Digitally signed by MACNEIL.SPENCER.D.1228487852
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=MACNEIL.SPENCER.D.1228487852
Date: 2015.05.01 12:34:07 -07'00'

Spencer D. MacNeil, D.Env.
Chief, Transportation & Special Projects Branch

Copies Furnished:
Ms. Connell Dunning, U.S. Environmental Protection Agency, Region IX
Mr. John Taylor, U.S. Fish and Wildlife Service
Ms. Bahar Heydari, Caltrans, Division of Environmental Analysis

Participating Agency Correspondence

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U.S. Department of Energy - Office of NEPA Policy and Compliance

From: Costner, Brian <Brian.Costner@hq.doe.gov>
Sent: Wednesday, March 25, 2015 9:48 AM
To: Heydari, Bahar@DOT
Subject: RE: Invitation to Become a Participating Agency for SR-241/SR-91 Express Lanes Connector Supplemental Draft EIS

Thank you for the March 13, 2015, invitation for the U.S. Department of Energy to be a participating agency in the above referenced EIS. DOE declines to be a participating agency because DOE has no jurisdiction, authority, or special expertise related to the proposed project, and does not intend to comment on the proposed project.

Let me know if you have any questions.

Brian Costner
Office of NEPA Policy and Compliance
U.S. Department of Energy
202-586-9924

U.S. Forest Service

From: Heys, Jeffrey A -FS <jaheys@fs.fed.us>
Sent: Wednesday, April 22, 2015 4:39 PM
To: Todd, Dale
Subject: RE: Caltrans Letter you Received..

Dear Mr. Todd,
The US Forest Service declines to be a NEPA Participating Agency for the SR-241 / SR-91 Express Lanes Connector Project for the following reasons: Our agency does not have jurisdiction, authority, or expertise/information relevant to the project and our agency does not intend to provide comments on the project.
However, please continue to include our agency in the distribution list when the environmental document is released for public review.

Thank you,
Jeff

Jeff Heys
Forest Planner
Forest Service
Cleveland National Forest
p: 858-674-2959
f: 858-673-6192
jaheys@fs.fed.us
10845 Rancho Bernardo Road, Suite 200
San Diego, CA 92127
www.fs.fed.us
Caring for the land and serving people

U.S. Geological Survey-SAFRR

From: Dedeaux, Sandra <sdedeaux@usgs.gov>
Sent: Wednesday, April 22, 2015 11:49 AM
To: Todd, Dale
Subject: SR-241 / SR-91 Express Lanes Connector Project

U.S. Geological Survey declines to be a NEPA Participating Agency for the SR-241 / SR-91 Express Lanes Connector Project for the following reasons: Our agency does not have jurisdiction, authority, or expertise/information relevant to the project and our agency does not intend to provide comments on the project.

--

Sandra Dedeaux
SAFRR Project
Natural Hazards Mission Area

U.S. Geological Survey
525 S Wilson Ave.
Pasadena, CA 91106
626-583-6797
626-583-6798 fax

National Marine Fisheries Service

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

March 26, 2015

Sylvia Vega
California Department of Transportation
Division of Environmental Analysis
3347 Michelson Drive, Suite 100
Irvine, CA 92612

Dear Ms. Vega:

On March 13, 2015, NOAA's National Marine Fisheries Service (NMFS) received the California Department of Transportation's (Caltrans) invitation to participate in the preparation and review of the Supplemental Draft Environmental Impact Report (Supplemental DEIR) for the State Route 241/State Route 91 Express Lanes Connector Project (proposed action) in Orange and Riverside Counties. Information contained in the invitation indicates the proposed action would occur near watersheds not occupied by the endangered Southern California Coast Distinct Population Segment of steelhead (*Oncorhynchus mykiss*) or designated critical habitat for this species protected under the U.S. Endangered Species Act. For this reason NMFS does not intend to participate or comment on the Supplemental DEIR.

NMFS appreciates Caltrans' notification of the proposed action and invitation to be a participating agency. Please contact Jay Ogawa at (562) 980-4061 or via email at jay.ogawa@noaa.gov if you have a question concerning this letter or if you require additional information.

Sincerely,

for

Alecia Van Atta
Acting Assistant Regional Administrator
California Coastal Area Office

cc: Mary Larson, CDFW, Los Alamitos

National Park Service - Pacific West Region

From: DeSantis, Justin <justin_desantis@nps.gov>
Sent: Tuesday, May 05, 2015 3:39 PM
To: Todd, Dale
Subject: SR 241/91 Express Lanes Connector Project

Dale,

In response to your invitation letter regarding the SR-241 / SR-91 Express Lanes Connector Project from earlier this spring, NPS declines to be a NEPA Participating Agency for the following reasons: our agency does not have jurisdiction, authority, or expertise/information relevant to the project; and, our agency does not intend to provide comments on the project.

There is no need to place NPS on the project mailing list, so you can hopefully save some paper there.

Best wishes for a successful project,

Justin De Santis

--
Justin De Santis, Federal Lands Transportation Program Coordinator
National Park Service, Pacific West Region
333 Bush Street, Suite 500, San Francisco, CA 94104
tel. (415) 623-2278

California Air Resources Board

From: Taylor, Jonathan@ARB [mailto:jonathan.taylor@arb.ca.gov]
Sent: Thursday, April 30, 2015 5:07 PM
To: Laboy, Kristal
Cc: O'Hara, Jennifer@ARB
Subject: FW: 241 91 ELC March 13 Package Copy

Hello Kristal,

Here is ARB's response:

ARB declines to be a NEPA Participating Agency for the SR-241/SR 91 express Lanes Connector project. Yes

Please continue to include our agency in the distribution list when the environmental document is released for public review. No

The local and regional agencies and the air district should be involved in this process, such that ARB involvement is not needed.

Thank you,

Jon

Jonathan Taylor, P.E.
Chief, Transportation Planning Branch
Air Quality Planning and Science Division
California Air Resources Board
jtaylor@arb.ca.gov
Ph. 916-445-8699
FAX: 916-322-3646

California Department of Conservation

From: Turner, Benjamin@DOC <Benjamin.Turner@conservation.ca.gov>
Sent: Friday, May 01, 2015 11:25 AM
To: Todd, Dale
Subject: RE: RE: SR 241 / SR 91 Express Lanes Connector Project..

Hi Dale,

Unless the proposed project is going to go through Williamson Act contracted lands, the Department of Conservation is indifferent.

Thanks,

Ben

From: Borack, Alexandra@DOC
Sent: Friday, May 1, 2015 11:19 AM
To: Turner, Benjamin@DOC
Subject: RE: RE: SR 241 / SR 91 Express Lanes Connector Project..

The only reason we would care would be if CalTrans wanted to acquire pieces of parcels under Williamson Act contract to expand the roadway. At that point DOC likes to remind CalTrans that they must go through the process outlined in the Gov Code for public acquisitions. It does not look like this project purports to do that, so the Department would have no concern with this project.

-Alexandra

California Office of Emergency Services

From: Evans, Terri@CalOES <terri.evans@CalOES.ca.gov>
Sent: Wednesday, April 29, 2015 1:26 PM
To: Laboy, Kristal
Cc: Settle, Jean
Subject: RE: 241 91 ELC March 13 Package Copy

Yes, that is correct. thank you, Terri

From: Laboy, Kristal [mailto:klaboy@thetollroads.com]
Sent: Wednesday, April 29, 2015 1:22 PM
To: Evans, Terri@CalOES
Cc: Settle, Jean
Subject: FW: 241 91 ELC March 13 Package Copy

Thank you for your response!

I've been asked to clarify – you DO NOT want to participate, correct?

From: Evans, Terri@CalOES [mailto:terri.evans@CalOES.ca.gov]
Sent: Wednesday, April 29, 2015 1:13 PM
To: Laboy, Kristal
Cc: Rabamad, Charles@CalOES
Subject: RE: 241 91 ELC March 13 Package Copy

Hello Kristal,
Please see response(s) below.
Thank you,
Terri Evans

From: Laboy, Kristal [mailto:klaboy@thetollroads.com]
Sent: Wednesday, April 29, 2015 9:16 AM
To: Evans, Terri@CalOES
Subject: FW: 241 91 ELC March 13 Package Copy

This is the correct verbiage.

This is a follow up to a March 13 letter that was federal expressed to Director Mark Ghilarducci to determine whether your agency would care to participate in a NEPA Supplemental Impact Statement for the SR 241/91 Direct Connector Project.

Appreciate your help!

Please indicate your response to the following and email back to me:

CA Governor's Office of Emergency Services (Cal OES) declines to be a NEPA Participating Agency for the SR-241/SR 91 express Lanes Connector project. __ Yes X__ No

Please continue to include our agency in the distribution list when the environmental document is released for public review. __ Yes X__ No

1

California Energy Commission

From: Sinsley, Lori@Energy [mailto:lori.sinsley@energy.ca.gov]
Sent: Wednesday, April 22, 2015 3:25 PM
To: Laboy, Kristal
Subject: RE: 241 91 ELC March 13 Package Copy

Thanks Kristal. I have no idea what this is about. We are not involved in this so no reason for us to be included. Thanks.

Lori Sinsley
California Energy Commission
1516 9th Street
Sacramento CA 95814
(916) 651-0488
lori.sinsley@energy.ca.gov

California Department of Forestry and Fire Prevention

From:	Nehoda, Ken@CALFIRE <Ken.Nehoda@fire.ca.gov>
Sent:	Tuesday, May 05, 2015 4:02 PM
To:	Todd, Dale
Cc:	Porter, Thomas@CALFIRE; Barley, Glenn@CALFIRE; Morones, Susan@CALFIRE
Subject:	SR-241/SR-91 Express Lanes Connector Project

Thank You for the opportunity to provide comments on this project.

CALFIRE declines to be a NEPA Participating Agency for the SR-241 / SR-91 Express Lanes Connector Project for the following reasons: Our agency
does not have jurisdiction, authority, or expertise/information relevant to the project and our agency does not intend to provide comments on the project.

However, please continue to include our agency in the distribution list when the environmental document is released for public review.

California Natural Resources Agency

Heather Bawe at 916-653-8152 will not be responding to the letter since she "receives 50 of these a day." She only responds if it affects bonds and protected areas; otherwise, she will toss in trash.

California State Lands Commission

From: Hearnley, Diana@SLC <Diana.Hearnley@slc.ca.gov>
Sent: Tuesday, May 05, 2015 10:55 AM
To: Todd, Dale
Subject: RE: SR 241-SR 91 Express Lanes Connector Project...

Hi Dale,

Thank you for sending me the information on the SR 241-SR 91 Express Lanes Connector Project.

In looking it over I did not see that State Lands has any interest or jurisdiction for this project. I ran it past my supervisor who also agreed.

Therefore, we respectfully decline the invitation to participate. Please do not send us any further information regarding this project.

Thank you,

1

Diana Hearnley
Secretary
California State Lands Commission
100 Howe Avenue, Suite 100-S
Sacramento, CA 95825
(916) 574-1890 M-F/9-3
Fax: (916) 574-1885
diana.hearnley@slc.ca.gov
Website: www.slc.ca.gov

Please consider the environment before printing - thank you.

We Are Tireless In Our Efforts to Preserve Our Most Precious Resource,
THE WATERS OF THE STATE OF CALIFORNIA

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California Transportation Commission

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SENATOR JIM BEALL, Ex Officio
ASSEMBLY MEMBER JIM FRAZIER, Ex Officio

Will Kempton, Executive Director

STATE OF CALIFORNIA

EDMUND G. BROWN Jr., Governor

CALIFORNIA TRANSPORTATION COMMISSION
1120 N STREET, MS-52
SACRAMENTO, CA 95814
P. O. BOX 942873
SACRAMENTO, CA 94273-0001
FAX (916) 653-2134
(916) 654-4245
http://www.catc.ca.gov

April 21, 2015

Bahar Heydari
California Department of Transportation, District 12
3347 Michelson Drive, Suite 100
Irvine, CA 92612

RE: SR-241 / SR-91 Express Lanes Connector Supplemental Draft Environmental Impact Report/Environmental Impact Statement

Dear Bahar Heydari,

The California Transportation Commission (Commission) received your letter with respect to the Supplemental Draft Environmental Impact Report/Environmental Impact Statement for the SR-241/SR-91 Express Lanes Connector (Project).

Since there are no indentified funds subject to Commission action at this time, the Commission has no role in this project's environmental process. However, if in the future, funds or other actions under the purview of the Commission are anticipated, please ensure that notification is provided to the Commission as a Responsible Agency. Consideration of the environmental impacts of a project are required prior to the Commission's allocation of funds for design, right of way or construction activities as well as for new public road connections and route adoptions.

If you have any questions, please contact Stephen Maller, Deputy Director, at (916) 653-2070.

Sincerely,

WILL KEMPTON
Executive Director

c: Katrina Pierce, Chief, Caltrans Division of Environmental Analysis

California Department of Water Resources

From: Saenz, Erin@DWR [mailto:Erin.Saenz@water.ca.gov]
Sent: Monday, May 18, 2015 12:26 PM
To: Todd, Dale
Subject: RE: The SR 241 - SR 91 Express Lanes Connector Project..

The California Department of Water Resources, Division of Flood Management declines to be a NEPA Participating Agency for the SR-241 / SR-91 Express Lanes Connector Project for the following reasons:
Our agency does not have jurisdiction, authority, or expertise/information relevant to the project and our agency does not intend to provide comments on the project.

Erin Saenz
Executive Assistant to
Keith E. Swanson, Chief
Division of Flood Management
3310 El Camino Ave, Ste 120
Sacramento, CA 95821
(916) 574-0601

California Water Resources Control Board

1. 4/21/15 voice mailbox for Lisa Babcock at 916-341-5797, not accepting messages
2. 4/30/15 voice mailbox for Lisa Babcock at 916-341-5797, not accepting messages
3. 4/30/15 e-mail correspondence sent to andrew.cooper@ waterboards.ca.gov (Lisa's assistant, 916-341-5974), resent electronic copy of package, pending response
4. 5/5/15 due to no response by Lisa Babcock, Andrew has sent to a different department. Telephone discussion with Darrin Polhemus, General Water Board Division indicated contact should be Kurt Berchtold, Acting Deputy Director with SARWQCB. 951-782-3286 or 951-782-4130 kurt.berchtold@waterboards.ca.gov

NOTES:
SARWQCB has already accepted status as a Participating Agency
Lisa Babcock is now Manager in the UST Payments Section

Native American Heritage Commission

1. 4/22/15 voice message left in general voice mailbox 916-373-3710
2. 4/30/15 voice message left in general voice mailbox 916-373-3710
3. 5/1/15 voice message left in general voice mailbox 916-373-3710;

CONTACT ATTEMPTS TERMINATED - Non-Federal Agency - Declined Participating Agency Status assumed.

Riverside County TLMA

From: Williams, Russell [mailto:RUWILLIA@rctlma.org]
Sent: Wednesday, April 29, 2015 12:33 PM
To: Laboy, Kristal
Subject: FW: 241 91 ELC March 13 Package Copy

Kristal:

I am responding on behalf of Juan Perez of the Riverside County Transportation and Land Management Agency (TLMA). Please note we are not the March Joint Powers Authority as indicated in the email below. We decline to be a Participating Agency however we would like to see the ED during circulation.

Riverside County TLMA declines to be a NEPA Participating Agency for the SR-241/SR 91 express Lanes Connector project. _X_ Yes ___ No

Please continue to include our agency in the distribution list when the environmental document is released for public review. _X_ Yes ____ No

Russell Williams
Development Review Manager
County of Riverside Transportation Department
Phone: (951) 955-2016
Fax: (951) 955-0049
Email: ruwillia@rctlma.org

Nature Reserve of Orange County

From: James Sulentich <jsulentich@naturereserveoc.org>
Sent: Wednesday, April 22, 2015 10:24 AM
To: Todd, Dale
Cc: Milan Mitrovich, PhD
Subject: NROC Response to Caltrans Letter, RE: SR-241/SR-91 Express Lane

Good Morning Dale,

I want to thank you for the reminder. Milan Mitrovich and I reviewed the Caltrans letter dated March 13, 2015 regarding our organization serving as a participating agency for the SR-241 / SR-91 express lane connector supplemental draft EIS.

Based on our review of the letter and its attachments, and consistent with the mission of the organization, Nature Reserve of Orange County declines to be a NEPA Participating Agency for the SR-241 / SR-91 Express Lanes Connector Project for the following reasons: Our agency

does not have jurisdiction, authority, or expertise/information relevant to the project and our agency does not intend to provide comments on the project.

However, please continue to include our agency in the distribution list when the environmental document is released for public review.

Please do not hesitate to contact me if you have any questions regarding this correspondence.

Sincerely,

Jim

--
James M. Sulentich
Executive Director
Nature Reserve of Orange County
15600 Sand Canyon Avenue
Irvine, CA 92618
(949) 453-3324 (office)
(949) 861-6135 (fax)
(949) 769-4468 (cell phone)

Orange County Clerk-Recorder

From: Arteaga, Martha <Martha.Arteaga@rec.ocgov.com>
Sent: Monday, April 27, 2015 3:49 PM
To: Todd, Dale
Subject: RE: 241 91 Express Lanes Connector Project Package Sent March 13..

The Orange County Clerk-Recorder declines to be a NEPA Participating Agency for the SR-241 / SR-91 Express Lanes Connector Project for the following reasons: Our agency does not have jurisdiction, authority, or expertise/information relevant to the project and our agency does not intend to provide comments on the project.

Thank You,

Martha Arteaga
Senior Supervisor - Clerk Services
(714) 834-2692

Hugh Nguyen
Orange County Clerk-Recorder
Website: www.ocrecorder.com
Subscribe to our newsletter

From: Siddiqui, Najeeb
Sent: Tuesday, April 28, 2015 9:02 AM
To: 'Todd, Dale'
Subject: RE: 241 91 Express Lanes Connector Project Package Sent March 13..

Our agency Orange county Clerk-Recorder does not have jurisdiction, authority, or expertise/information relevant to the project and our agency does not intend to provide comments on the project.

Najeeb Siddiqui
Chief Deputy Clerk
(714) 834-2510

Hugh Nguyen
Orange County Clerk-Recorder
www.ocrecorder.com

Orange County LAFCO

From: Carolyn Emery <cemery@oclafco.org>
Sent: Thursday, April 30, 2015 5:16 PM
To: Settle, Jean
Subject: RE: Caltrans SR-241/91 Express Lanes Connector Project..

Hi Jean,

Thanks for the clarification. As mentioned in previous email sent to Dale, we will not be participating in the NEPA process for this project as a "participating agency" due to staff constraints and other project priorities. As noted, we appreciate being kept on your distribution list to keep informed of this project.

Let me know if you need additional information.

Carolyn Emery
Executive Officer
ORANGE COUNTY LAFCO
cemery@oclafco.org
714.640.5100



City of Irvine

Public Works Department cityofirvine.org
City of Irvine, One Civic Center Plaza, P.O. Box 19575, Irvine, California 92623-9575 (949) 724-6000

April 9, 2015

Sylvia Vega
Deputy District Director
District 12 – Division of Environmental Analysis
3347 Michelson Drive, Suite 100
Irvine, CA 92612

Dear Ms. Vega:

Thank you for your March 13 letter inviting the City of Irvine to become a Participating Agency for the SR-241/SR-91 Express Lanes Connector Supplemental Draft EIS.

The City appreciates Caltrans' willingness to include local agencies in the planning process for regional freeway projects. Primarily due to the location of the project, the City does not see the need to become a Participating Agency for the subject environmental analysis.

Please feel free to contact Katie Berg-Curtis, Project Development Administrator, at kberg@cityofirvine.org or 949-724-7347 if you have any questions or need additional information.

Sincerely,

Manuel Gomez
Director of Public Works

PRINTED ON RECYCLED PAPER

City of Orange

From: Frank Sun <fsun@cityoforange.org>
Sent: Tuesday, May 05, 2015 9:42 AM
To: Todd, Dale
Cc: Jennifer Le
Subject: RE: SR 241/SR91 Express Lanes Connector Project..

Hi Dale,

We think there's insignificant project impact to Orange but want to stay in the loop, so please continue to include our agency on your distribution list when the environmental document is released for public review.

Thanks

Frank Sun, P.E.
Deputy Director/City Engineer
Public Works Department
City of Orange
(714) 744-5529

City of Tustin

From: Stack, Doug [mailto:DStack@tustinca.org]
Sent: Wednesday, April 22, 2015 3:12 PM
To: Laboy, Kristal
Subject: RE: 241 91 ELC March 13 Package Copy

Kristal, don't quite understand the first question but regardless -

we support the project and believe it is critically needed to improve safety, travel time, connectivity and reduce PM Peak traffic congestion. The City of Tustin has no jurisdiction or authority, relatively no expertise or information relevant to the project and at this point does not intend to provide any further comment on the project.

Does that cover it???
/
Doug

DOUGLAS S. STACK, P.E.
Director of Public Works/City Engineer
City of Tustin, www.tustinca.org
p 714.573.3150 f 714.734.8991

THIS MESSAGE IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL, AND EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAWS. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution, forwarding, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately by e-mail or telephone, and delete the original message immediately. Thank you.

March Joint Powers Authority

From: Dan Fairbanks [mailto:fairbanks@marchjpa.com]
Sent: Tuesday, April 21, 2015 3:44 PM
To: Laboy, Kristal
Subject: RE: SR 241/91 Express Lanes Connector Project

Kristal,

Thanks for contacting me. Here is the information we discussed.

Dan Fairbanks, AICP
951 656-7000

From: Laboy, Kristal [mailto:klaboy@thetollroads.com]
Sent: Tuesday, April 21, 2015 1:31 PM
To: Dan Fairbanks
Subject: SR 241/91 Express Lanes Connector Project

Please indicate your response to the following and email back to me:

March Joint Powers Authority declines to be a NEPA Participating Agency for the SR-241/SR 91 express Lanes Connector project. _X_ Yes ___ No

Please continue to include our agency in the distribution list when the environmental document is released for public review. _X_ Yes ____ No

Thanks for your assistance!

Kristal Laboy
Transportation Corridor Agencies

Prado Regional Park

1. 4/22/15 Discussion with reception desk at 909-597-4260- No interest, will not reply in writing
2. 5/1/15 Discussion with reception desk at 909-597-4260 - Reconfirmed No Interest by Robert Fontaine, will not reply in writing

Appendix B: Agency Responses - Participating Agency Status Accepted

Federal Highway Administration

National Environmental Policy Act Assignment to Caltrans - Participating Agency invitation not required.

Caltrans (District 12)

National Environmental Policy Act Assignment to Caltrans - Participating Agency invitation not required.

Foothill/Eastern Transportation Corridor Agency

Project Sponsor - Participating Agency invitation not required.

Orange County Transportation Authority

From: Doug Pekrul [mailto:dpekrul@octa.net]
Sent: Friday, April 10, 2015 2:31 PM
To: Vega, Sylvia I@DOT; Deshpande, Smita R@DOT; b.heydari@dot.ca.gov; D12 NOP241-91@DOT
Cc: Dan Phu; Pradeep Gunaratne; Rose Casey
Subject: SR-91/SR-241 Connector Project - Notice of Preparation

All,

Per the attached Notice of Preparation request, please be advised that OCTA will participate in the preparation of a Supplemental Draft Environmental Impact Report for the above subject project. Additionally, the contact person for this effort will be Pradeep Gunaratne at p.gunaratne@octa.net or 714-560-5648. If further information is required please so advise Pradeep and copy myself. Thank you.

Douglas Pekrul
Project Manager
Highway Programs
Orange County Transportation Authority
(714) 560-5822
dpekrul@octa.net

Riverside County Transportation Commission

Riverside County Transportation Commission

4080 Lemon Street, 3rd Floor • Riverside, CA
Mailing Address: P. O. Box 12008 • Riverside, CA 92502-2208
(951) 787-7141 • Fax (951) 787-7920 • www.rctc.org

April 16, 2015

Ms. Sylvia Vega
Caltrans District 12
3347 Michelson Drive, Suite 100
Irvine, CA 92612

Subject: **Participating Agency Request and Notice of Preparation (NOP)/Notice of Intent (NOI) for State Route 241/State Route 91 (SR-241/SR-91) Express Lanes Connector (ELC) Supplemental Draft Environmental Impact Report/ Statement (SDEIR/S)**

Dear Ms. Vega,

Thank you for your recent letter requesting Riverside County Transportation Commission (RCTC) involvement with the California Department of Transportation (Caltrans) and the Foothill/Eastern Transportation Corridor Agency (F/ETCA) as a Participating Agency in accordance with the "Efficient Environmental Review Process" (23 USC 139) for the SR-241/SR-91 ELC. RCTC accepts the request to be a Participating Agency throughout the environmental process.

Furthermore, RCTC has reviewed the NOP/NOI for the SDEIR/S and has the following comments:

- The proposed project extends about 1.5 miles into Riverside County along SR-91. As such, the proposed project must be compatible with the under-construction SR-91 Express Lanes Project, as well as the SR-91/SR-71 Interchange Improvement Project currently in final design, right-of-way acquisition, and utility relocation phase of work.
- Impacts to existing 91 Express Lanes operations and maintenance, RCTC's 91 Express Lanes operations and maintenance planned to commence in 2017, and RCTC's estimated 91 Express Lanes toll revenue need to be analyzed and quantified.

If you have any questions, please contact Michael Blomquist at (951) 787-7141.

Sincerely,

Anne Mayer
Executive Director
Riverside County Transportation Commission

Cc: M. Blomquist and D. Thomas (RCTC)
S. Keel (Bechtel)

U.S. Fish and Wildlife Service

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

In Reply Refer To:
FWS-OR-14B0086-15TA0332

APR 10 2015

Ms. Sylvia Vega
Deputy District Director
California Department of Transportation
District 12
3347 Michelson Drive, Suite 100
Irvine, California 92612-1692

Attention: Bahar Heydari, California Department of Transportation

Subject: Invitation to Become a Cooperating and/or Participating Agency on the SR-241 / SR-91 Express Lanes Connector, Orange County and Riverside County, California

Dear Ms. Vega:

We received your letters dated March 13, 2015, requesting our participation as a cooperating and/or participating agency for the proposed SR-241/SR-91 Express Lanes Connector. At this time we are unable to act as a cooperating agency in the preparation of an Environmental Impact Statement for the project due to workload constraints.

However, we will continue to provide technical assistance as a participating agency in accordance with the project delivery provisions of the Moving Ahead for Progress in the 21st Century Act (MAP-21) and Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). We appreciate the opportunity to participate in the transportation planning process and look forward to our continued coordination in these matters.

If you have any questions regarding this letter, please contact Sally Brown of this office at 760- 431-9440, extension 278.

Sincerely,

for Karen A. Goebel
Assistant Field Supervisor

California Department of Fish and Wildlife

From: Dillingham, Tim@Wildlife
Sent: Monday, March 16, 2015 2:00 PM
To: Heydari, Bahar@DOT
Subject: Participating Agency/NOP for SR-241 and SR-91 Express Lanes Connector

The Department has received your request for us to become a participating agency for the SR-241/SR-91 Express Lanes Connector SDEIS/SDEIR. The Department will accept this role, and as the liaison to Caltrans for the Department, I will be the designated person for the project, rather than Kevin Hupf, to whom the original letter was addressed. Please find my contact information below. I look forward to working with you on this project.

Thank you,

Tim Dillingham
Senior Environmental Scientist (Specialist)
California Department of Fish and Wildlife
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4250

Santa Ana Regional Water Quality Control Board





Santa Ana Regional Water Quality Control Board

March 23, 2015

Sylvia Vega
Deputy District Director, Division of Environmental Analysis
California Department of Transportation
3347 Michelson Drive, Suite 100
Irvine, CA 92612

CALTRANS REQUEST FOR REGIONAL BOARD PARTICIPATION IN SR-241/SR-91 EXPRESS LANCES CONNECTOR IN ORANGE AND RIVERSIDE COUNTIES

Dear Sylvia Vega:

We have received and considered your March 13, 2015 request for the Santa Ana Regional Water Quality Control Board (RWQCB) to become a participating and cooperating agency in the environmental review of the referenced project (Project). The Project proposes to construct a median-to-median connector between the SR-241 and SR-91 express lanes.

As a responsible agency under the California Environmental Quality Act (CEQA), the RWQCB looks forward to contributing to this process. It will be advantageous for the environmental analysis of the Project to include consideration of all factors that must be addressed to comply with the environmental impact reporting provisions of CEQA, not just those factors needed to comply with NEPA. Doing so can facilitate obtaining permits from state agencies that are designated Trustee or Responsible agencies under CEQA, and who must make independent findings of a project's effects on the environment in their permitting process.

Please contact Glenn Robertson of our Regional Planning Programs Section at (951) 782-3259 (email: Glenn.Robertson@waterboards.ca.gov) and myself, at (951) 782-4992 (Stephen.Mayville@waterboards.ca.gov)with any questions.

Sincerely,

Stephen D. Mayville, R.C.E.
Chief, Enforcement and Dairy Units
Caltrans Coordinator
Santa Ana Regional Water Quality Control Board

CAROLE H. BESWICK, CHAIR | KURT V. BERCHTOLD, EXECUTIVE OFFICER
3737 Main St., Suite 500, Riverside, CA 92501 | www.waterboards.ca.gov/santaana
RECYCLED PAPER

Southern California Association of Governments

From: Daniel Tran [mailto:tran@scag.ca.gov]
Sent: Monday, April 13, 2015 2:46 PM
To: Heydari, Bahar@DOT
Cc: Naresh Amatya
Subject: Invitation to Become Participating Agency for SR-241/SR-91 Express Lanes Connector Supplemental DEIS

Hi Bahar,

It was nice speaking with you earlier this afternoon.

1

As I had mentioned in during our phone conversation, SCAG is interested in becoming a participating agency for the SR-241/SR-91 Express Lanes Connector project. I will be representing SCAG at the upcoming meetings and will be your point of contact should you have any questions. Therefore, I look forward to hearing from you soon.

If you have any questions please let me know.

Thank you,

Daniel Tran
Associate Regional Planner
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
818 West 7th Street, 12th Floor, Los Angeles, CA 90017
T: (213) 236-1883 | F: (213) 236-1963
E: tran@scag.ca.gov

Stay Connected 

Join us for SCAG's 50th Anniversary Gala Celebration
at the 2015 Regional Conference & General Assembly,
May 7-8 @ the JW Marriott Desert Springs Resort & Spa
in Palm Desert. Register online: www.scag.ca.gov/ga2015.

U.S. Bureau of Land Management

1. 4/22/15 voice message for Brandon G. Anderson, 760-833-7117
2. 4/27/15 voice message for Brandon G. Anderson
3. 4/30/15 voice message for Brandon G. Anderson
4. 5/1/15 voice message for Brandon G. Anderson

CONTACT ATTEMPTS TERMINATED - Participating Agency Status Assumed - Federal Agency

U.S. Environmental Protection Agency

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

April 13, 2015

Smita Deshpande
Caltrans District 12
3347 Michelson Drive, Suite 100
Irvine, CA 92612

Subject: Comments on Notice of Intent to prepare a Supplemental Draft Environmental Impact Statement and Request to be a Participating Agency for the SR 241/SR 91 Express Lanes Connector

Dear Ms. Deshpande:

The U.S. Environmental Protection Agency (EPA) appreciates the opportunity to provide feedback on the Notice of Intent to prepare a Supplemental Draft Environmental Impact Statement for the SR-241/SR-91 Express Lanes Project, and the invitation to coordinate with Caltrans on this project as a Participating Agency as codified in 23 USC 139. EPA provides the following scoping comments pursuant to our role in the National Environmental Policy Act (NEPA), Section 309 of the Clean Air Act, and the Council on Environmental Quality's Regulations for Implementing NEPA.

Correct Mailing Address
Please note that the appropriate EPA mailing address for this, and all Caltrans District 12 NEPA correspondence to EPA, is:

EPA Region IX
Environmental Review Section
75 Hawthorne Street, Mail Code ENF-4-2
San Francisco, CA 94105

The NEPA correspondence was incorrectly mailed to Steven John in our Southern California Field Office (600 Wilshire Boulevard). Please correct this information and share with your staff. While the Southern California Field Office is often copied on NEPA related matters, the San Francisco office houses our Environmental Review Section, and is the primary location where the Region 9 print copy of Draft and Final EISs are mailed concurrently with e-Filing. Please mail one hard copy of each Draft and Final EIS to the address above when following the e-Filing procedures.

Participating Agency and NEPA/404 MOU
We accept the invitation to be a Participating Agency and are available to review a proposed coordination plan and schedule, as well as the project's proposed purpose and need statement, range of alternatives, and Administrative Draft review documents. Should this project meet, or exceed, the 5 acre threshold to coordinate pursuant to the Integrated NEPA/404 MOU, we encourage Caltrans to invite

EPA and the Army Corps of Engineers to a kick-of meeting to discuss the NEPA/404 Integration process.

1994 Record of Decision and Substantive New Information
We understand that the proposed project is 8.7 mile segment within a more extensive project footprint that was analyzed in 1991 through 1994, with a Record of Decision prepared in 1994. As such, we support Caltrans intent to analyze the proposed project in the context of substantive new information that may have become available since the decision-making process twenty years ago. As discussed on the interagency call between our agencies last month, the adjacent transportation network and system of toll roads, HOV/HOT lanes, and general purpose lanes has changed greatly since 1994 and it will be important to accurately reflect how the proposed project will affect traffic distribution, congestion, and emissions in the project area in light of the changes that have occurred in the last twenty years. Please update our agency regarding substantive new information that leads to the identification of possible significant environmental impacts as the project studies are getting underway.

Transportation Conformity and Air Quality Impacts
Please continue to work with Karina O'Connor through the interagency consultation working group to confirm whether or not the proposed project is a Project of Air Quality Concern and may require analysis of project-level transportation conformity. As discussed during the interagency call last month, we recommend that this project's air quality impacts be considered in the context of full build out of adjacent transportation infrastructure projects in the region. Given the area's poor air quality, EPA also recommends identifying the most stringent measures available to reduce air quality impacts during both construction and operation of the facility. We further recommend confirming these commitments in the Record of Decision, and including them as required elements in contractor specifications.

EPA values the opportunity to be involved in early coordination on this transportation project. We hope that this involvement will lead to more efficient project planning and improved environmental and public health outcomes. As discussed above, please also update your agency mailing list to reflect the mailing address above and Debbie Lowe Liang as the EPA contact for this project. When the next phase of the environmental analysis provides an opportunity for EPA coordination, feel free to contact me at lowe.debbie@epa.gov or by phone at 415-947-4155.

Sincerely,

Connell Dunning

For Debbie Lowe Liang
Environmental Review Section

CC Via Email: Brenda Powell-Jones, Caltrans Headquarters
Chris Flynn, Caltrans Headquarters
Valerie McFall, Transportation Corridor Agency

Cal Recycle

From: Fujii, Bob@CalRecycle <Bob.Fujii@CalRecycle.ca.gov>
Sent: Friday, April 24, 2015 8:54 AM
To: Todd, Dale
Cc: Rodriguez, Monica@CalRecycle; Smyth, Brenda@CalRecycle; Levenson, Howard@CalRecycle; Pogue, Kyle@CalRecycle
Subject: RE: The SR 241/91 Express Lanes Connector Packet..

Hi Dale,

CalRecycle will be serving as a NEPA participating agency for the SR-241 / SR-91 Express Lanes Connector Project. I will be the point of contact for any correspondence related to this project. My contact information is shown below. Thank you for giving us the opportunity to participate.

Bob

Robert E Fujii, PE.
Senior Waste Management Engineer
State-wide Technical and Analytical Resources Branch

CalRecycle
1001 I Street
Sacramento, CA 95812-4025

Phone: 916-341-6419
Fax: 916-319-7564

California Highway Patrol

From: "Paez, Febe@CHP" <FPaez@chp.ca.gov>
Date: May 19, 2015 at 8:24:01 AM PDT
To: "dlowe@thetollroads.com" <dlowe@thetollroads.com>
Cc: "Alvarez, Mike@CHP" <MIAlvarez@chp.ca.gov>
Subject: CHP Contact Info

Good morning Mr. Lowe,

I spoke to Dale Todd to give her the information of the Commanders who oversee SR-241 and SR-91 to attend the next planning meeting, but she said to speak to you. Per our phone conversation, below is the contact info:

Sector Chief – Assistant Chief John Antillon (858) 650-3700
Capistrano – Captain Jim Fonseca (949) 487-4000
Santa Ana – Acting Commander Lt. Brent Pembleton (714) 567-6000
Westminster – Captain Don Goodbrand (714) 892-4426

If you need additional information, I can be reached at the number below. Have a great day!

Febe Paez Garcia
Executive Secretary
CHP Border Division
9330 Farnham Street
San Diego, CA 92123
(858) 650-3706 Desk
(858) 637-7133 Fax

Office of Historic Preservation

Verbal Acceptance on 4/27/15 by Natalie Lungquist for Dr. Carol Roland-Nawi.

California Department of Parks and Recreation - Chino Hills State Park-Inland Empire District

Verbal Acceptance on 4/22/15 by Ryan Gill for Lisa Mangat and Gary Watts.
Note: John Rowe is no longer with Chino Hills State Park

California Office of Planning and Research / State Clearinghouse

From: Natalie Murphey <Natalie.Murphey@GOV.CA.GOV>
Sent: Wednesday, April 22, 2015 2:44 PM
To: Todd, Dale
Subject: RE: SR 241/91 Express Lanes Connector Project Packet you Requested..

The only number I have is 322-2318. Hope they can direct you to him.

From: Todd, Dale [mailto:dtodd@thetollroads.com]
Sent: Wednesday, April 22, 2015 2:33 PM
To: Natalie Murphey
Subject: RE: SR 241/91 Express Lanes Connector Project Packet you Requested..

This is great Natalie.

Can you send me a number for Chris or should I just use the main number?

Dale

From: Natalie Murphey [mailto:Natalie.Murphey@GOV.CA.GOV]
Sent: Wednesday, April 22, 2015 12:14 PM
To: Todd, Dale
Cc: Christopher Calfee
Subject: RE: SR 241/91 Express Lanes Connector Project Packet you Requested..

Hello,

Ken would like to participate. He asked that you contact Chris Calfee for this matter.

Thank you

California Public Utilities Commission

Verbal Acceptance on 5/5/15 by Pamela Gavin-Watts
Pending Staff Person Delegation
Note: Denise Tyrrell is no longer with the Los Angeles Office.

San Bernardino Associated Governments

Governments SANBAG Working Together

San Bernardino Associated Governments
1170 W. 3rd Street, 2nd Floor San Bernardino, CA 92410-1715
Phone: (909) 884-8276 Fax: (909) 885-4407 Web: www.sanbag.ca.gov

TRANSPORTATION MEASURE I

■ San Bernardino County Transportation Commission ■ San Bernardino County Transportation Authority
■ San Bernardino County Congestion Management Agency ■ Service Authority for Freeway Emergencies

April 23, 2015

Bahar Heydari
Caltrans District 12
3347 Michelson Drive, Suite 100
Irvine, CA 92612

RE: Becoming a Participating Agency for SR-241 / SR-91 Express Lanes Connector Supplemental Draft EIS

Dear Mr. Heydari,

This letter is to confirm that San Bernardino Associates Governments (SANBAG) is interested in participating in the SR-241 / SR-91 Express Lanes Connector Supplemental Draft EIS.

We understand that this letter is getting to you after the requested due date, but we do hope that we will still be able to participate in the review of this project. If you have any questions or need any additional information, please do not hesitate to contact me at (909)884-8276.

Sincerely,

Garry Cohoe
Director of Project Delivery

Cities of: Adelanto, Barstow, Big Bear Lake, Chino, Chino Hills, Colton, Fontana, Grand Terrace, Hesperia, Highland, Loma Linda, Montclair, Needles, Ontario, Rancho Cucamonga, Redlands, Rialto, San Bernardino, Twentynine Palms, Upland, Victorville, Yucaipa
Towns of: Apple Valley, Yucca Valley County of San Bernardino
BH1580423-gc

South Coast Air Quality Management District

Verbal Acceptance on 5/6/15 by Jilian Wong.

Orange County Flood

Verbal Acceptance on 4/21/15 by Jeff Dickman.

Orange County Parks

Verbal Acceptance on 4/21/15 by Ericka Rivera for Stacy Blackwood.

Santa Ana Watershed Project Authority

Santa Ana Watershed Project Authority

OVER 45 YEARS OF INNOVATION, VISION, AND WATERSHED LEADERSHIP

One Water One Watershed
AWRA INTEGRATED WATER RESOURCES MANAGEMENT AWARD
HARVARD KENNEDY SCHOOL'S TOP 25 INNOVATIONS IN AMERICAN GOVERNMENT

March 16, 2015

Sylvia Vega
Deputy District Director
Department of Transportation
3347 Michelson Drive, Suite 100
Irvine, CA 92612

RE: Invitation to Become Participating Agency for SR-241 / SR-91 Express Lanes Connector Supplemental Draft EIS

Dear Ms. Vega:

In response to your letter of March 13, 2015, the Santa Ana Watershed Project Authority accepts your invitation to become a participating agency for the SR-241 / SR-91 Express Lanes Connector Supplemental Draft EIS.

Please coordinate with Richard E. Haller, P.E., Executive Manager Engineering and Operations, at (951) 354-4240 or rhaller@sawpa.org for all work tasks associated with this project.

Thank you for the opportunity to participate in the interagency coordination of this project review and look forward to working with the Department of Transportation.

Sincerely,

Zyanya Blancas
Administrative Assistant

Donald D. Galleano
Commission
Chair

Celeste Cantú
General
Manager

Orange
County
Water
District

Western
Municipal
Water District

Eastern
Municipal
Water
District

San
Bernardino
Valley
Municipal
Water
District

Inland
Empire
Utilities
Agency

11615 Sterling Avenue, Riverside, CA 92503 • 951.354.4220
www.sawpa.org • www.sawpa.org/OWOW

City of Anaheim

Verbal Acceptance on 4/21/15 by Susan Kim for Linda N. Andal. Agency indicated California Environmental Quality Act Notice of Preparation comments should constitute as acceptance of Participating Agency Status.

City of Corona

Verbal acceptance on 4/22/15 by Nelson Nelson.

City of Yorba Linda

From: Rick Yee [mailto:Ryee@yorba-linda.org]
Sent: Friday, May 01, 2015 12:03 PM
To: Laboy, Kristal
Subject: RE: 241 91 ELC March 13 Package Copy

Kristal – Please include us as a participating agency for the SR241/91 project environmental review.

Thanks

Rick Yee, PE | Assistant City Engineer
City of Yorba Linda
Public Works Engineering Department
4845 Casa Loma Avenue
Yorba Linda, CA 92885

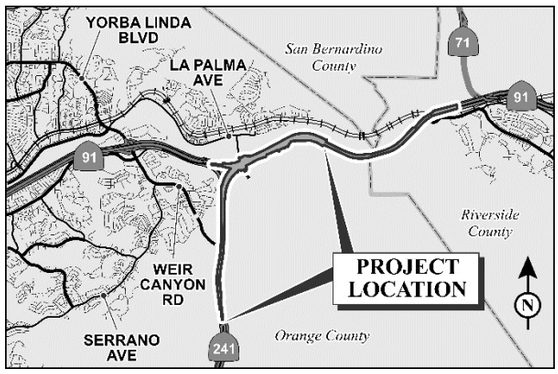
P (714) 961-7171
F (714) 986-1010
ryee@yorba-linda.org
www.ci.yorba-linda.ca.us

English and Spanish Public Notices

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PUBLIC NOTICE

Draft Supplemental Environmental Impact Report/Environmental Impact Statement Available for SR-241/SR-91 Tolled Express Lanes Connector Project and Announcement of Public Hearing



WHAT'S BEING PLANNED: California Department of Transportation (CALTRANS) District 12, in cooperation with the Foothill Eastern Transportation Corridor Agency (F/ETCA) is proposing the State Route 241/State Route 91 (SR-241/SR-91) Tolled Express Lanes Connector Project (Proposed Project) to construct a median-to-median connector between SR-241 and the tolled lanes in the median of SR-91 (*91 Express Lanes*). A No Build Alternative and only one Build Alternative (Preferred Alternative) are evaluated in the Supplemental Environmental Impact Report/Environmental Impact Statement (SEIR/EIS). The Proposed Project, located at the junction of SR-241 and SR-91 in the cities of Anaheim, Yorba Linda, and Corona and the counties of Orange and Riverside, would provide improved access between SR-241 and SR-91 and is proposed to be a tolled facility with a total length of approximately 8.7 miles. Currently, there is no direct connection between the SR-241 toll road and the *91 Express Lanes*. SR-241 is a tolled facility, starting at the Oso Parkway interchange, in south Orange County, to its terminus at SR-91. The *91 Express Lanes* is a two-lane tolled facility, in each direction, located in the median of SR-91, from State Route 55 (SR-55), to the Orange/Riverside County line (east of the SR-241 interchange). The existing SR-241/SR-91 interchange connects northbound SR-241 to non-tolled general purpose lanes of eastbound and westbound SR-91 and the eastbound and westbound SR-91 to southbound SR-241. Approximately 5 acres of land on the slope south of SR-91, approximately 3,600 ft west of Coal Canyon, would be permanently acquired for the Proposed Project. The acquired land is currently part of the Irvine Ranch Natural National Landmark (NNL), owned by the County of Orange with a Conservation Easement held by the Nature Conservancy. As a publicly owned and operated park that is open to the public, the NNL and the Preserves in the NNL qualify for protection under the requirements of Section 4(f). Therefore, a Section 4(f) Resource Evaluation was conducted and included as part of the Draft SEIR/EIS.

WHY THIS AD: Caltrans has studied the effects the Proposed Project may have on the environment. Studies show it will not significantly affect the quality of the environment. The report that explains the environmental impacts is called Supplemental Environmental Impact Report/Environmental Impact Statement (SEIR/EIS). This notice is to inform you of the preparation of the Draft SEIR/EIS and Section 4(f) Resource Evaluation and their availability for review. An open house style public hearing will be held to give you an opportunity to review the project design features.

Project-level conformity analysis shows that the project will conform to the State Implementation Plan, including localized impact analysis with interagency consultation for carbon monoxide (CO) and particulate matter (PM_{10} and $PM_{2.5}$) required by 40 CFR 93.116 AND 93.123. This project is not considered a Project of Concern regarding particulate matter (PM_{10} and $PM_{2.5}$) as defined in 40 CFR 93.123 (b)(1). A detailed PM_{10} and $PM_{2.5}$ hot-spot analysis was not completed because Clean Air Act and 40 CFR 93.116 requirements are met without an explicit hot-spot analysis. The Proposed Project comes from a conforming Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP). Comments are requested regarding the project-level conformity analysis.

WHAT'S AVAILABLE: The Draft SEIR/EIS is available for review at CALTRANS District 12, 1750 East Fourth Street, Suite 100, Santa Ana, CA 92705 and the TCA office, 125 Pacifica, Suite 120, Irvine, California 92618 on weekdays (M-F) from 8:00 a.m. to 5:00 p.m. Maps and other information are also available. There are also copies available at the following public libraries during their regular business hours:

- East Anaheim Library (8201 East Santa Ana Canyon Road, Anaheim, California, 92808,
- Corona Public Library (650 South Main Street, Corona, California, 92882,
- El Modena Branch Library (380 South Hewes Street, Orange, California, 92869.

In addition, documents are also available for review on-line at http://www.dot.ca.gov/d12/DEA/241-91/0K9700/.

WHERE YOU COME IN: Have the potential impacts been addressed? Do you have information that should be included? Your comments will be part of the public record. If you wish to make a comment on the Draft SEIR/EIS, you may submit your written comments to CALTRANS at the address below until **January 5, 2017**.

Smita Deshpande, Generalist Branch Chief,
Caltrans-District 12, "Attn: 241-91 DSEIR/EIS Comment Period"
1750 East Fourth Street, Suite 100
Santa Ana, CA 92705

Comments may also be sent via email to: **D12.SR241-91ELC@dot.ca.gov**

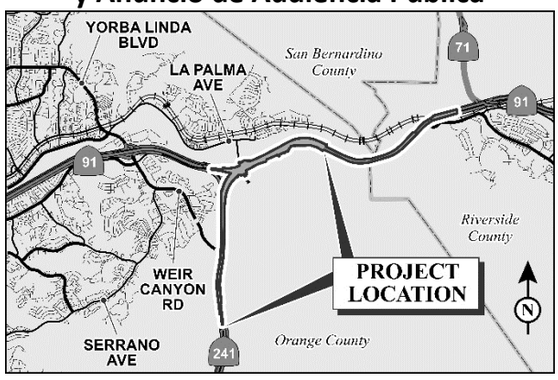
WHEN AND WHERE: An open house style public hearing will be held **Tuesday, November 29, 2016 – 5:30 – 8:30 pm**, at the East Anaheim Community Center, 8201 East Santa Ana Canyon Road, Anaheim, CA 92808

Individuals who require special accommodation (American Sign Language interpreter, accessible seating, documentation in alternate formats, etc.) are requested to contact CALTRANS District 12, Attn: Public Affairs Office at (657) 328-6533 at least 21 days prior to the scheduled hearing date, TDD users may contact the California Relay Service TTY line at 1-800-735-2929 or Voice Line at 1-800-735-2922.

CONTACT: For more information about this study or any transportation matter, call Smita Deshpande at CALTRANS District 12: (657) 328-6533.

ANUNCIO PÚBLICO

Borrador del Reporte de Impacto Ambiental Suplementario/Declaración de Impacto Ambiental Disponible para el Proyecto del Conector de los Carriles Expresos con Peaje de la SR-241/SR-91, y Anuncio de Audiencia Pública



LO QUE SE ESTÁ PLANEANDO: El Distrito 12 del Departamento de Transporte de California (CALTRANS), en asocio con la agencia Foothill Eastern Transportation Corridor Agency (F/ETCA), está proponiendo el Proyecto (Proyecto Propuesto) del Conector de los Carriles Expresos con Peaje de la Ruta Estatal 241/Ruta Estatal 91 (SR-241/SR-91) para construir un conector de "mediana a mediana" entre la SR-241 y los carriles con peaje en la mediana de la SR-91 (*Carriles Expresos de la 91*). En el Reporte de Impacto Ambiental Suplementario/Declaración de Impacto Ambiental (SEIR/EIS, por sus siglas en inglés) sólo se están evaluando una Alternativa de No Construir y una Alternativa de Construir (Alternativa Preferida). El Proyecto Propuesto, ubicado en la intersección de la SR-241 y la SR-91 en las ciudades de Anaheim, Yorba Linda y Corona, en los Condados de Orange y Riverside, mejoraría el acceso entre la SR-241 y la SR-91 y se ha propuesto que sea una instalación con peaje con una longitud total de aproximadamente 8.7 millas. En la actualidad no hay una conexión directa entre la carretera con peaje SR-241 y los *Carriles Expresos de la 91*. La SR-241 es una carretera con peaje desde la intersección Oso Parkway, al sur del Condado de Orange, hasta que termina en la SR-91. Los *Carriles Expresos de la 91* es una obra de dos carriles con peaje en cada dirección, ubicada en la mediana de la SR-91, desde la Ruta Estatal 55 (SR-55), hasta la línea divisoria de los condados de Orange y Riverside (al este de la intersección de la SR-241). La intersección actual SR-241/SR-91 conecta a la SR-241 en dirección norte con los carriles generales sin peaje de la SR-91 en dirección este y en dirección oeste, y a la SR-91 en dirección este y en dirección oeste con la SR-241 en dirección sur. Para el Proyecto Propuesto serían adquiridos permanentemente aproximadamente 5 acres de terreno en la ladera sur de la SR-91, aproximadamente 3,600 pies al oeste de Coal Canyon. En la actualidad, el terreno que sería adquirido hace parte del Irvine Ranch Natural National Landmark (NNL), propiedad del Condado de Orange con una Escritura de Preservación de Servidumbre en poder de la Nature Conservancy. Al ser un parque de propiedad y operación pública que está abierto al público, el NNL califica para recibir protección bajo los requerimientos de la Sección 4(f). Por lo tanto, se realizó una Evaluación de Recurso de la Sección 4(f) y se incluyó como parte del Borrador SEIR/EIS.

EL POR QUÉ DE ESTE ANUNCIO: Caltrans ha estudiado los efectos que podría tener el Proyecto Propuesto en el medio ambiente. Los estudios indican que el Proyecto Propuesto no afectará significativamente la calidad del medio ambiente. El reporte que explica los impactos ambientales es conocido como un Reporte de Impacto Ambiental Suplementario/Declaración de Impacto Ambiental (SEIR/EIS). Este anuncio es para informarle a usted acerca de la preparación de un Borrador del SEIR/EIS y la Evaluación de Recurso de la Sección 4(f) y de su disponibilidad para ser revisados. Se realizará una reunión pública estilo *open house* para darle a usted la oportunidad de revisar las características del diseño del proyecto.

El análisis de conformidad a nivel del proyecto indica que el proyecto se ajusta al Plan de Implementación Estatal, incluyendo el análisis de impacto localizado con consultas entre agencias en cuanto al monóxido de carbono (CO) y partículas de materia (PM_{10} y $PM_{2.5}$) requeridos por la 40 CFR 93.116 Y 93.123. Este proyecto no es considerado un Proyecto de Preocupación en lo que se refiere a las partículas de materia (PM_{10} y $PM_{2.5}$) según se definen en la 40 CFR 93.123 (b)(1). No se realizó un análisis detallado focalizado de las PM_{10} y $PM_{2.5}$, ya que los requerimientos del Acta de Aire Limpio (Clean Air Act) y la 40 CFR 93.116 se cumplen sin necesidad de un análisis detallado focalizado. El Proyecto Propuesto está en conformidad con el Plan de Transporte Regional (RTP, por sus siglas en inglés) y el Programa de Mejoras de Transporte (TIP). Se requieren comentarios con respecto al análisis de conformidad a nivel del proyecto.

QUÉ HAY DISPONIBLE: El Borrador SEIR/EIS está disponible para su revisión en el Distrito 12 de CALTRANS, 1750 East Fourth Street, Suite 100, Santa Ana, CA 92705 y en la oficina de TCA, 125 Pacifica, Suite 120, Irvine, California 92618, entre semana (lunes a viernes) de 8:00 a.m. a 5:00 p.m. Además, hay disponibles mapas y otra información. También hay disponibles copias en las siguientes bibliotecas públicas, durante sus horarios regulares de servicio:

- East Anaheim Library. 8201 East Santa Ana Canyon Road, Anaheim, California, 92808,
- Corona Public Library. 650 South Main Street, Corona, California, 92882,
- El Modena Branch Library. 380 South Hewes Street, Orange, California, 92869.

Además, los documentos también están disponibles para ser revisados en línea en http://www.dot.ca.gov/d12/DEA/241-91/0K9700/.

CÚAL ES SU PAPEL: ¿Se han abordado los impactos potenciales? ¿Tiene información que considera que debería ser incluida? Sus comentarios serán parte del registro público. Si desea hacer algún comentario acerca del Borrador SEIR/EIS, puede enviar sus comentarios por escrito a CALTRANS, en la dirección que se indica abajo, hasta el **5 de enero de 2017**.

Smita Deshpande, Generalist Branch Chief,
Caltrans-District 12, "Attn: 241-91 DSEIR/EIS Comment Period"
1750 East Fourth Street, Suite 100
Santa Ana, CA 92705

También se pueden enviar comentarios por correo electrónico a: **D12.SR241-91ELC@dot.ca.gov**

CUÁNDO Y DÓNDE: Se realizará una audiencia pública estilo *open house* el **martes 29 de noviembre de 2016, de 5:30 a :8:30 pm**, en el centro comunitario East Anaheim Community Center, 8201 East Santa Ana Canyon Road, Anaheim, CA 92808.

A las personas que necesiten acomodaciones especiales (intérprete de American Sign Language, asientos accesibles, documentación en formatos alternativos, etc.) se les pide que se pongan en contacto con el Distrito 12 de CALTRANS, Attn: Oficina de Relaciones Públicas (Public Affairs Office)

en el (657) 328-6533 por lo menos 21 días antes de la fecha programada para la audiencia. Los usuarios de TDD pueden ponerse en contacto con la línea de TDD del California Relay Service en el 1-800-735-2929 o dejar un Mensaje de Voz en el 1-800-735-2922.

CONTACTO: Para más información acerca de este estudio o de cualquier asunto de transporte, llame a Smita Deshpande del Distrito 12 de CALTRANS: (657) 328-6533.

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CHP Correspondence

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From: Kovaletz, Todd@CHP <TKovaletz@chp.ca.gov>
Sent: Friday, April 12, 2019 4:24 PM
To: Ketsela, Kedest@DOT kedest.ketsela@dot.ca.gov>
Cc: Torres, Gustavo@CHP <GuTorres@chp.ca.gov>; Shackleford, Ryan@CHP <RShackleford@chp.ca.gov>; Knarr, Aaron@CHP <AKnarr@chp.ca.gov>
Subject: RE: State Route (SR) 91 Coal Canyon off -ramp

Good afternoon,

Thank you for the chance to respond to the proposed gate on the closed Coal Canyon off ramp. CHP would strongly oppose any additional gating on the Coal Canyon off ramp area. The new turnaround in the Fastrak lanes is not feasible for patrol units to turn around from the general lanes of traffic. The disparity of traffic speeds between the Fastrak lanes and general lanes of traffic poses much too great of a risk to cross to turn around. Often in that location the Fastrak lanes will be at full speed while the general lanes will be between five to 10 mph. The Coal Canyon off ramp turnaround is used numerous times per shift by CHP Santa Ana patrol officers, CHP Riverside patrol officers, Freeway Service Patrol tow operators, as well as Fire personnel while responding to emergency incidents. During peak commute hours, the time saved using the turn around can turn a 30 to 40 minute response time into a five minute response time. Adding a gate at the top of the ramp would greatly impede our ability to provide the service to the public that is essential. CHP would support the addition of some type of visual barrier using the existing fencing in place but would greatly oppose any additional gates or impediments.

Any questions or if you need additional information, let me know.

Todd Kovaletz
Administrative Sergeant
California Highway Patrol
Santa Ana Area
2031 E. Santa Clara Ave.
Santa Ana, CA 92705

(714) 567-6000 – Office
(714) 547-8344 – Fax

From: Knarr, Aaron@CHP
Sent: Friday, April 12, 2019 3:20 PM
To: Ketsela, Kedest@DOT <kedest.ketsela@dot.ca.gov>
Cc: Kovaletz, Todd@CHP <TKovaletz@chp.ca.gov>; Torres, Gustavo@CHP <GuTorres@chp.ca.gov>; Shackleford, Ryan@CHP <RShackleford@chp.ca.gov>
Subject: RE: State Route (SR) 91 Coal Canyon off -ramp

Kedest,

Thank you for contacting me regarding the CHP's opinion of the proposed gate at the eastbound SR-91 to Coal Canyon Road off-ramp. My Administrative Sergeant, Todd Kovaletz, is well-versed on the current use of the off-ramp by officers from both the Santa Ana and Riverside Area offices and will be sending you an email explaining why we oppose installation of a gate.

Please call or email me if you have any further questions or need additional information.

Regards,

Aaron

Aaron S. Knarr, Lieutenant
California Highway Patrol
Santa Ana (675)
2031 E. Santa Clara Avenue
Santa Ana, CA 92705-7838
Phone: (714) 567-6000
Fax: (714) 547-8344

From: Ketsela, Kedest@DOT <kedest.ketsela@dot.ca.gov>
Sent: Friday, April 12, 2019 8:23 AM
To: COA@ocfa.org; Knarr, Aaron@CHP <AKnarr@chp.ca.gov>
Cc: Baker, Charles A@DOT <charles.baker@dot.ca.gov>
Subject: State Route (SR) 91 Coal Canyon off -ramp

Good Morning,
To whom it may concern,

I work for Caltrans at the Orange County office. Caltrans, in cooperation with the Foothill/Eastern Transportation Corridor Agency (F/ETCA) proposes, SR-241/91 Express lane connector project between 241/91 interchange and south of Coal Canyon overcrossing. As you may have known, the Coal Canyon off ramps have been close for public since 2002. However, CHP, Caltrans Maintenance, OCFA and authorized agencies have been using the eastbound off ramp to make U turn or enter into the park. At the present time, we (TCA and Caltrans) are working with US Fish and wildlife Service for this project. As part of the permit condition, US Fish and Wildlife proposes to install a permanent access control gate near the top of the eastbound off-ramp at Coal Canyon, leaving enough room in front of the gate for personnel in authorized vehicles (CHP, Caltrans, OCFA,CDFW, OC Parks and authorized other agencies) to exit SR-91 and open the gate, but encouraging authorized vehicles to use the new median turnaround.

As it shows in the attached picture, the new median turnaround is located

within the toll road and the proposed gate will be located at coal canyon off ramp. Since the off ramp have been used by CHP and OCFA often for emergency purposes, we would like to request your approval or disapproval of the proposed gate at the eastbound coal canyon off ramp.

If you have any questions, please let me know.
Thank you

Kedest Ketsela
Caltrans D-12
(657) 328-6134

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Native American Consultation and Coordination

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SECTION 106 NATIVE AMERICAN CONTACT RECORD

Proposed State Route 241/State Route 91 Direct Connector Project, Orange County, California

Date LSA Requested the Sacred Lands File Search from the Native American Heritage Commission (NAHC): April 6, 2011
Date the Native American Heritage Commission Replied: April 12, 2011.
Results of the Sacred Lands File Search: Native American cultural resources were not identified within ½-mile of the project Area of Potential Effects (APE). However, resources were identified in close proximity to the APE. The NAHC recommended that LSA contact the groups/individuals listed below who may have knowledge of cultural resources that could be impacted by the project.

Groups Contacted	Date LSA Sent Letter to Tribes	Date a Response to the Letter was Received by LSA	Date and Results of LSA Follow-up Telephone Calls and/or emails
Ti'At Society/Inter-Tribal Council of Pimu Cindi M. Alvitre, Chairwoman-Manisar *Gabrielino*	05-10-11	No response received.	05-31-11: A follow up email was sent to Ms. Alvitre. 06-07-11: A second follow up email was sent to Ms. Alvitre.
Gabrielino Tongva Nation Sam Dunlap, Chairperson *Gabrielino Tongva*	05-10-11	No response received.	05-31-11: A follow up email was sent to Mr. Dunlap. 06-07-11: A second follow up email was sent to Mr. Dunlap. 06-14-11: Mr. Dunlap responded by email to say that if there is no potential for cultural resources to be impacted because construction will be in previously disturbed soil, then he has no concerns.
Juaneño Band of Mission Indians Acjachemen Nation David Belardes, Chairperson *Juaneño*	05-10-11	No response received.	Please see Joyce Perry, below. She is the spokesperson for cultural resources.
Juaneño Band of Mission Indians Acjachemen Nation Anthony Rivera, Chairman *Juaneño*	05-10-11	No response received.	05-31-11: A follow up email was sent to Mr. Rivera. 06-07-11: A second follow up email was sent to Mr. Rivera.
Tongva Ancestral Territorial Tribal Nation John Tommy Rosas, Tribal Administrator *Gabrielino Tongva*	05-10-11 (via email)	No response received.	05-31-11: A follow up email was sent to Mr. Rosas. 06-07-11: A second follow up email was sent to Mr. Rosas.
Gabrielino Tongva Indians of California Tribal Council Robert F. Dormae, Tribal Chair/Cultural Resources *Gabrielino Tongva*	05-10-11	No response received.	05-31-11: A follow up email was sent to Mr. Dormae. 06-07-11: Mr. Dormae would like to be notified of any discoveries.

Groups Contacted	Date LSA Sent Letter to Tribes	Date a Response to the Letter was Received by LSA	Date and Results of LSA Follow-up Telephone Calls and/or emails
Gabrieleno/Tongva San Gabriel Band of Mission Indians Anthony Morales, Chairperson *Gabrielino Tongva*	05-10-11	05-13-11: Mr. Morales called to state that he knows there are cultural resources around the base of the foothills and he hopes the project proponents will be vigilant. He is aware that the project area is disturbed by previous freeway construction; however he recommends monitoring by an archaeologist and a Native American when construction activities are in deeply buried intact native soil (for example, when digging deep for the support structures) as there is potential to encounter buried cultural resources.	Not applicable.
Juaneño Band of Mission Indians Alfred Cruz, Cultural Resources Coordinator *Juaneño*	05-10-11	No response received.	05-31-11: A voicemail was left for Mr. Cruz. 06-07-11: A follow up email was sent to Mr. Cruz. 06-08-11: Mr. Cruz called and left a voicemail. 06-10-11: Mr. Cruz called to say that he believes the area to be sensitive for cultural resources given its proximity to the Santa Ana River. Also, his people inhabited the area for over 9000 years and the SR 91 runs along what used to be ancient travel and trading routes. There is no way to know the extent of what is there. For this reason, he recommends monitoring by a Native American and an archaeologist when construction activities are in undisturbed native soil.
Gabrielino-Tongva Tribe Bernie Acuna *Gabrielino*	05-10-11	No response received.	05-31-11: The message on the cell phone number provided said, "unavailable". An administrator at the office number referred the call to Linda Candelaria. See below.

Groups Contacted	Date LSA Sent Letter to Tribes	Date a Response to the Letter was Received by LSA	Date and Results of LSA Follow-up Telephone Calls and/or emails
Juaneño Band of Mission Indians Acjachemen Nation Joyce Perry, Representing Tribal Chairperson *Juaneño*	05-10-11	No response received.	05-31-11: A voicemail was left for Ms. Perry. 06-07-11: A second voicemail was left for Ms. Perry. 06-10-11: The letter was returned as "unclaimed".
Gabrielino-Tongva Tribe Linda Candelaria, Chairwoman *Gabrielino*	05-10-11	No response received.	05-31-11: A voicemail was left for Ms. Candelaria; Bernie Acuna was also referenced. 06-07-11: An follow up email was sent to Ms. Candelaria; Mr. Acuna was also copied.

LSA

LSA ASSOCIATES, INC.
20 EXECUTIVE PARK, SUITE 200
IRVINE, CALIFORNIA 92614

949.553.0666 TEL
949.553.8076 FAX

BERKELEY
CARLSBAD
FORT COLLINS
FRESNO
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROCKLIN
SAN LUIS OBISPO
S. SAN FRANCISCO

April 6, 2011

Dave Singleton
Native American Heritage Commission
915 Capitol Mall, Room 364
Sacramento, CA 95814

Subject: Sacred Lands File Search for the SR-241/SR-91 Direct Connector Project, Orange County, California

Dear Mr. Singleton:

Attached please find a portion of one United States Geological Survey (USGS) 7.5-minute topographic quadrangle map. Plotted on the map is the location of the proposed SR-241/SR-91 Direct Connector Project, Orange County, California. Specifically, the project is situated in Township 4 South, Range 8 West, in Irvine Ranch Sections 23, 25, 26, and 28; and Township 3 South, Range 8 West, in Irvine Ranch Sections 28, 30, and 32, of the *Black Star Canyon, California* USGS topographic quadrangle map (San Bernardino Baseline and Meridian). A map showing the project area is attached.

There will be ground disturbance associated with this project. Per Section 106 of the National Historic Preservation Act, LSA is requesting a Sacred Lands File search for the project area. Please notify LSA of any Traditional Cultural Properties (TCPs) and/or sacred sites that may be impacted.

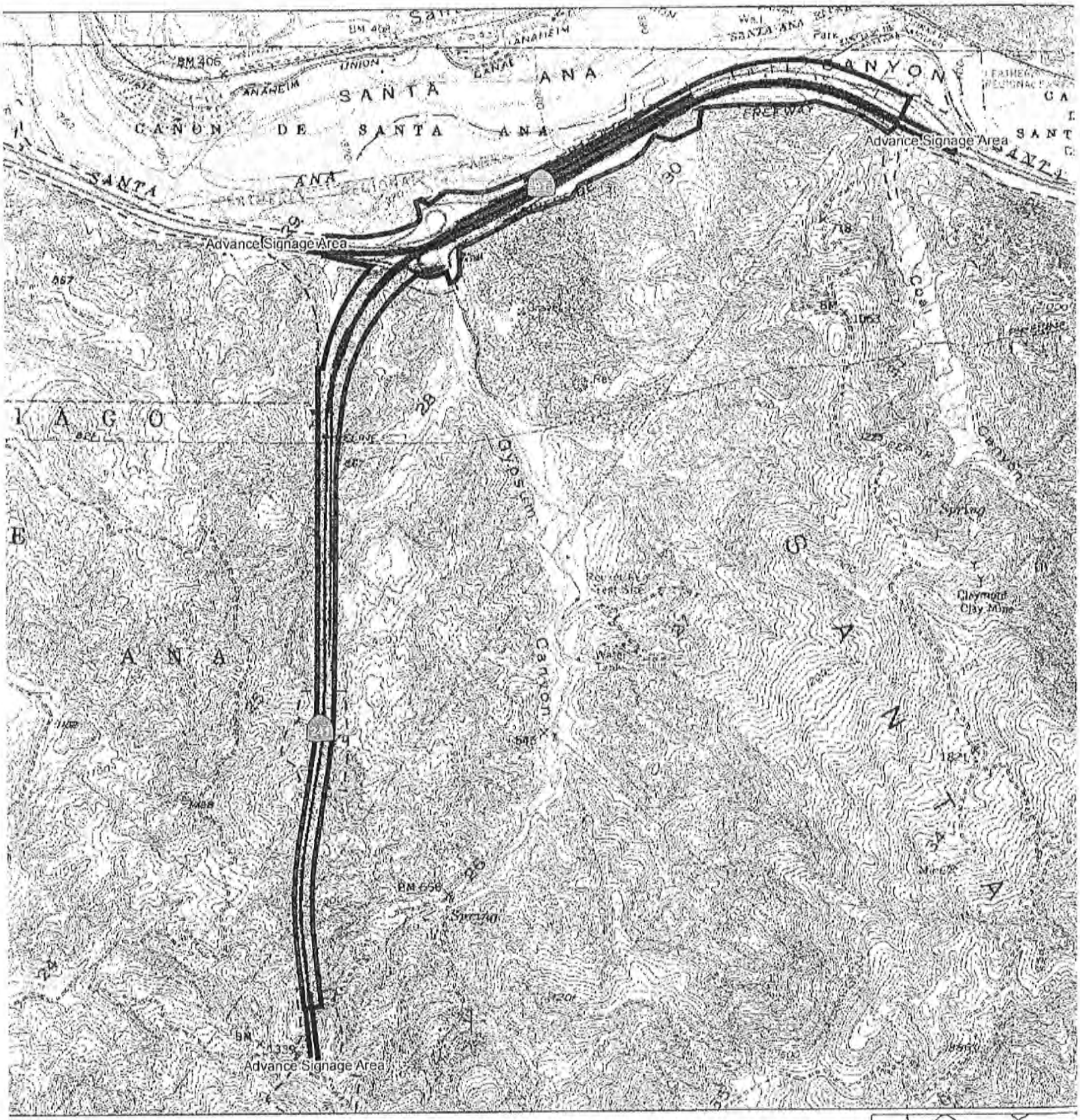
I will anticipate a response within 10 working days from your receipt of this request. If you have any questions or comments, please contact me at (949) 553-0666 or you may e-mail me at terri.fulton@lsa-assoc.com. As always, thank you very much for your assistance with this project.

Best Regards,

LSA ASSOCIATES, INC.

Terri Fulton
Archaeologist/Senior Cultural Resources Manager
Native American Consultation

Attachments: Portion of one USGS map


Advance Signage Area
Advance Signage Area
Advance Signage Area
SANTA ANA CANYON
FREEWAY
CANON DE SANTA ANA
SANTA ANA
ANAHEIM
UNION
CANAL
Santiago Creek
Canyon
Spring
Claymont Clay Mine
Water Tank
BM 406
BM 650
BM 1063
Orange County

TRANSMISSION VERIFICATION REPORT

TIME : 04/06/2011 14:26
NAME :
FAX :
TEL :
SER.# : 000C5J225683

DATE,TIME	04/06 14:25
FAX NO./NAME	NAHC
DURATION	00:01:03
PAGE(S)	02
RESULT	OK
MODE	STANDARD ECM

LSA

LSA ASSOCIATES, INC.
20 EXECUTIVE PARK, SUITE 200
IRVINE, CALIFORNIA 92614

949.553.0666 TEL
949.553.8076 FAX

BERKELEY
CARLSBAD
PORT COLLINS

FRESNO
PALM SPRINGS
POINT RICHMOND

RIVERSIDE
ROCKLIN
SAN LUIS OBISPO
S. SAN FRANCISCO

April 6, 2011

Dave Singleton
Native American Heritage Commission
915 Capitol Mall, Room 364
Sacramento, CA 95814

Subject: Sacred Lands File Search for the SR-241/SR-91 Direct Connector Project, Orange County, California

Dear Mr. Singleton:

Attached please find a portion of one United States Geological Survey (USGS) 7.5-minute topographic quadrangle map. Plotted on the map is the location of the proposed SR-241/SR-91 Direct Connector Project, Orange County, California. Specifically, the project is situated in Township 4 South, Range 8 West, in Irvine Ranch Sections 23, 25, 26, and 28; and Township 3 South, Range 8 West, in Irvine Ranch Sections 28, 30, and 32, of the *Black Star Canyon, California* USGS topographic quadrangle map (San Bernardino Baseline and Meridian). A map showing the project area is attached.

There will be ground disturbance associated with this project. Per Section 106 of the National Historic Preservation Act, LSA is requesting a Sacred Lands File search for the project area. Please notify LSA of any Traditional Cultural Properties (TCPs) and/or sacred sites that may be impacted.

I will anticipate a response within 10 working days from your receipt of this request. If you have any questions or comments, please contact me at (949) 553-0666 or you may e-mail me at terri.fulton@lsa-assoc.com. As always, thank you very much for your assistance with this project.

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net

April 12, 2011

Ms. Terri Fulton, Archaeologist, Senior Cultural Resources Manager
LSA ASSOCIATES, INC.
20 Executive Park, Suite 200
Irvine, CA 92614

Sent by FAX to: 949-553-8076
No. of Pages: 4

Re: Request for a Sacred Lands File Search and Native American Contacts list for the **State Route 241/State Route 91 Direct Connector Project"** located in Orange County, California

Dear Ms. Fulton:

The Native American Heritage Commission (NAHC), the State of California 'Trustee Agency' for the protection and preservation of Native American cultural resources. The NAHC Sacred Lands File (SLF) search resulted in the following: **Native American cultural resources were not identified** within ½ mile of the area of potential effect (e.g. APE). However, there are Native American cultural resources in close proximity to the APE.

The California Environmental Quality Act (CEQA – CA Public Resources Code §§ 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ... objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. CA Government Code §65040.12(e) defines "environmental justice" provisions and is applicable to the environmental review processes.

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Culturally affiliated tribes and individuals may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). We urge consultation with those tribes and interested Native Americans on the list of Native American Contacts we attach to this letter in order to see if your proposed project might impact Native American cultural resources. Lead agencies should consider avoidance as defined in §15370 of the CEQA Guidelines when significant cultural resources as defined by the CEQA Guidelines §15064.5 (b)(c)(f) may be affected by a proposed project. If so, Section 15382 of the CEQA Guidelines defines a significant impact on the environment as "substantial."

Furthermore we suggest that you contact the California Historic Resources Information System (CHRIS) for pertinent archaeological data within or near the APE, at the California Office of Historic Preservation (916) 446-7000.

Consultation with tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA (42 U.S.C 4321-43351) and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 *et seq*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation.

Also, California Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery'.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. Regarding tribal consultation, a relationship built around regular meetings and informal involvement with local tribes will lead to more qualitative consultation tribal input on specific projects.

The response to this search for Native American cultural resources is conducted in the NAHC Sacred Lands Inventory, established by the California Legislature (CA Public Resources Code 5097.94(a) and is exempt from the CA Public Records Act (c.f. California Government Code 6254.10) although Native Americans on the attached contact list may wish to reveal the nature of identified cultural resources/historic properties. Confidentiality of "historic properties of religious and cultural significance" may also be protected under Section 304 of he NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APE and possibility threatened by proposed project activity.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton
Program Analyst

Attachment: Native American Contact List

Native American Contact List
Orange County
April 12, 2011

Ti'At Society/Inter-Tribal Council of Pimu
Cindi M. Alvitre, Chairwoman-Manisar
6515 E. Seaside Walk, #C Gabrielino
Long Beach , CA 90803
calvitre@yahoo.com
(714) 504-2468 Cell

Gabrielino Tongva Nation
Sam Dunlap, Chairperson
P.O. Box 86908 Gabrielino Tongva
Los Angeles , CA 90086
samdunlap@earthlink.net

(909) 262-9351 - cell

Juaneno Band of Mission Indians Acjachemen Nation
David Belardes, Chairperson
32161 Avenida Los Amigos Juaneno
San Juan Capistrano CA 92675
(949) 493-4933 - home
chiefdavidbelardes@yahoo.
com
(949) 293-8522

Juaneno Band of Mission Indians Acjachemen Nation
Anthony Rivera, Chairman
31411-A La Matanza Street Juaneno
San Juan Capistrano CA 92675-2674
arivera@juaneno.com
(949) 488-3484

(530) 354-5876 - cell

Tongva Ancestral Territorial Tribal Nation
John Tommy Rosas, Tribal Admin.
Private Address Gabrielino Tongva
,
tattnlaw@gmail.com
310-570-6567

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorrnae, Tribal Chair/Cultural Resources
P.O. Box 490 Gabrielino Tongva
Bellflower , CA 90707
gtongva@verizon.net
562-761-6417 - voice
562-761-6417- fax

Gabrieleno/Tongva San Gabriel Band of Mission
Anthony Morales, Chairperson
PO Box 693 Gabrielino Tongva
San Gabriel , CA 91778
GTTribalcouncil@aol.com
(626) 286-1632
(626) 286-1758 - Home
(626) 286-1262 -FAX

Juaneno Band of Mission Indians
Alfred Cruz, Cultural Resources Coordinator
P.O. Box 25628 Juaneno
Santa Ana , CA 92799
alfredgcruz@sbcglobal.net
714-998-0721
714-998-0721 - FAX
714-321-1944 - cell

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed S.R. 241 / S.R. 91 Directo Connector Project; located in northern Orange County, California for which a Sacred Lands File search and Native American Contacts list were requested.

Native American Contact List
Orange County
April 12, 2011

Gabrielino-Tongva Tribe
Bernie Acuna
1875 Century Pk East #1500 Gabrielino
Los Angeles , CA 90067
(310) 587-2203
(310) 428-7720 - cell
(310) 587-2281 - FAX

Juaneno Band of Mission Indians Acjachemen Nation
Joyce Perry; Representing Tribal Chairperson
4955 Paseo Segovia Juaneno
Irvine , CA 92612
949-293-8522

Gabrielino-Tongva Tribe
Linda Candelaria, Chairwoman
1875 Century Park East, Suite 1500
Los Angeles , CA 90067 Gabrielino
lcandelaria1@gabrielinoTribe.org
310-428-5767- cell
(310) 587-2281 - FAX

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed S.R. 241 / S.R. 91 Directo Connector Project; located in northern Orange County, California for which a Sacred Lands File search and Native American Contacts list were requested.

LSA

LSA ASSOCIATES, INC.
20 EXECUTIVE PARK, SUITE 200
IRVINE, CALIFORNIA 92614
949.553.0666 TEL
949.553.8076 FAX

BERKELEY
CARLSBAD
FORT COLLINS
FRESNO
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROCKLIN
SAN LUIS OBISPO
SOUTH SAN FRANCISCO

May 10, 2011

Tongva Ancestral Territorial Tribal Nation
John Tommy Rosas, Tribal Administrator
Via E-mail to: tattnlaw@gmail.com

Subject: Native American Consultation for the Proposed State Routes 241/91 Express Lanes Direct Connector Project, Orange County, California

Dear Mr. Rosas:

The Transportation Corridor Agencies (TCA), in cooperation with the California Department of Transportation (Department) proposes to construct new high-occupancy vehicle (HOV) connectors between State Route 241 (SR-241) and State Route 91 (SR-91). The connectors would bring HOV lanes from the median of northbound SR-241 to the existing eastbound SR-91 Express Lanes, which transition to one HOV lane at Green River Road on SR-91. The reverse movement would also be accommodated from the westbound SR-91 Express Lanes to the median of southbound SR-241. A parallel lane that tapers back into the existing SR-91 Express Lanes would be needed for the northbound SR-241 to eastbound SR-91 movement. A map of the project area is attached.

Section 106 of the National Historic Preservation Act requires that federal undertakings such as this consider the effect they may have on historic properties. These include properties of traditional religious and cultural significance to Native American tribes. Government-to-government relationships, as required by federal law, include the identification of an individual designated by a Tribe for the purposes of consultation. LSA Associates, Inc. (LSA) is contacting you on behalf of the Department as part of the Section 106 process.

To determine whether any historic properties may be affected by the project, a records search is being conducted at the South Central Coastal Information Center, located at California State University, Fullerton. The Native American Heritage Commission (NAHC) has also been asked to perform a Sacred Lands File (SLF) search. The results of the SLF **did not** identify Native American cultural resources within 0.5 mile of the project Area of Potential Effects (APE). However, **there are** Native American cultural resources in close proximity to the APE. Your name has been provided by the NAHC as someone who may have information or concerns regarding this project and its potential to impact cultural resources.

If you know of any cultural resources that may be of religious and/or cultural significance to your community that could be affected by this project, or if you would like more information, please do not hesitate to contact me at the above telephone number or address, or by e-mail at terri.fulton@lsa-assoc.com. If I do not receive a response from you in the near future, I will contact you again to discuss any comments or concerns that you may have. As always, your time and involvement in this process is important and very much appreciated.

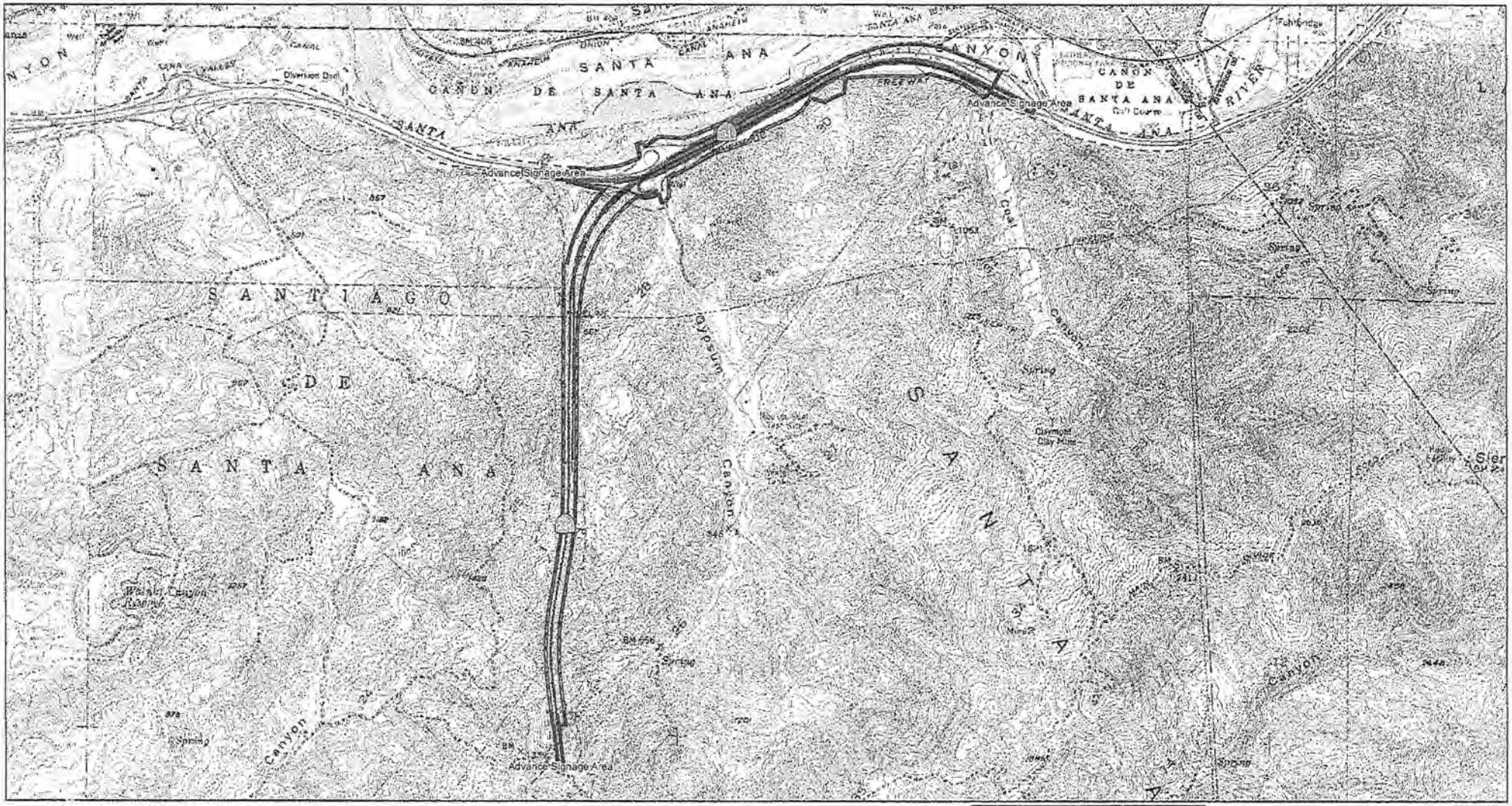
Respectfully,

LSA ASSOCIATES, INC.

Terri Fulton
Native American Consultation Coordinator

Attachment: United States Geological Survey (USGS) Map

05/10/11 «P:\RBF1101\Cultural\NA Consultation\Rosas NA Letter.doc»



LEGEND

- Existing Caltrans ROW
- Area of Potential Effects (APE)
- Road on Structure

N

0 1000 2000
FEET

SOURCE: USGS 7.5' QUAD - BLACK STAR CANYON (SE)

I:\RBF\IIDGIS\APE_USGS_Basemxd (4/5/11)

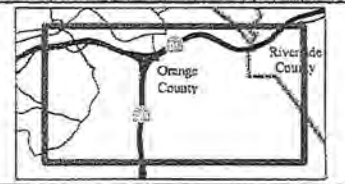


FIGURE 1

SR-91 Express Lanes Extension and SR-241 Connector

Area of Potential Effects

Transportation Conformity Working Group Determination

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PM Hot Spot Analysis Project Lists

Review of PM Hot Spot Interagency Review Forms

April, 2015	Determination
I605LiveOakOffRamp April 2015	Not a POAQC - Hot Spot Analysis Not Required
LA0G086 April 2015 Tracked LA0G086 April 2015	Reaffirmed not a POAQC - Hot Spot Analysis Not Required
ORA111207Memo April 2015	Reaffirmed not a POAQC - Hot Spot Analysis Not Required
RIV121202 April 2015	Not a POAQC - Hot Spot Analysis Not Required
2002160Interchange April 2015	Not a POAQC - Hot Spot Analysis Not Required
2002160Widening April 2015	Not a POAQC - Hot Spot Analysis Not Required

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Chapter 6 List of Preparers

This chapter lists the State, federal, and local agency personnel, including consultants, who were primarily responsible for preparing this Supplemental Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the State Route 241/ State Route 91 (SR-241/SR-91) Express Lanes Connector Project.

6.1 Lead Agency

6.1.1 California Department of Transportation, District 12

Amiri, Sharid K., P.E., Senior Transportation Engineer (Specialist). Ph.D. in Civil Engineering with emphasis in Geotechnical Engineering, University of Southern California. 27 years of geotechnical engineering experience. Contribution: Technical oversight for the District Preliminary Geotechnical Report; Structure Preliminary Geotechnical Reports; and Soil/Geology section of the Final Supplemental EIR/EIS.

Aurasteh, Reza, Senior Environmental Engineer. P.E., Ph.D. in Engineering, Utah State University. 28 years of experience in consulting engineering, academics, transportation engineering, and environmental engineering. Contribution: Senior review of the Noise Study Report (NSR), Air Quality Report (AQR), Initial Site Assessment (ISA), and related sections of the Final Supplemental EIR/EIS.

Bade, Rabindra, Environmental Engineer. Ph.D. in Environmental Engineering, Kumoh National Institute of Technology, South Korea. 17 years of experience in research, design, consulting, and academics in the fields of Environmental Engineering and Civil Engineering. Contribution: Environmental Engineer for the review of the Air Quality and Hazardous Waste sections of the Final Supplemental EIR/EIS.

Baker, Charles, Senior Environmental Planner. M.A. in History and B.A. in Anthropology, California State University, Fullerton. 16 years of experience in environmental planning. Contribution: Supervision of biological and cultural staff members.

Barsoum, Bassem, MSCE, P.E., Senior Transportation Engineer. SR-91 Corridor Manager; State Highway Operation and Protection Program (SHOPP); Modeling, Resources & Truck (SMRT) Manager, Division of Operations and Maintenance. Contribution: Specialist review of the Traffic Analysis Report.

Caraig, Jr., Ricardo, Transportation Engineer. B.S. in Civil Engineering. 26 years of experience. Contribution: Noise Study Report, Final Supplemental EIR/EIS.

Deshpande, Smita, Senior Environmental Planner. B.A. in Geography, University of Pune, India; M.S. in Regional Planning, Indiana University of Pennsylvania, Indiana, Pennsylvania. 20 years of experience in environmental planning. Contribution: Senior review of the Final Supplemental EIR/EIS.

Dickson, Eric, Senior Landscape Architect. B.S. in Landscape Architecture, California State Polytechnic University, Pomona. 16 years of experience in Visual Impact Assessments (VIAs) and aesthetic master plans. Contribution: Senior review of the Final Supplemental EIR/EIS and VIA.

Dolan, Edward, Associate Environmental Planner. Master in Urban/Regional Planning, California State Polytechnic University, Pomona. 19 years of experience. Contribution: Technical editing/National Environmental Policy Act (NEPA) quality control.

Dove, Kathleen, Associate Environmental Planner. Ph.D., Candidate – Marine Sciences/Interdisciplinary Program, University of Alaska, Fairbanks; M.A., Political Communication, Arizona State University, Tempe. 28 years of experience. Contribution: Review of the Community Impact section of the Final Supplemental EIR/EIS.

Duran, Gabriela, Associate Environmental Planner. B.A. in Environmental Economics, University of California, Riverside. 9 years of experience. Contribution: NEPA quality control review.

Flynn, Chris, P.M.P., Deputy District Director of Environmental Planning. M.S. in Environmental Science, San Jose State University. 28 years of experience in environmental project management and construction. Contribution: Senior review of the Draft/Final Supplemental EIR/EIS and technical reports, and technical editing for the Cultural, Paleontological, and Biological Resources sections of the Final Supplemental EIR/EIS.

Ghaboosi, Majid, P.E., P.M.P., Transportation Engineer/Hydraulics. Ph.D., Colorado State University. 14 years of experience in transportation-related hydrology and hydraulics. Contribution: Review of the Hydrology and Hydraulics sections of the Final Supplemental EIR/EIS.

Godett, Jared, Landscape Architect #6096. B.S., Landscape Architecture, California State Polytechnic University, Pomona. 10 years of experience in Landscape Architecture.

Heydari, Bahar, Associate Environmental Planner. B.S. in Geography with emphasis in Environmental Analysis, California State Polytechnic University, Pomona. 12 years of experience. Contribution: Generalist review of the Final Supplemental EIR/EIS.

Jassim, Ali, Acting Senior Transportation Engineer for Traffic Operations SMRT Unit. P.E., MSCE. in Civil Engineering, California State University, Fullerton. 19 years of experience in Traffic Operations. Contribution: Traffic/Transportation review of the Final Supplemental EIR/EIS.

Ketsela, Kedest, Associate Environmental Planner (Biologist). B.S. in Natural Science, California State University, Los Angeles. 16 years of experience. Contribution: Review of the Biological Resources section of the Draft/Final Supplemental EIR/EIS.

Le, Christopher, P.E., Branch Chief, Utility Engineering. B.S. in Civil Engineering, San Diego State University. 20 years of experience in transportation engineering. Contribution: Supervisory review of utility engineering.

Liu, Brian. Associate Environmental Planner. B.A. in Geography, California State University, Long Beach. 14 years of experience in environmental planning. Contribution: Peer reviewer of Final Supplemental EIR/EIS.

Manuan, Kim. Transportation Engineer in Civil (Traffic Operations Branch). P.E. in Traffic Engineering, P.E. in Civil Engineering, M.S. in Civil Engineering with Emphasis in Traffic Engineering, University of California, Irvine. 21 years of experience in Traffic Operations Branch. Contribution: Review of the Traffic and Transportation/Pedestrian and Bicycle Facilities section of the Final Supplemental EIR/EIS.

Piña-Garrett, Grace, Senior Transportation Engineer, National Pollutant Discharge Elimination System Unit. B.S. in Civil Engineering, California State University, Long Beach. 21 years of experience in engineering and water quality. Contribution: Senior review of the Water Resources and Water Quality Technical Report and related sections of the Draft/Final Supplemental EIR/EIS.

Salas, Hector B., Associate Environmental Planner. B.A. in Environmental Analysis and Design, University of California, Irvine. 12 years of experience. Contribution: Review of the Water Resources and Water Quality Technical Report and related water quality sections of the Draft/Final Supplemental EIR/EIS.

Santos, Bernard, Right-of-Way Agent. B.S. in Real Estate Studies, Maryhurst University, Oregon. 2 years in the Right-of-Way Unit. Contribution: Right-of-way utilities.

Santos, Brian, Project Manager. District 12 Project Manager, B.S. in Civil Engineering, California Polytechnic University, San Luis Obispo. 11 years of experience in Project Delivery. Contribution: Project management.

Shelley, Scott, Associate Environmental Planner. B.E.S. in Urban and Regional Planning, University of Waterloo, Waterloo, Canada. 12 years of experience in environmental planning. Contribution: Review of the Section 4(f) Evaluation and related sections of the Draft/Final Supplemental EIR/EIS.

Sinopoli, Cheryl, Associate Environmental Planner (Archaeology). B.A. in Anthropology, California State University, Bakersfield. 15 years of experience as a Caltrans Archaeologist. Contribution: Cultural resources and paleontology review.

Tran, Brandan, Civil Transportation Engineer. B.S. in Civil Engineering, University of California, Davis. 23 years of experience in design and construction inspection of roadways, bridges, tunnels and water lines. Contribution: Review of engineering design.

Wong, Ronald, Landscape Associate and Landscape Architect. B.S. in Landscape Architecture, California State Polytechnic University, Pomona. 18 years of experience with Caltrans, Landscape Architecture Branch. Contribution: Review of the VIA.

6.2 Project Sponsor Agency

6.2.1 Foothill/Eastern Transportation Corridor Agency

Feremenga, Doug, AICP, CEP, LEED AP, Principal Environmental Analyst. Ph.D. in Urban and Regional Planning, University of California, Irvine. 20 years of California Environmental Quality Act (CEQA)/NEPA experience and 5 years of experience in the Transportation Corridor Agencies (TCA) Environmental Planning Department. Contribution: Review of technical studies and the Draft/Final Supplemental EIR/EIS.

Lowe, David, P.E., Acting Chief Engineer. B.S. in Civil Engineering, University of Southern California. 20 years of experience in the TCA Engineering Department. Contribution: Senior review of the Traffic Analysis Report. (No longer with TCA.)

McFall, Valarie, Chief Environmental Planning Officer. B.A. in Environmental Analysis and Design, University of California, Irvine. Over 20 years of experience in transportation planning and 16 years with the TCA Environmental Planning Department. Contribution: Project management and senior review of technical studies and the Draft/Final Supplemental EIR/EIS.

Su, Juliet, P.E. Corridor Manager – Design. B.S. in Civil Engineering, University of California, Irvine. 23 years of experience in the design and management of transportation projects and 2 years with the TCA Engineering Department. Contribution: Senior review of the Traffic Analysis Report, technical studies, and Draft/Final Supplemental EIR/EIS.

6.3 Consultants to the Lead Agency

6.3.1 LSA Associates, Inc.

Archer, Romi, Associate. B.A. in Urban Land Use with Minor in Economics, Metropolitan State College of Denver, Colorado. 25 years of experience in public- and private-sector planning and project management. Contribution: Senior review of the Draft/Final Supplemental EIR/EIS. (No longer with LSA.)

Cheung, Tin, Senior Air Quality Specialist. B.A. in Environmental Studies and Geography, University of California, Santa Barbara. 22 years of experience conducting air quality, climate change, noise, and vibration studies for compliance with CEQA, NEPA, and California and federal air quality

regulations. Contribution: Review of the Draft/Final Supplemental EIR/EIS Air Quality and Climate Change sections. (No longer with LSA.)

Chung, Tony, Principal. Ph.D. in Mechanical Engineering, University of California, Los Angeles. 23 years of experience in environmental studies with specialization in noise and air quality impact analysis. Contribution: Senior review of the AQR and the Air Quality and Noise sections of the Draft/Final Supplemental EIR/EIS. (No longer with LSA.)

Cronin, Maryanne, Assistant Environmental Planner. M.S. in Urban and Regional Planning, California State Polytechnic University, Pomona. 2 years of urban and environmental planning experience. Contribution: Preparation of the Final/Draft Supplemental EIR/EIS sections. (No longer with LSA.)

Dean, Jade, Assistant Geographic Information Systems (GIS) Specialist. B.A. in Geography, California State University, Long Beach. 4 years of experience in the GIS field. Contribution: GIS graphics preparation and generation of technical data from GIS files for the technical reports and Draft/Final Supplemental EIR/EIS. (No longer with LSA.)

Dow, Gary, Associate/Graphic Designer. B.A. in Architectural Drafting, California State Polytechnic University, Pomona. 42 years of experience in creating graphics, computer mapping, and presentation materials for environmental documents. Contribution: Graphics and management of graphics for the Draft/Final Supplemental EIR/EIS.

Erickson, Richard, Associate/Biologist. M.S. in Biology, California State University, East Bay. Contribution: Preparation of the Supplemental Natural Environment Study (NES) and Biological Assessment (BA), and review of the Draft/Final Supplemental EIR/EIS biological environment sections. (No longer with LSA.)

Fulton, Terri, Associate/Archaeologist/Native American Tribal Liaison/Ethnographer. B.A. in Cultural Anthropology/Archaeology, University of California, Santa Barbara. Contribution: Preparation of cultural resources technical studies and review of the Draft/Final Supplemental EIR/EIS Cultural Resources section. (No longer with LSA.)

Fischer, Amy, Principal/Air Quality/GHG/Noise. B.S. in Environmental Policy Analysis, University of Nevada, Reno. 20 years of experience in environmental planning and air quality and greenhouse gas impact studies for community plans, development projects, and infrastructure improvements. Contribution: Air Quality/GHG quality control review.

Gomez, Virginia, Assistant Environmental Planner. M.S. in Planning, University of Southern California. 9 years of experience in land use planning and 1 year of experience in environmental planning. Contribution: Preparation of the Draft/Final Supplemental EIR/EIS sections. (No longer with LSA; currently with TCA.)

Harris, Jayna, Associate/Senior Environmental Planner. B.A. in Geography, California State University, Fullerton. 14 years of experience in environmental planning and analysis. Contribution: Quality control and quality assurance review of the Draft Supplemental EIR/EIS.

Haskell, Hilary, Assistant Environmental Planner. B.A. in Environment, Economics, and Politics, Claremont McKenna College. 2 years of experience in environmental planning and analysis. Contribution: Preparation of Draft/Final Supplemental EIR/EIS sections. (No longer with LSA.)

Henderson, Zac, Principal/GIS Manager. B.A. in Environmental Studies/Geography, University of California, Los Angeles. 20 years of experience in the GIS field. Contribution: Management of GIS for the Draft/Final Supplemental EIR/EIS.

Homrighausen, Art, Principal/Biologist. M.S. in Environmental Studies, California State University, Fullerton. 28 years of experience working with various resource and regulatory agencies to analyze biological resources impacts and recommend mitigation measures as part of the CEQA/NEPA documentation for numerous private- and public-sector projects. Contribution: Senior review of the NES, Jurisdictional Delineation (JD), BA, and Supplemental NES.

Huard-Spencer, Christine, Senior Environmental Planner. M.A. in Geography, California State University, Fullerton. 34 years of experience in managing, preparing, and providing quality control review of environmental documents. Contribution: Quality control review of the Draft Supplemental EIR/EIS. (No longer with LSA.)

Johnson, Lauren, Lead Technical Editor. B.A. in English Literature, University of California, Santa Barbara. 30 years of experience in book, website, and newspaper publishing. Contribution: Editing and preparation of the Draft/Final Supplemental EIR/EIS.

Lay, Keith, Associate/Air Quality Specialist. B.S. in Civil Engineering with emphasis in Transportation and Environmental Engineering, University of Manitoba, Manitoba, Canada. 13 years of experience in environmental studies with specialization in noise and air quality impact analysis. Contribution: Preparation of the AQR and review of the Draft Supplemental EIR/EIS Air Quality and Climate Change sections. (No longer with LSA.)

Lillis, Bridget, Environmental Planner. B.S. in Environmental Management and Protection, California State Polytechnic University, San Luis Obispo. 3 years of experience in preparing a wide range of environmental documents pursuant to CEQA/NEPA. Contribution: Preparation of the Water Quality Assessment (WQA) and related Draft Supplemental EIR/EIS sections. (No longer with LSA.)

Lo, Carmen, Environmental Planner. B.A. in Environmental Analysis and Design, University of California, Irvine. 9 years of experience conducting research and preparing technical sections of environmental documents. Contribution: Preparation of the Draft/Final Supplemental EIR/EIS sections. (No longer with LSA, now with Caltrans.)

Maxwell, Christina, Senior Environmental Planner. B.A. in Environmental Studies, University of San Diego. 5 years of experience in planning for transportation, land use, and development projects; and preparation of environmental documents pursuant to CEQA and NEPA. Contribution: Project management and preparation of Final Supplemental EIR/EIS sections.

McCann, Rob, Principal/Environmental Planner. B.A. in Geography, California State University, Fullerton. 30 years of experience in managing, preparing, and providing quality control review of environmental documents. Contribution: Quality control and quality assurance review of the Draft/Final Supplemental EIR/EIS.

McLean, Deborah, Principal/Archaeologist. M.A. in Anthropology with specialization in Archaeology, California State University, Fullerton. 23 years of experience coordinating and directing archaeological projects in compliance with NEPA; CEQA; National Historic Preservation Act, Section 106; and Caltrans regulations. Contribution: Senior review of the cultural resources technical studies. (No longer with LSA.)

Miller, Elise, Assistant Environmental Planner. B.S. in Legal Studies, University of California, Berkeley. 1 year of experience in preparing CEQA/NEPA environmental documents. Contribution: Preparation of the Final Supplemental EIR/EIS Sections.

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Pracilio, Deborah, Principal. B.A. in Social Ecology, University of California, Irvine. 27 years of experience with the environmental assessment processing procedures for NEPA/CEQA. Contribution: Quality control review of the Draft/Final Supplemental EIR/EIS.

Quon, Ingri, Associate/Biologist. B.S. in Biology, Lewis & Clark College, Portland, Oregon. 23 years of experience in conducting a wide range of general and protocol species surveys and monitoring activities. Contribution: Preparation of the NES, JD, BA, and Supplemental NES, and review of the Draft/Final Supplemental EIR/EIS Biological Resource sections. (No longer with LSA.)

Rieboldt, Sarah, Paleontologist. Ph.D. in Paleontology, University of California, Berkeley. 14 years of experience in the paleontology and geology fields. Contribution: Review of the Draft/Final Supplemental EIR/EIS Paleontological Resources section.

Roos, Justin, Associate/Senior GIS Specialist. B.S. in Geography, California State Polytechnic University, Pomona. 12 years of experience in the GIS field. Contribution: GIS graphics preparation and generation of technical data from GIS files for the technical reports and Draft/Final Supplemental EIR/EIS.

Slavick, Michael, Associate/Air Quality/GHG Specialist. B.S. in Environmental Policy Analysis and Planning, University of California, David. 25 years of experience in air quality and climate change, including regulatory permitting and compliance, air quality and greenhouse gas (GHG) emissions inventories, pollutant dispersion modeling, impact analysis, emission control technology evaluation, and assessment of potential health risks. Contribution: Preparation of the CEQA/NEPA environmental document, and the air quality conformity analysis report.

Smith, Brooks, Associate/Paleontologist. B.S. in Earth Science (Geology), University of California, Santa Cruz. 23 years of experience in paleontology. Contribution: Preparation of the Supplemental Paleontological Impact Report and Paleontological Resources Evaluation Report, and review of the Draft/Final Supplemental EIR/EIS Paleontological Resources section. (No longer with LSA.)

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Virgil, Chantik, Senior Word Processor. 30 years of word processing experience. Contribution: Word processing and preparation of the Draft/Final Supplemental EIR/EIS.

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Bloomberg, Loren, Traffic Operations Technical Leader. Contribution: Review of the Traffic Analysis Report.

Chandran, Yoga, Senior Reviewer. Contribution: Senior review of the geological resource studies.

Jankly, Dan. Contribution: Preparation of the Preliminary Geotechnical Report.

Miller, Rob, AICP. Contribution: Preparation of the NSR.

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Chen, Robert, Project Manager. Ph.D. in Civil and Structural Engineering, University of Texas. 32 years of experience working on roadways, structures, and foundations. Contribution: Project management and coordination.

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This Supplemental Environmental Impact Report/Environmental Impact Statement (EIR/EIS) and/or a Notice of Availability was distributed to federal, State, regional, and local agencies and elected officials, as well as interested groups, organizations, individuals, and applicable utilities and services providers, as shown below. In addition, all property owners and occupants within a 0.25-mile radius of the project limits were provided the Notice of Availability of the Supplemental EIR/Supplemental EIS.

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Appendix A CEQA Environmental Checklist

Supporting documentation for all California Environmental Quality Act (CEQA) checklist determinations is provided in Chapter 3 (Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures) and Chapter 4 (California Environmental Quality Act [CEQA] Evaluation) of this Supplemental EIR/EIS. Discussion of all impacts and avoidance, minimization, and/or mitigation measures is provided under the appropriate topic headings in Chapters 3 and 4.

CEQA Environmental Checklist

12-ORA-241 12-ORA-91 08-RIV-91	36.1/39.1 14.7/18.9 0.0/1.5	12-0K9700
Dist.-Co.-Rte.	P.M/P.M.	E.A.

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

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒

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

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

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
VII. GREENHOUSE GAS EMISSIONS: Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐
VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☒	☐
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☒	☐
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
XIII. POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
XIV. PUBLIC SERVICES: Would the project:				
a) 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:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☒	☐
v) Other public facilities?	☐	☐	☐	☒

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

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Appendix B Resources Evaluated Relative to Requirements of Section 4(f) and De Minimis Determination

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B.1 Introduction

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 the California Department of Transportation (Caltrans) pursuant to 23 United States Code (USC) 327 and the Memorandum of Understanding dated December 23, 2016, and executed by the Federal Highway Administration (FHWA) and Caltrans.

B.1.1 Section 4(f)

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 USC 303, declares that "…it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

Section 4(f) specifies that the Secretary of Transportation may approve a transportation program or project:

> "… requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:
> - There is no prudent and feasible alternative to using that land; and
> - The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use."

Section 4(f) further requires consultation with the United States Department of the Interior and, as appropriate, the United States Departments of Agriculture and Housing and Urban Development in developing transportation projects and programs that use lands protected by Section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer is also needed.

Title 49 USC Section 303 and Title 23 USC Section 138 simplified the process and approval of projects that have only de minimis impacts on lands impacted by Section 4(f). Under the new provisions, once the United States Department of Transportation (USDOT) determines that a transportation use of Section 4(f) property results in a de minimis impact, analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete.

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project being, or has been, carried out by the Caltrans under its assumption of responsibility pursuant to 23 USC 327.

B.1.2 Definitions of Use, Temporary occupancy, and Constructive Use of Section 4(f) Properties

As defined in 23 Code of Federal Regulations (CFR) 774.17, there is a use of land from a Section 4(f) property when one of the following occurs:

> (1) When land is permanently incorporated into a transportation facility;
> (2) When there is a temporary occupancy of land that is adverse in terms of the statute's preservation purpose as determined by the criteria in Section 774.13(d). Section 774.13(d) indicates that temporary occupancies of land that are so minimal as to not constitute a use within the meaning of Section 4(f) are exceptions to the requirement for Section 4(f) approval. Specifically, for the purposes of Section 4(f), such temporary occupancy of a Section 4(f) resource does not normally constitute use if each of the following five conditions is met (23 CFR 774.13(d)):
>
> - Duration must be temporary (i.e., less than the time needed for construction of the project), and there should be no change in ownership of the land;
> - Scope of the work must be minor (i.e., both the nature and the magnitude of the changes to the Section 4(f) property are minimal);
> - There are no anticipated permanent adverse physical impacts, nor would there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis;
> - The land being used must be fully restored (i.e., the property must be returned to a condition that is at least as good as that which existed prior to the project); and
> - There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.
>
> (3) When there is a constructive use of a Section 4(f) property as determined by the criteria in Section 774.15. Section 774.15(a)

indicates a constructive use occurs when the transportation project does not incorporate land from a Section 4(f) property, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only when the protected activities, features, or attributes of the property are substantially diminished.

B.2 Project Description

B.2.1 Project Background/History

The proposed median-to-median connector is a later phase of the Eastern Transportation Corridor (ETC, State Route 241 [SR-241]) project which was approved in 1994. That connector was evaluated as a SR-241/State Route 91 (SR-91) high occupancy vehicle (HOV) direct connector in the 1991 ETC Draft Environmental Impact Report/Environmental Impact Statement (Draft EIR/EIS), 1992 ETC Final EIR, and the 1994 ETC Final EIS (all of which studied a broader project area with improvements on State Route 133 [SR-133], SR-241, and State Route 261 [SR-261], which were collectively referred to as the ETC).

The Systems Management Concept (SMC) for the ETC projected that the Build Alternatives evaluated in the ETC EIR and EIS would be staged, incorporating general purpose traffic and eventually HOV lanes, to meet forecasted demand. Under the SMC, the ETC construction would be completed in one stage, with three or more phases.

To implement this later phase of the ETC, a Supplemental EIR/EIS has been prepared to:

- Focus on the northern end of the original project;
- Address changes to environmental conditions and regulatory requirements;
- Address the extended Project Limits on SR-91 to the east; and
- Comply with 23 Code of Federal Regulations (CFR) 771.129(b): *A written evaluation of the final EIS will be required before further approvals may be granted if major steps to advance the action (e.g., authority to undertake final design, authority to acquire a significant portion of the right-of-way, or approval of the plans, specifications, and estimates) have not occurred within three years after the approval of the final EIS*...Because the SR-241/SR-91 Express Lanes Connector design was postponed longer than 3 years after the ETC Final EIS

approval, the median-to-median connector is required to be re-evaluated in compliance with NEPA.

B.2.2 Project Location and Description

Caltrans District 12, in cooperation with the Foothill/Eastern Transportation Corridor Agency (F/ETCA) proposes the SR-241/SR-91 Express Lanes Connector Project (Proposed Project) to construct a median-to-median connector between existing SR-241 and the existing tolled lanes in the median of SR-91 (*91 Express Lanes*). SR-241 is a tolled facility, starting at the Oso Parkway interchange, in south Orange County, to its terminus at SR-91. The *91 Express Lanes* is a two-lane tolled facility, in each direction, in the median of SR-91, from State Route 55, to the Orange/Riverside County line (east of the SR-241 interchange). The location and Project Vicinity are shown on Figure B.1. The existing interchange connects all lanes of the northbound and southbound SR-241 to non-tolled, general purpose lanes of eastbound and westbound SR-91. There is currently no direct connection between the SR-241 and the *91 Express Lanes*.

B.2.3 Purpose and Need

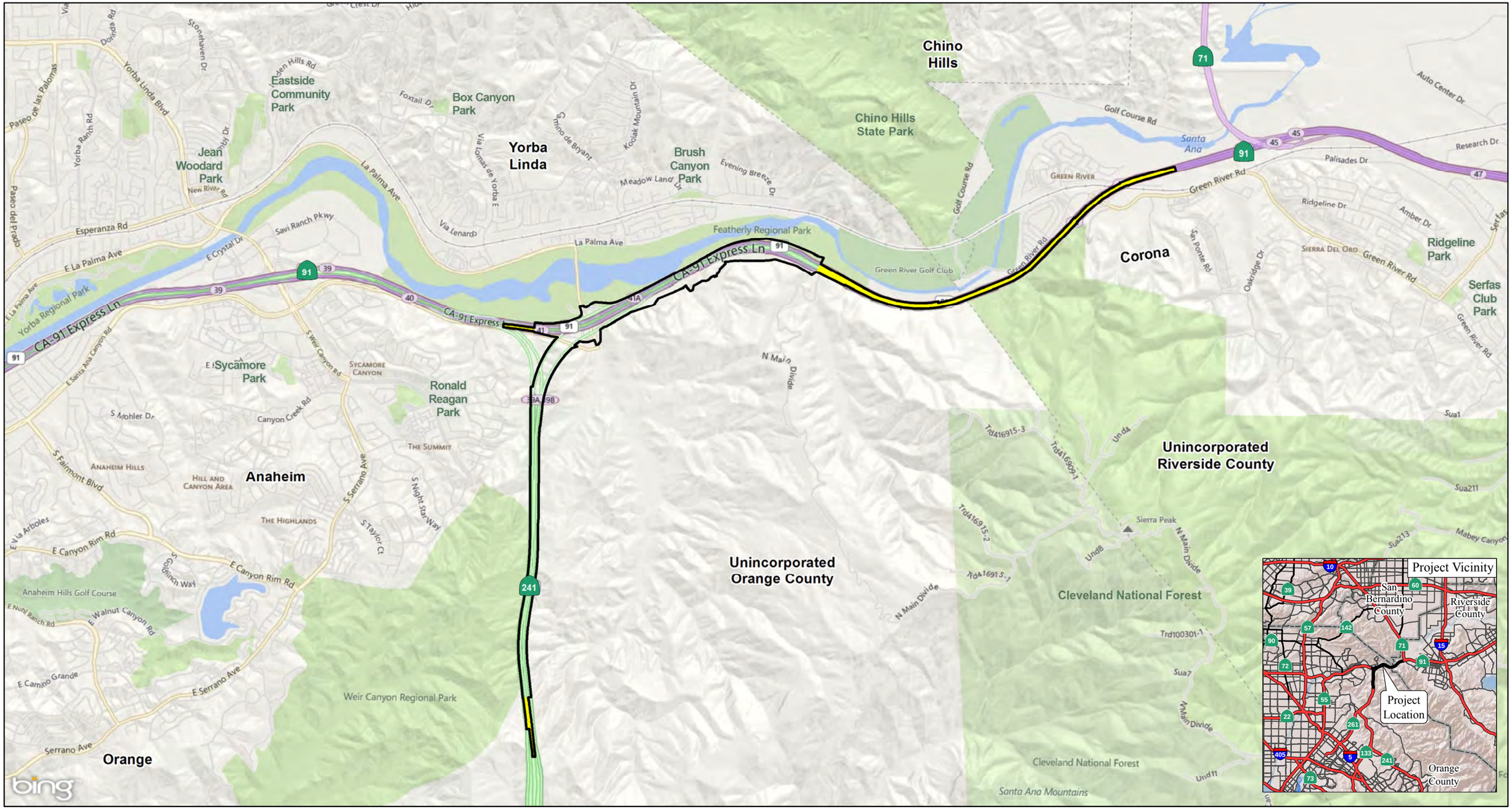
The Purpose and Need for the Proposed Project is summarized below. Please refer to Chapter 1, Proposed Project, for a detailed discussion.

B.2.3.1 Purpose of the Proposed Project

As discussed in the ETC Final EIR and Final EIS, the overall objective of the ETC was to accommodate traffic growth associated with planned and approved development in Orange County. The Proposed Project would implement the build out of the ETC.

B.2.3.2 Need for the Proposed Project

The Proposed Project is needed to provide a direct connection between SR-241 and the *91 Express Lanes* to accommodate the build out of the ETC, as well as existing and future transportation demand.



LEGEND

- Project Location
- Advance Signage Areas

FIGURE B.1

0 1500 3000
FEET

SOURCE: Bing (2014)

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SR-241/SR-91 Express Lanes Connector

Project Location

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B.2.4 Project Alternatives

B.2.4.1 Build Alternative

A two-lane express lane median-to-median connector would be constructed between SR-241 and SR-91 under the Build Alternative that would connect lanes from the median of northbound SR-241 to the existing eastbound median *91 Express Lanes*.

The reverse movement would also be accommodated, from the westbound *91 Express Lanes* to the median of southbound SR-241. The connector would be tolled. The location of the Build Alternative was shown earlier on Figure B.1.

The Build Alternative would merge into the existing Orange County Transportation Authority *91 Express Lanes* at Coal Canyon Undercrossing. The Riverside County Transportation Commission's SR-91 Corridor Improvement Project (CIP) will extend the express lanes on SR-91 east to I-15. The Build Alternative is compatible with the approved SR-91 CIP for both the initial and ultimate configurations, including the number and widths of the express lanes, express auxiliary lanes, and general purpose lanes.

Chapter 2, Project Alternatives, in the Supplemental EIR/EIS, provides a detailed description of the permanent and temporary features of the Build Alternative.

B.2.4.2 No Build Alternative

The No Build Alternative would maintain the existing configurations of SR-241 and SR-91 in the project area including the existing interchange configuration. Under the Build Alternative, no direct toll connector would be constructed between SR-241 and the 91 Express Lanes. As such, the existing toll gap between SR-241 and the 91 Express Lanes would not be closed. In addition, under the No Build Alternative, motorists would not be prevented from inappropriately queue jumping during congested traffic periods, thereby continuing to disrupt traffic flow on the northbound SR-241 connector to the eastbound SR-91 general purpose lanes during the PM peak hours.

B.3 Identification of Section 4(f) Properties

The Study Area for the Proposed Project for the identification of use effects on Section 4(f) properties was defined as an area 0.5 mile from the project limits. The project limits were defined as defined as the right-of-way limits for the Build Alternative. The project limits include areas within the right-of-way as well as areas temporarily disturbed during project construction. The Study Area for National

Register of Historic Places (National Register) -listed and -eligible cultural properties was based on the area of potential effects (APE) as defined in the *Supplemental Historic Property Survey Report* (HPSR, September 2015).

Properties in the Study Area potentially eligible for protection under Section 4(f) were identified if they were:

- Existing publicly owned recreation and park resources, including local, regional, and State resources;
- Existing play and sports fields at public schools with public access. Because many public schools and school districts use or allow the use of public school play and sports fields for nonschool activities such as organized youth sports, the play and sports fields areas at public schools with public access were considered in this analysis;
- Publicly owned wildlife and water fowl refuges and conservation areas;
- Existing public bicycle, pedestrian, and equestrian trails; or
- Listed or eligible National Register historic sites.

The first step of the identification process consisted of reviewing various available technical and public documents, including publicly available maps, General Plans, and websites, to identify parks, wildlife and waterfowl refuges, play and sports fields at public schools, reserves, trails, and historic sites in the Study Area that might qualify as Section 4(f) properties requiring evaluation. Those identified resources were then examined to determine whether they triggered the need for consideration under the requirements of Section 4(f). A small part of one property, the Irvine Ranch National Natural Landmark (NNL), which includes Irvine Ranch Open Space, Gypsum Canyon Nature Preserve, Weir Canyon Nature Preserve, Fremont Canyon Nature Preserve, Limestone Canyon Nature Preserve, and the future Black Star Canyon Wilderness Park, was identified as being within the limits. The Gypsum Canyon Nature Preserve is the part of the NNL which is within the project limits. The NNL is described in detail in Table B.1.

Based on the findings reported in the Supplemental HPSR, there are no Section 106 Historic Properties within the APE for the Proposed Project.

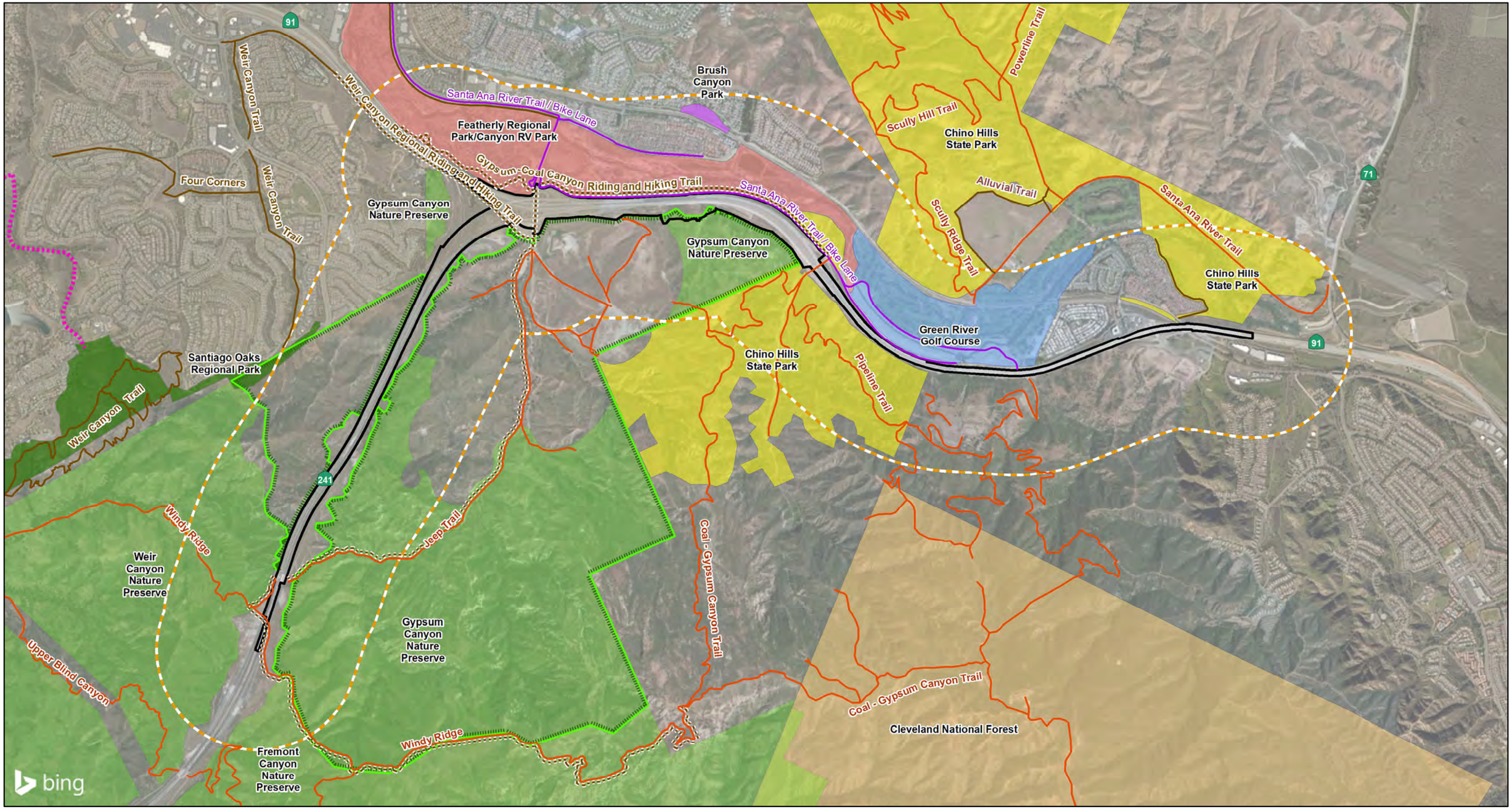
Figure B.2 shows the locations of the NNL and other park and recreation resources in the Study Area.

Table B.1 Irvine Ranch National Natural Landmark

Name and Address	Owner/Operator	Description
Irvine Ranch National Natural Landmark (NNL) Northeast Orange County, south of SR-91 The approximately 40,000-acre Irvine Ranch NNL includes Irvine Ranch Open Space, Gypsum Canyon Nature Preserve (the part of the NNL in the project limits), Weir Canyon Nature Preserve, Fremont Canyon Nature Preserve, Limestone Canyon Nature Preserve, and the future Black Star Canyon Wilderness Park. Specific features in the NNL include Loma Ridge, Laguna Laurel, and Limestone Canyon. This area was originally part of the Irvine Ranch. Refer to Figure B.1 for the location of Gypsum Canyon Nature Preserve.	Owner: Orange County Parks Operator: Orange County Parks and the Irvine Ranch Conservancy	This NNL was designated by the Department of the Interior (DOI) in 2006 while the majority of the land was still owned by The Irvine Company. The NNL extends across the original Irvine Ranch from south of SR-91 and east of SR-241 to just north of the City of Irvine. There is substantial change in grade from SR-91 to the NNL with the NNL at a substantially higher elevation than the freeway mainline. This area is also a designated California Natural Landmark. As defined in 36 Code of Federal Regulations (FR 62, NNLs are areas of exceptional value to the nation as a whole. NNLs identify and preserve natural areas that best illustrate the biological and geological character of the United States, enhance the scientific and educational values of preserved areas, strengthen public appreciation of natural history, and foster greater concern for the conservation of the nation's natural heritage. NNLs designated by the DOI are listed in the National Registry of Natural Landmarks. The NNL designation does not change the land use or land use designation of the area and does not change the ownership of the land. This NNL includes areas of natural beauty, native plants (coastal sage scrub, chaparral communities, and rare Tecate cypress woodlands) and animals, and geological resources. NNLs are not currently defined as meeting the requirements for protection under Section 4(f). On June 30, 2010, it was announced that The Irvine Company had donated the NNL to the County of Orange for use as a public park and that the County of Orange Board of Supervisors had accepted that donation. As a result, the NNL is now considered a public park and, therefore, would trigger the requirements for protection under Section 4(f). Recreational facilities in the NNL include bike, equestrian, hiking, and multi-use trails; and restrooms. The NNL is open for limited public use. Day use is available through scheduled programs or on designated wilderness access days only.

Sources: Orange County Parks, Website: http://ocparks.com/civicax/filebank/blobdload.aspx?BlobID=21787: Irvine Ranch open space (accessed August 31, 2015); "Irvine Co. gives 20,000 acres of open space to Orange County" (Los Angeles Times, June 30, 2010; Los Angeles Times, Website: http://articles.latimes.com/2010/jun/30/local/la-me-irvine-ranch-20100630); and Irvine Ranch Natural Landmarks, Website: http://letsgooutside.org/ (accessed August 31, 2015).

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LEGEND

- Project Area
- Half-mile Radius from Project Area
- National Natural Landmark (with Preserve names)
- Featherly Regional Park (1)
- Green River Golf Course (1)
- Chino Hills State Park (1)
- Santiago Oaks Regional Park (1)
- Brush Canyon Park (1)
- Cleveland National Forest
- Former Mountain Park Specific Plan*
- Existing Class I Bikeway
- Proposed Class I Bikeway
- Existing Trail
- Proposed Trail
- Existing Fire Trail

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*Note: The area in the southeast quadrant of the SR-241/SR-91 interchange was covered under the Mountain Park Specific Plan (MPSP). In August 2014, the land owner, the Irvine Company, permanently dedicated the last remaining 2,500 acres, which was originally part of the MPSP, to the County of Orange, as a permanent open space.

(1) Refer to Attachment A for a discussion of these resources in the study area.

SOURCE: Bing Maps (2014); City of Anaheim General Plan (2015); City of Corona (2015); County of Orange Master Planned Combination Map of Regional Trails and Bikeways (2008); Gaia GPS (2015), OCTA (2013)

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FIGURE B.2

SR-241/SR-91 Express Lanes Connector

Gypsum Canyon Nature Preserve and Other Recreational Properties

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B.4 Resources Evaluated Relative to the Requirements of Section 4(f)

This section of the document discusses parks, recreational facilities, wildlife refuges, and historic properties found within or next to the Project Area that do not trigger Section 4(f) protection either because: (1) they are not publicly owned, (2) they are not open to the public, (3) they are not eligible historic properties, (4) the Project does not permanently use the property and does not hinder the preservation of the property, or (5) the proximity impacts do not result in constructive use.

Properties outside the project limits for the Build Alternative but which could meet the criteria for protection under Section 4(f) were evaluated based on whether the Build Alternative would result in constructive use of those properties. The project limits are defined as the ultimate right-of-way limits for the Build Alternative. The project limits include areas within the ultimate right-of-way as well as areas temporarily disturbed during project construction. The detailed analyses documented in the project technical reports and the Supplemental Environmental Impact Report/Environmental Impact Statement did not identify any project impacts that, with mitigation, would be so severe that the activities, features, or attributes that would qualify properties in the vicinity of the project limits for protection under Section 4(f) would be substantially impaired. The indirect impacts of the Build Alternative in the vicinity of those properties would not meaningfully reduce or remove the values of those resources in terms of their Section 4(f) significance. As a result, the requirements for protection under Section 4(f) were not triggered at those properties. The documentation supporting the determination that the Build Alternative project would not result in a constructive use of any Section 4(f) properties is provided in Attachment A, Other Resources Evaluated Relative to the Requirements of Section 4(f). Attachment A discusses those properties and the analyses supporting the conclusions that the Build Alternative would not result in constructive uses of those properties that would trigger the requirement for protection of those properties under Section 4(f).

B.5 Section 4(f) De Minimis Determination

Section 6009(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) amended Section 4(f) legislation at 23 United States Code (USC) 138 and 49 USC 303 to simplify the processing and approval of projects that have only de minimis impacts on lands protected by Section

4(f). This revision provides that once the USDOT determines that a transportation use of Section 4(f) property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, results in a de minimis impact on that property, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete. FHWA's final rule on Section 4(f) de minimis findings is codified in 23 CFR 774.3 and CFR 774.17.

Responsibility for compliance with Section 4(f) has been assigned to Caltrans pursuant to 23 USC 326 and 327, including determinations and approval of Section 4(f) evaluations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

B.5.1 Irvine Ranch National Natural Landmark

This section discusses the use of land in the Irvine Ranch National Natural Landmark (NNL) by the Build Alternative (permanent incorporation of the land into a transportation facility). The analysis and evaluation in this section focus on the effects of the Build Alternative on the NNL. This Section 4(f) property was evaluated to assess the amount of land that would be used (permanently incorporated in the Build Alternative) from that resource by the Build Alternative. This was evaluated based on overlaying the project limits on the geographical information system (GIS) mapping of the boundary of the NNL, and the total area anticipated to be used by the Build Alternative at that resource. The project limits are defined as the right-of-way limits for the Build Alternative. The project limits include areas within the right-of-way as well as areas temporarily disturbed during project construction. As a result, the project footprint/right-of-way includes all the land that will be permanently incorporated into the transportation facility.

No temporary construction easements (TCEs), or other temporary uses of land outside the defined project limits are anticipated at the NNL. As a result, no temporary occupancy for temporary construction staging areas or TCEs will occur at that resource. Therefore, no evaluation of temporary occupancy of land from this Section 4(f) property was required.

The Build Alternative will not include any permanent surface, subsurface, or aerial easements at the NNL. Therefore, no evaluation of permanent easements at this Section 4(f) property was required.

B.5.1.1 Use of the Irvine Ranch National Natural Landmark under the Build Alternative

Figure B.3 shows the area in the NNL that would be used by the Build Alternative. The area that would be used is in the northeastern part of the Gypsum Canyon Nature Preserve, which is one of three separate areas in the Gypsum Canyon Nature Preserve, all of which are in the NNL. As shown on Figure B.3, the Build Alternative would use approximately 5 acres of land in the Gypsum Canyon Nature Preserve for hillside grading to accommodate widening of SR-91 to the south. This Nature Preserve is currently open to the public for limited public use with day use available through scheduled programs or on designated wilderness access days only.

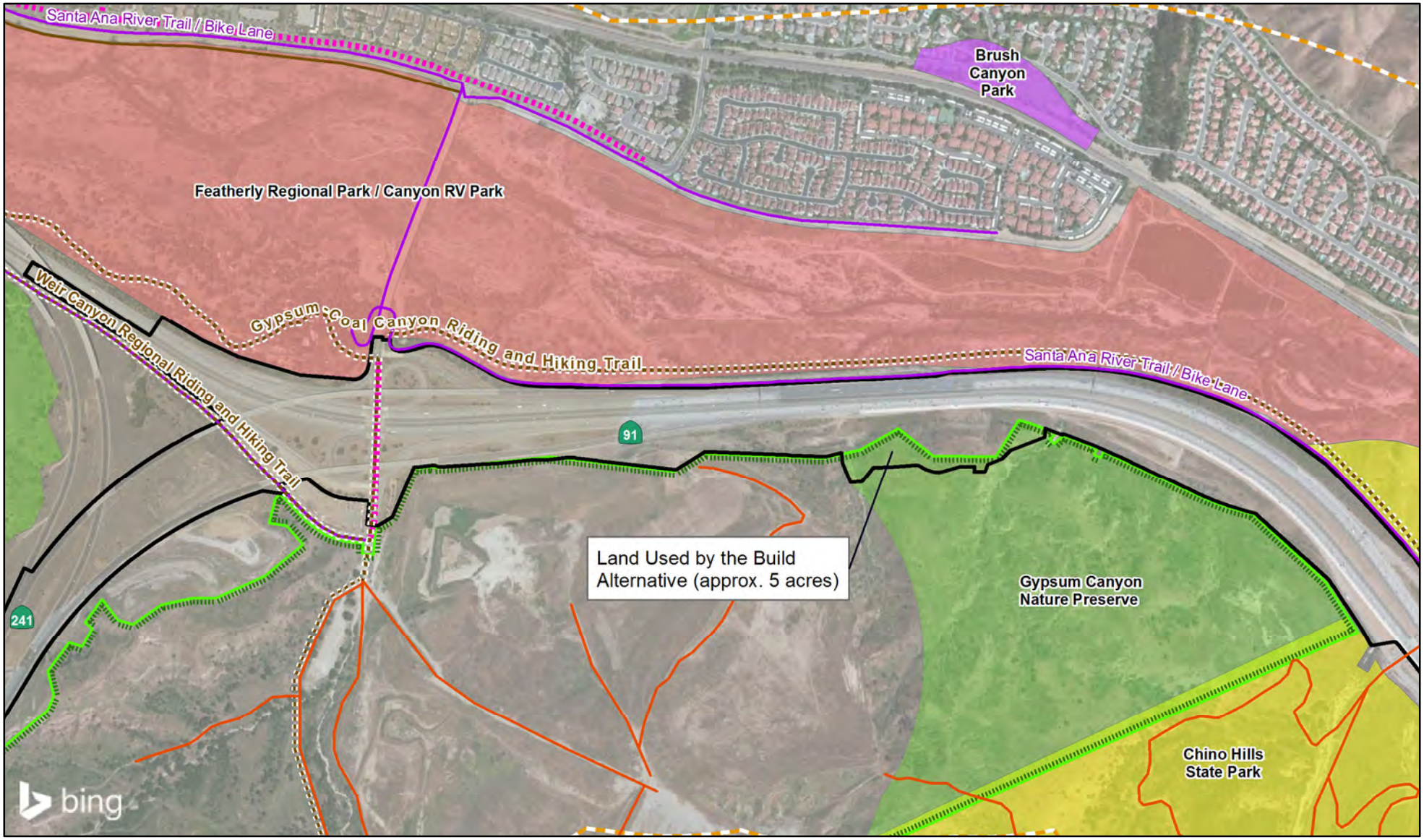
The comprehensive measures for impacts to the natural environment (Measures NC-1 through NC-16, AS-1 through AS-7, PS-1 and PS-2, and TE-1 through TE-7), paleontology (PAL-1), water quality (WQ-1 through WQ-4 and W-12, W-14, W-15, and E-1 through E-10), would be implemented to avoid, minimize, and/or mitigate impacts to natural resources. Measures V-1 through V-7 and C-19 would minimize visual impacts associated with the physical changes within the Project Area. Slopes temporarily disturbed during construction would be reseeded with native species. Views from the NNL would only be temporarily affected since graded areas would recover within a few years. Therefore, natural environment, water quality, and visual impacts would be minimal.

The 5-acre area represents only a very small percentage (0.013 percent) of the total acreage of the NNL. The conversion of approximately 5 acres of the land in the NNL, immediately adjacent to existing SR-91, would not affect the activities, features, and attributes of the Gypsum Canyon Nature Preserve and the NNL and, therefore, is not considered a substantial impact to this property.

B.5.1.2 Use of the Irvine Ranch National Natural Landmark under the No Project Alternative

The No Project Alternative does not propose the construction and operation of improvements within or in the vicinity of the SR-241/SR-91 interchange. Therefore, the No Project Alternative would not use any land from the NNL.

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LEGEND

- Project Area
- Half-mile Radius from Project Area
- National Natural Landmark (with Preserve names)
- Featherly Regional Park
- Chino Hills State Park
- Brush Canyon Park
- Mountain Park Specific Plan*
- Existing Bikeway
- Proposed Bikeway
- Existing Trail
- Proposed Trail
- Existing Fire Trail

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*Note: The area in the southeast quadrant of the SR-241/SR-91 interchange was covered under the Mountain Park Specific Plan (MPSP). In August 2014, the land owner, the Irvine Company, permanently dedicated the 2,500 acres, which was originally part of the MPSP, to the County of Orange, as a permanent open space.

FIGURE B.3

SR-241/SR-91 Express Lanes Connector

Use of Land in Gypsum Canyon Nature Preserve

SOURCE: Bing Maps (2014); OC Parks (2012); Eureka Cartography (2007); Hikes Peak (2015); Gaia GPS (2015)

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B.6 De Minimis Determination

Caltrans has determined that a de minimis finding is appropriate for this Section 4(f) impact.

Section 6009(a) of SAFETEA-LU amended Section 4(f) legislation at 23 United States Code (USC) 138 and 49 USC 303 to simplify the processing and approval of projects that have only de minimis impacts on lands protected by Section 4(f). This revision provides that once the United States Department of Transportation (USDOT) determines that a transportation use of Section 4(f) property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, results in a de minimis impact on that property, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete. FHWA's final rule on Section 4(f) de minimis findings is codified in 23 CFR 774.3 and CFR 774.17.

Responsibility for compliance with Section 4(f) has been assigned to Caltrans pursuant to 23 USC 326 and 327, including determinations and approval of Section 4(f) evaluations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action. The determination is made after consideration of mitigation measures to minimize impacts.

De minimis impacts on publicly owned parks, recreation areas, and wildlife and waterfowl refuges are defined as those that do not adversely affect the activities, features, and attributes of the Section 4(f) resource. Caltrans must make a finding for each resource and the responsible official with jurisdiction over each resource must agree in writing with that finding.

The primary features of the NNL include its overall size, the wide range of natural resources and geographic features in the NNL, the connections to other open space and wilderness areas for wildlife, the NNL designation itself, and the overall value of such a large area of open space in a largely urbanized area. Although the Build Alternative would remove 5 acres of coastal sage scrub from the NNL, it would occur at the northern limit of the NNL, adjacent to a steep slope, just south of SR-91. As such, it would not affect any connections to other open space or wilderness areas. The Build Alternative would not substantially impact the natural resources in the NNL or affect the access into/out of the Nature Preserve, and there would be no interference with the features, activities, attributes, or purposes of the Nature Preserve or the NNL, on either a temporary or permanent basis under the Build Alternative. Based on the

information discussed above, Caltrans has made a de minimis finding for the use (permanent incorporation) of 5 acres of land from the NNL and that the Build Alternative satisfies the criteria for de minimis under Section 4(f).

B.6.1 Documentation of Consultation Regarding the Irvine Ranch National Natural Landmark

Caltrans submitted a letter to John Gump, Operations Manager, Orange County Parks on October 15, 2015, notifying him that Caltrans has determined that the Proposed Project improvement at the Irvine Ranch NNL will be considered a de minimis impact per 23 CFR 774. The letter indicated that this finding is based on the isolated nature and lack of recreational amenities on the subject parcel and that the Proposed Project would not result in a direct use impact or an indirect use impact as defined by Section 4(f) because the Proposed Project would not interfere with any established activities or use, thereby qualifying for a de minimis impact.

Caltrans proposed a final de minimis determination for the effects of the Build Alternative under Section 4(f) and requested that the County of Orange concur with this final de minimis determination. On July 11, 2017, Caltrans submitted a letter to OC Parks requesting concurrence that the Proposed Project would not interfere with the features, activities, attributes, or purposes of the Nature Preserve or the NNL that are subject to protection under Section 4(f). OC Parks provided written concurrence on July 25, 2017 (see Attachment B).

B.6.2 Public Review

Refer to Chapter 5, Comments and Coordination, for information regarding the public notice and consultation process for the Proposed Project. During the public review period for the Draft Supplemental EIR/EIS, the City of Anaheim and the County of Orange requested that Weir Canyon Regional Riding and Hiking Trail and Gypsum-Coal Canyon Riding and Hiking Trail be discussed and that the Santa Ana River Trail remain open. Additional discussion was added to Section 3.1 and Table A.1. There would be no use of these properties under Section 4(f). No comments regarding impacts to the activities, features, and attributes of the NNL that qualify it for protection under Section 4(f) were received at the public hearing or during the public review period for the Draft Supplemental EIR/EIS.

The U.S. Department of the Interior provided a comment letter (Chapter 5, Table 5.5, letter F-2) describing the natural and paleontological resources that are present within

the NNL and provided a contact person, but did not identify any concerns regarding the Proposed Project's direct use of a part of the NNL.

B.6.3 Coordination on Section 4(f) Properties

On January 28, 2015, the F/ETCA staff met with representatives from the County of Orange and The Irvine Company to discuss the Proposed Project, which would include a cut slope with terrace- and down-drains south of SR-91. This project feature would encroach into Assessor's Parcel Number (APN) 085-071-56, owned by the County of Orange and parts of the Gypsum Canyon Nature Preserve and the Irvine Ranch National Natural Landmark (NNL). Michael Haubert, Deputy County Counsel for the County of Orange, stated that he believed that the proposed work was consistent with the provisions of the Gift Deed, which transferred the property from The Irvine Company to Orange County Parks. Mr. Haubert indicated that the Proposed Project improvements on the County parcel did not warrant a "Proposed Activity" and related "Approval Process" referenced within the Grant Deed of Conservation Easement. Mr. Haubert agreed with Mr. Gump, Operations Manager, Orange County Parks, that the County would not want to maintain a property that was part of an F/ETCA project.

Subsequent to this meeting, F/ETCA staff met with Caltrans staff on June 3, 2015, to discuss potential right-of-way changes, maintenance of the slope, and required access. Caltrans indicated that the preferred course of action would be for the State to permanently acquire this area of APN 085-071-56 as part of the Proposed Project and maintain it as part of the SR-91 right-of-way. It was determined that the area of land that would be acquired from APN 085-071-56 would be approximately 5 acres.

Caltrans submitted a letter to Mr. Gump dated October 13, 2015, which stated that while the extent of project improvements is under review, Caltrans has determined that the improvement at the Irvine Ranch NNL will be considered a de minimis impact per 23 CFR 774. This finding is based on the isolated nature and lack of recreational amenities on the subject parcel. The Proposed Project would result in direct use of the Irvine Ranch NNL through permanent acquisition of approximately 5 acres of this property; however, this use would not diminish the function of the NNL and the impacts do not adversely affect the activities, features, and attributes that qualify the property for protection under the requirements of Section 4(f).

On July 11, 2017, Caltrans submitted a letter to OC Parks requesting concurrence that the Proposed Project would not interfere with the features, activities, attributes, or

purposes of the Nature Preserve or the NNL subject to protection under Section 4(f). OC Parks provided written concurrence on July 25, 2017. All of the letters are included in Attachment B.

B.7 References and Preparers

B.7.1 References

Brush Canyon Park Website: https://apm.activecommunities.com/ylreconline/Facility_Search (accessed August 31, 2015).

California State Parks System Statistical Report, 2013/14 Fiscal Year Website: http://www.parks.ca.gov/?page_id=23308 (accessed October 9, 2015).

Chino Hills State Park Website: http://www.parks.ca.gov/?page_id=648, and Orange County Parks Website (accessed September 1, 2015).

Featherly Regional Park Websites: http://ocparks.com/parks/featherly/ (accessed August 31, 2015), and http://www.canyonrvpark.com (accessed September 1, 2015).

Fremont Canyon Nature Preserve Website: http://letsgooutside.org/explore/fremont-canyon-nature-preserve/ (accessed September 1, 2015).

Green River Golf Club Websites: http://www.playgreenriver.com/ (accessed August 31, 2015), and http://www.golfnow.com/course-directory/california-golf-courses/corona-golf-courses/green-river-golf-club/ (accessed August 31, 2015).

Irvine Ranch National Natural Landmarks Website: http://irlandmarks.wpengine.netdna-cdn.com/wp-content/uploads/2013/07/IRNLMap.jpg (accessed September 1, 2015).

Running Springs Elementary School Website: http://www.orangusd.12.ca.us/schools/elementary/runningsprings/ (accessed August 31, 2015).

Santa Ana River Trail/Bike Lane Website: http://www.traillink.com/trail/santa-ana-river-trail-(orange-county).aspx.

Santiago Oaks Regional Park Websites: http://ocparks.com/parks/santiago/ (accessed August 31, 2015), and http://ocparks.com/parks/santiago/history (accessed September 1, 2015).

Weir Canyon Nature Preserve Website: http://legsgooutside.org/explore/weir-canyon-nature-preserve/ (accessed September 1, 2015).

B.7.2 Project Technical Studies

Air Quality Report (LSA Associates, Inc., July 2015)

Noise Study Report (CH2M Hill, August 2015)

Supplemental Historic Property Survey Report (LSA Associates, Inc., September 2015)

Traffic Analysis Report (CH2M Hill, July 2015)

B.7.3 Persons Contacted

John Gump, Operations Manager, OC Parks (letter dated October 15, 2015)

John Gannaway, Parks Division Manager, OC Parks (letter dated July 11, 2017)

Michael Haubert, Deputy County Counsel, County of Orange

Chris Lorenzi, Orange County Parks Ranger (telephone conversation, May 12, 2015)

B.7.4 Preparers

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Bahar Heydari, Associate Environmental Planner

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Juliet Su, Corridor Manager

Doug Feremenga, Manager, Environmental Planning

B.7.4.3 Environmental Consultant (LSA Associates, Inc.)

Les Card, Principal in Charge

Rob McCann, Principal Environmental Planner

Lisa Williams, Principal Environmental Planner

Christina Maxwell, Project Manager

Christine Huard-Spencer, Senior Environmental Planner (No longer with LSA)

Carmen Lo, Environmental Planner (No longer with LSA, now with Caltrans)

Justin Roos, GIS

Meredith Canterbury, GIS

Lauren Johnson, Technical Editor

Chantik Virgil, Senior Word Processor

ATTACHMENT A

OTHER RESOURCES EVALUATED RELATIVE TO THE REQUIREMENTS OF SECTION 4(f)

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ATTACHMENT A

OTHER RESOURCES EVALUATED RELATIVE TO THE REQUIREMENTS OF SECTION 4(f)

A.1 INTRODUCTION

This section of the document discusses parks and recreational facilities in the vicinity of, but outside the project limits for, the Build Alternative that do not trigger Section 4(f) protection because the Build Alternative does not permanently use the property and does not hinder the preservation of the property, or the proximity impacts of the Build Alternative do not result in constructive use of the property.

As a result, the properties listed in Table A.1 and shown on Figure A.1 (provided following the last page of Table A.1) were determined not to trigger protection under the requirements of Section 4(f).

The Study Area for the Proposed Project for the identification of use effects on Section 4(f) properties was defined as an area 0.5 mile from the project limits. The project limits were defined as the right-of-way limits for the Build Alternative. The project limits include areas within the right-of-way as well as areas temporarily disturbed during project construction. The properties shown on Figure A.1 are not within the project limits for the Build Alternative. The project limits are defined as the ultimate right-of-way limits for the Build Alternative. The project limits include areas within the ultimate right-of-way as well as areas temporarily disturbed during project construction. Table A.1 describes the location of each property in relation to the project limits for the Build Alternative and explains why that alternative does not result in the use or temporary occupancy of land from those properties that would trigger the requirements for protection under Section 4(f).

The Irvine Ranch National Natural Landmark (NNL) includes several nature preserves and parks as shown on Figure A.1. The Build Alternative would use land from one part of the Gypsum Canyon Nature Preserve in the NNL under Section 4(f), which is discussed in Sections B.3 and B.4. Refer to Sections B.3 and B.4 for the description of the NNL and the use of land in that part of the NNL under Section 4(f) by the Build Alternative. The NNL includes other nature preserves and parks from which no land would be used; those nature preserves and parks are discussed in this attachment.

The properties described in Table A.1 were further evaluated to determine whether the Build Alternative would result in constructive use of those properties. The detailed analyses related to access, visual and aesthetics, air quality, and noise provided in Chapter 3, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures, of the Supplemental EIR/EIS were reviewed. That review did not identify any proximity impacts resulting from the Build Alternative that would be so severe that the activities, features, or attributes that qualify those properties for protection under Section 4(f) would be substantially impaired. Therefore, as explained in Table A.1, the Build Alternatives would not result in constructive use of these properties and would not trigger the requirements for protection under Section 4(f).

There are no cultural properties listed on or eligible for listing on the National Register of Historic Places in the vicinity of the project limits. Therefore, those types of resources are not discussed in Table A.1.

Table A.1 Resources Determined Not to Trigger the Requirements for Protection under Section 4(f)

Name, Address, and Owner/Operator of Property	Description of Facilities and/or Resources on Property	Why the Resource does not trigger the requirements for protection under Section 4(f)
Chino Hills State Park (CHSP) 1879 Jackson Street Riverside, CA 92504 CHSP is on the north and south sides of SR-91 near SR-71, on Assessor's Parcels 1033-171-15-0000 (San Bernardino County); 101-120-018 (Riverside County); and 353-061-03, 085-071-43, 085-071-32, 085-071-35, and 085-071-33 (Orange County) Owner/Operator: California State Parks	Because CHSP is publicly owned and operated and is open to the public, it qualifies for protection under the requirements of Section 4(f). Land and Water Conservation Fund (L&WCF) Act funds were used to purchase land and/or make improvements to CHSP. As a result, CHSP was identified as a Section 6(f) property. CHSP is on the north and south sides of SR-91 near SR-71. Amenities provided in CHSP include on-site parking, picnic areas, an equestrian staging area, pipe corrals, a historic barn, water spigots, campsites, restrooms, and approximately 60 miles of hiking, bike, and equestrian trails. Organized campfires, school programs, nature hikes, a Junior Ranger program, and educational talks are offered throughout the year. A ranch house, barn, windmills, and watering troughs in the Park are reminders of the cattle ranching history in this area. CHSP serves a valuable function as a major link in a wildlife biolink that extends over 30 miles from the Santa Ana Mountains to the southeast to the Whittier Hills to the northwest. The Coal Canyon Undercrossing under SR-91, which connects the Santa Ana Mountains south of SR-91 and the Puente-Chino Hills north of SR-91, provides a connection for wildlife between the parts of CHSP north and south of SR-91. This crossing is also used for emergency vehicles and as a fire access road. Coal-Gypsum Canyon Trail is near the Coal Canyon Undercrossing. Hikers and bicyclists can and do access CHSP from the Coal Canyon Undercrossing, although it is not intended as or designated as access point for humans into/out of CHSP.[1] The total area of CHSP is 14,173 acres. CHSP is normally open for both camping and day use. In fiscal year 2013–2014, the number of day-users of the CHSP was 130,755. There were no overnight users. Vehicular access to CHSP is available at the park entrances at Rimcrest Drive and Bane Canyon Road both of which are well northeast of the project limits in the SR-241/SR-91 interchange area. Pedestrians and bicyclists can access CHSP at those entrances and at a number of trailheads leading to trails in the park. There is a trailhead in CHSP just north of SR-91 at Green River Road. An unpaved trail extends east and north from that trailhead, along a maintenance road, into CHSP.	CHSP is in the Study Area for the Build Alternative and is in the vicinity of the project limits for the Build Alternative as shown on Figure A.1. The nearest part of the project limits for the Build Alternative on the south side of SR-91 is adjacent to and outside the boundary of CHSP. There would be no use of land from this Park under Section 4(f) (permanent incorporation of land from the property into the transportation facility). There are no TCEs or other temporary occupancies, or permanent surface, aerial, or subsurface easements proposed within the boundary of this Park under the Build Alternative. Because there is no permanent use or temporary occupancy of land from this Park under the Build Alternative, the requirements for protection under Section 4(f) are not triggered. Visual. In the short-term during construction of the Build Alternative, sensitive viewers in CHSP would be exposed viewers to views of cleared vegetation, graded slopes, construction vehicles, equipment, and other materials. Those construction activities would be temporary, and the impacts related to views of those activities would cease after completion of construction. Therefore, no substantial short-term visual impacts would occur at CHSP. The Build Alternative would result in long-term visual changes as a result of permanent alteration of the existing visual environment at the SR-241/SR-91 interchange as a result of the widening of SR-241/SR-91 and existing roadway undercrossing, grading improvements, new retaining walls, piers/supports, and buffers. The improvements in the immediate vicinity of CHSP would be much less substantial than at the interchange and would not substantively change views from CHSP compared to existing views of SR-91 from CHSP. Air Quality. Site preparation and construction would involve clearing, cut-and-fill activities, grading, and paving which could temporarily generate fugitive dust and other emissions. The construction-related emissions would be substantially reduced based on compliance with Caltrans Standard Specifications for construction and SCAQMD Rule 403. As a result, construction of the Build Alternative would not result in substantial short-term air quality impacts at CHSP. Operation of the Build Alternative would not result in changes in regional air emissions or mobile source air toxics compared to the No Build Alternative or in substantial changes in air quality emissions compared to existing conditions along SR-91 adjacent to CHSP. Noise. During construction of the Build Alternative, construction noise may intermittently dominate the noise environment in the immediate area of construction. Noise control during construction will conform to the provisions in Section 14-8.02 of Caltrans "Noise Control Requirements" and, therefore, the project construction would not result in adverse noise impacts on CHSP. CHSP would not experience long-term noise impacts substantially different than the existing effects along SR-91 adjacent to CHSP. Access. Construction and operation of the Build Alternative would not affect existing vehicular access to/from CHSP. The construction activities and project improvements would be entirely within Caltrans right-of-way in the vicinity of the Coal Canyon Undercrossing and, therefore, would not impact the use or operation of that Undercrossing, including as a fire road and a wildlife crossing under SR-91. Summary. The proximity impacts of the construction and operation of the Build Alternative in the vicinity of CHSP would not substantially impair the protected activities, features, or attributes of this property in terms of its Section 4(f) significance. As a result, the Build Alternative would not result in constructive use of CHSP and would not trigger the requirements for protection of this property under Section 4(f). Section 6(f): The Build Alternative would not require the acquisition of any land from CHSP. Therefore, the provisions of Section 6(f) do not apply to the Build Alternative.
Santa Ana River Trail/Bike Lane 24001 Santa Ana Canyon Road Anaheim, CA 92808 Owner/Operator: Orange County Parks	The Santa Ana River Trail/Bike Lane is a paved Class I bicycle path that parallels the Santa Ana River. In the vicinity of the SR-241/SR-91 interchange, the Trail/Bike Lane is an off-street trail in a dedicated, publicly owned right-of-way. The Trail/Bike Lane is owned and operated by Orange County Parks and, therefore, qualifies for protection under the requirements of Section 4(f). The segment of the Trail/Bike Lane east of Featherly Regional Park is generally close to or within the State right-of-way for SR-91. In Featherly Regional Park, the Trail/Bike Lane is farther north and, as a result, is farther from SR-91.	The Santa Ana River Trail/Bike Lane is in the Study Area for the Build Alternative and is partially within the Caltrans right-of-way on the north side of SR-91 as shown on Figure A.1. There would be no use of land from this Trail/Bike Lane under Section 4(f) (permanent incorporation of land from the property into the transportation facility). There are no TCEs or other temporary occupancies, or permanent surface, aerial, or subsurface easements proposed within the boundary of this Trail/Bike Lane under the Build Alternative. Because there is no permanent use or temporary occupancy of land from this Trail/Bike Lane under the Build Alternative, the requirements for protection under Section 4(f) are not triggered. Visual. In the short-term during construction of the Build Alternative, sensitive viewers on the Trail/Bike Lane would be exposed to views of cleared vegetation, graded slopes, construction vehicles, equipment, and other materials as

[1] Telephone conversation with County of Orange Park Ranger Chris Lorenzi (May 12, 2015).

Table A.1 Resources Determined Not to Trigger the Requirements for Protection under Section 4(f)

Name, Address, and Owner/Operator of Property	Description of Facilities and/or Resources on Property	Why the Resource does not trigger the requirements for protection under Section 4(f)
	In the vicinity of the SR-241/SR-91 interchange, parking to access the Trail/Bike Lane is available on street just east of the entrance to the Green River Golf Club in the City of Corona on the north side of SR-91. On-site parking is available in CHSP and Featherly Regional Park. The Trail/Bike Lane traverses Featherly Regional Park generally adjacent to the Santa Ana River. In the vicinity of SR-91, the Trail/Bike Lane is an off-street, two-lane, 12-foot wide paved asphalt path. The Trail/Bike Lane accommodates bicyclists, roller bladers, joggers, and pedestrians. The segment of the Trail/Bike Lane in the vicinity of the SR-91/241 interchange area has only moderate topography and provides views of the Santa Ana River and wildlife. The Trail/Bike Lane extends 30 miles from the Green River Golf Club on the north side of SR-91 west, south to Huntington Beach, generally following the alignment of the Santa Ana River. Destinations along the Trail/Bike Lane outside the project limits in the SR-241/SR-91 interchange area include a rest area at Centennial Regional Park in the City of Santa Ana, picnic and rest-stop areas at Katella Avenue and Orange/Olive in the City of Orange, and a picnic area at Yorba Regional Park in the City of Anaheim. Because the Trail/Bike Lane is open for public access at a large number of locations along its alignment, it is not possible to estimate the number of users of this facility. Features that make the Trail/Bike Lane special include its length and route, which crosses much of Orange County adjacent to the Santa Ana River; its views of natural and developed areas along the Trail/Bike Lane; and the access the Trail/Bike Lane provides to other recreational facilities, including parks and other trails.	they travel through the area. Those construction activities would be temporary, and the impacts related to views of those activities would cease after completion of construction. Therefore, no substantial short-term visual impacts would occur to users of the Trail/Bike Lane. The Build Alternative would result in long-term visual changes associated with the permanent alteration of the existing visual environment at the SR-241/SR-91 interchange as a result of the widening of SR-241/SR-91 and existing roadway undercrossing, grading improvements, new retaining walls, piers/supports, and buffers. Those improvements would be partially visible to users of the Trail/Bike Lane but would not be substantially different than views of the existing infrastructure in the interchange and the immediately surrounding areas compared to existing views of SR-91 from the Trail/Bike Lane. Air Quality. Site preparation and construction would involve clearing, cut-and-fill activities, grading, and paving which could temporarily generate fugitive dust and other emissions. The construction-related emissions would be substantially reduced based on compliance with Caltrans Standard Specifications for construction and SCAQMD Rule 403. As a result, construction of the Build Alternative would not result in substantial short-term air quality impacts at the Trail/Bike Lane. Operation of the Build Alternative would not result in changes in regional air emissions or mobile source air toxics compared to the No Build Alternative or in substantial changes in air quality emissions compared to existing conditions along SR-91 adjacent to the Santa Ana River Trail/Bike Lane. Noise. During construction of the Build Alternative, construction noise may intermittently dominate the noise environment in the immediate area of construction. Noise control during construction will conform to the provisions in Section 14-8.02 of Caltrans “Noise Control Requirements” and, therefore, the project construction would not result in adverse noise impacts on the Santa Ana River Trail/Bike Lane. The users of the Trail/Bike Lane would not experience long-term noise impacts substantially different than the existing effects along SR-91 adjacent to the Trail/Bike Lane. Access. Construction and operation of the Build Alternative would not affect existing access to/from and along the Santa Ana River Trail/Bike Lane. The construction activities and project improvements would be entirely within Caltrans right-of-way in the vicinity of the Trail/Bike Lane and would not affect the use or operation of the Trail/Bike Lane. Summary. The proximity impacts of the construction and operation of the Build Alternative on the Santa Ana River Trail/Bike Lane would not substantially impair the protected activities, features, or attributes of this property in terms of its Section 4(f) significance. As a result, the Build Alternative would not result in constructive use of the Trail/Bike Lane and would not trigger the requirements for protection of this property under Section 4(f).
Featherly Regional Park (includes Canyon RV Park) 24001 Santa Ana Canyon Road Anaheim, CA 92808 (parts of the park are in the City of Yorba Linda) Owner/Operator: Orange County Parks Note: Canyon RV Park is operated by a Private Party under contract to the County of Orange.	Because Featherly Regional Park is publicly owned and operated and is open to the public, it qualifies for protection under the requirements of Section 4(f). Amenities at Featherly Regional Park include on-site parking, a visitor center, park benches, picnic tables, campsites, restrooms, and the Santa Ana River Trail/Bike Lane. The Park covers 364 acres, much of which is a natural riparian wilderness area. Viewing opportunities are best from the Santa Ana River Trail/Bike Lane and the banks of the Santa Ana River. Featherly Regional Park offers both camping and day use. The estimated number of day and overnight visitors to the Park was not available from the Orange County Parks website. Featherly Regional Park is traversed by the Santa Ana River Trail/Bike Lane, which provides a connection between this park and a number of other recreational resources along the Trail/Bike Lane, including the Green River Golf Club to the east and parks to the west and south all the way to the Pacific Ocean. Vehicular access to Featherly Regional Park is available via Gypsum Canyon Road. Pedestrians and bicyclists can access the park at the main entrance on Gypsum Canyon Road or via the Trail/Bike Lane. Features that make Featherly Regional Park special include the provision of camping and day use activities in proximity to a large number of users in the developed parts of northeast Orange County, the ability to use the Santa Ana River Trail/Bike Lane to	Featherly Regional Park, which includes Canyon RV Park, is in the Study Area for the Build Alternative. Featherly Regional Park is immediately north of and adjacent to SR-91 and west and east of Gypsum Canyon Road as shown on Figure A.1. Canyon RV Park is north of SR-91 and west of Gypsum Canyon Road as shown on Figure A.1. There would be no use of land from Featherly Regional Park under Section 4(f) (permanent incorporation of land from the property into the transportation facility). There are no TCEs or other temporary occupancies, or permanent surface, aerial, or subsurface easements proposed within the boundary of this Park under the Build Alternative. Because there is no permanent use or temporary occupancy of land from this Park under the Build Alternative, the requirements for protection under Section 4(f) are not triggered. Visual. In the short-term during construction of the Build Alternative, sensitive viewers in the Park could be exposed to views of cleared vegetation, graded slopes, construction vehicles, equipment, and other materials. Most of Featherly Regional Park is below the grade of SR-91 and the infrastructure in the interchange area so views of construction activities from within the Park would be limited. The construction activities would be temporary, and the impacts related to views of those activities would cease after completion of construction. Therefore, no substantial short-term visual impacts would occur to Park visitors. The Build Alternative would result in long-term visual changes associated with the permanent alteration of the existing infrastructure at the SR-241/SR-91 interchange as a result of the widening of SR-241/SR-91 and existing roadway undercrossing, grading improvements, new retaining walls, piers/supports, and buffers. However, views of those improvements from within Featherly Regional Park would be limited and would not be substantially different than views of the existing infrastructure in the interchange and the immediately surrounding areas compared to existing views of SR-91 from within the Park. Air Quality. Site preparation and construction would involve clearing, cut-and-fill activities, grading, and paving which

Table A.1 Resources Determined Not to Trigger the Requirements for Protection under Section 4(f)

Name, Address, and Owner/Operator of Property	Description of Facilities and/or Resources on Property	Why the Resource does not trigger the requirements for protection under Section 4(f)
	access other area resources, and the riparian vegetation and wildlife along the Santa Ana River. Featherly Regional Park is north of and adjacent to SR-91. There is a substantial change in grade from the freeway to the Park, with the Park at a substantially lower elevation than the freeway. The SR-241/SR-91 interchange ramps are immediately adjacent to and well above the grade of Featherly Regional Park.	could temporarily generate fugitive dust and other emissions. The construction-related emissions would be substantially reduced based on compliance with Caltrans Standard Specifications for construction and SCAQMD Rule 403. As a result, construction of the Build Alternative would not result in substantial short-term air quality impacts at Featherly Regional Park. Operation of the Build Alternative would not result in changes in regional air emissions or mobile source air toxics compared to the No Build Alternative or in substantial changes in air quality emissions compared to existing conditions along SR-91 adjacent to the Park. Noise. During construction of the Build Alternative, construction noise may intermittently dominate the noise environment in the immediate area of construction. Noise control during construction will conform to the provisions in Section 14-8.02 of Caltrans "Noise Control Requirements" and, therefore, the project construction would not result in adverse noise impacts on Featherly Regional Park. Operation of the Build Alternative would result in noise levels at some locations in Canyon RV Park that exceed Noise Abatement Criteria (NAC) B/C. No noise abatement to address those impacts was determined to be feasible. However, in most cases, the increases in noise levels with the Build Alternative compared to both existing conditions and the future No Build Alternative ranged from a low of 0.1 dBA to 1.0 dBA. Those levels of noise increases, although resulting in noise levels that would exceed the NAC, would not be perceptible and would result in noise levels at Canyon RV Park nearly identical to the existing noise levels at the property. As a result, the users of Featherly Regional Park and Canyon RV Park would not experience long-term noise impacts substantially different than the existing effects along SR-91 adjacent to the Park. Access. Construction and operation of the Build Alternative would not affect existing access to/from Featherly Regional Park. The construction activities and project improvements would be entirely within Caltrans right-of-way in the vicinity of these properties and would not affect the use or operation of Featherly Regional Park. Summary. The proximity impacts of the construction and operation of the Build Alternative on the Featherly Regional Park would not substantially impair the protected activities, features, or attributes of this property in terms of its Section 4(f) significance. As a result, the Build Alternative would not result in constructive use of Featherly Regional Park and would not trigger the requirements for protection of this property under Section 4(f).
Green River Golf Club 5215 Green River Road Corona, CA 92880 Owner: Orange County Parks Operator: Private Party under contract to the County of Orange	Because the Green River Golf Club is open to the public, it qualifies for protection under the requirements of Section 4(f). The Golf Club is on the north side of SR-91 at Green River Road. There are parts of the Golf Club property in Orange, Riverside, and San Bernardino Counties. This facility includes an 18-hole regulation length golf course, a clubhouse, a putting green, chipping area, practice bunker, pull and rental carts, rental clubs, a driving range, and a full service golf shop. The Golf Club a restaurant and a bar and a banquet facility. The Santa Ana River winds through the golf course, which is surrounded by mature native oak, sycamore, and cottonwood trees.	The Green River Golf Club property is in the Study Area for the Build Alternative and is adjacent to the segment of SR-91 where advance signage is proposed as shown on Figure A.1. The nearest part of the construction area for the Build Alternative, west of the advance signage area, is approximately 800 feet west of the boundary of the Golf Club property. There would be no use of land from the Golf Club property under Section 4(f) (permanent incorporation of land from the property into the transportation facility). There are no TCEs or other temporary occupancies, or permanent surface, aerial, or subsurface easements proposed within the boundary of the Golf Club under the Build Alternative. Because there is no permanent use or temporary occupancy of land from this Golf Club under the Build Alternative, the requirements for protection under Section 4(f) are not triggered. Visual. In the short-term during construction of the Build Alternative, sensitive viewers on the Golf Club property could be exposed to views of the installation of advance signage on SR-91. However, those activities would be very limited and would not include clearing vegetation, grading, or other substantial construction activities. The Golf Club is a substantial distance east of the SR-241/SR-91 interchange and, as a result, views of construction activity along that part of SR-91 from the Golf Club would be very limited. The construction activities would be temporary, and the impacts related to views of those activities would cease after completion of construction. Therefore, no substantial short-term visual impacts would occur to Golf Club patrons. The Build Alternative would result in long-term visual changes associated with the permanent alteration of the existing infrastructure at the SR-241/SR-91 interchange as a result of the widening of SR-241/SR-91 and existing roadway undercrossing, grading improvements, new retaining walls, piers/supports, and buffers. However, based on the distance of the Golf Club from those improvements, views of those improvements from the Golf Club would be limited and would not be substantially different than views of the existing infrastructure in the interchange and the immediately surrounding areas compared to existing views of SR-91 from within the Golf Club property. Air Quality. The installation of advance signage would require very minor site preparation and construction activities and, therefore, would result in very limited fugitive dust and other construction emissions in the vicinity of the Golf Club. The construction related emissions would be substantially reduced based on compliance with Caltrans Standard Specifications for construction and SCAQMD Rule 403. As a result, construction of the Build Alternative would not result in substantial short-term air quality impacts at the Golf Club. Operation of the Build Alternative would

Table A.1 Resources Determined Not to Trigger the Requirements for Protection under Section 4(f)

Name, Address, and Owner/Operator of Property	Description of Facilities and/or Resources on Property	Why the Resource does not trigger the requirements for protection under Section 4(f)
		not result in changes in regional air emissions or mobile source air toxics compared to the No Build Alternative or in substantial changes in air quality emissions compared to existing conditions along SR-91 adjacent to the Golf Club. Noise. The installation of advance signage would result in minor site preparation and construction activities and, therefore, would result in very limited short-term noise impacts in the vicinity of the Golf Club. Noise control during construction will conform to the provisions in Section 14-8.02 of Caltrans "Noise Control Requirements" and, therefore, the project construction would not result in adverse noise impacts on the Golf Club. The patrons of the Golf Club would not experience long-term noise impacts substantially different than the existing effects along SR-91 adjacent to the Golf Club property. Access. Construction and operation of the Build Alternative would not affect existing access to/from the Golf Club. The construction activities and project improvements would be entirely within Caltrans right-of-way in the vicinity of the Golf Club and would not affect the use or operation of the Golf Club. Summary. The proximity impacts of the construction and operation of the Build Alternative on the Green River Golf Club would not substantially impair the protected activities, features, or attributes of this property in terms of its Section 4(f) significance. As a result, the Build Alternative would not result in constructive use of the Golf Club and would not trigger the requirements for protection of this property under Section 4(f).
Brush Canyon Park 28282 Brush Canyon Drive Yorba Linda, CA 92887 Owner/Operator: City of Yorba Linda	Brush Canyon Park is a neighborhood park. Because this Park is publicly owned and operated and is open to the public, it qualifies for protection under the requirements of Section 4(f). The facilities at this Park include restrooms, two large shaded picnic shelters, a basketball court, tennis courts, a sports field, and a playground. The park is open 7 days a week. Vehicular access to Brush Canyon Park is from Brush Canyon Drive at the west end of the Park.	Brush Canyon Park is in the Study Area for the Build Alternative on the north side of SR-91 as shown on Figure A.1. The nearest part of the construction area for the Build Alternative is approximately 1,560 feet south of the Park boundary. There would be no use of land from the Park property under Section 4(f) (permanent incorporation of land from the property into the transportation facility). There are no TCEs or other temporary occupancies, or permanent surface, aerial, or subsurface easements proposed within the boundary of the Park under the Build Alternative. Because there is no permanent use or temporary occupancy of land from this Park under the Build Alternative, the requirements for protection under Section 4(f) are not triggered. Visual. Based on the distance of this Park from the project segment of SR-91, the elevation of most of SR-91 and the SR-91 infrastructure above the elevation of the Park, and the presence of intervening land uses, the construction and operation of the Build Alternative would not result in short- or long-term visual impacts on users of Brush Canyon Park. Air Quality. Based on the distance of this Park from the project segment of SR-91 and the presence of intervening land uses, the construction and operation of the Build Alternative would not result in short- or long-term air quality impacts on users of Brush Canyon Park. Noise. Based on the distance of this Park from the project segment of SR-91 and the presence of intervening land uses, the construction and operation of the Build Alternative would not result in short- or long-term impacts on users of Brush Canyon Park. Access. Construction and operation of the Build Alternative would not affect existing access to/from Brush Canyon Park The construction activities and project improvements would be entirely within Caltrans right-of-way and a substantial distance from Brush Canyon Park and, therefore, would not affect the use or operation of Brush Canyon Park. Summary. The construction and operation of the Build Alternative would not result in proximity impacts on Brush Canyon Park and, therefore, would not substantially impair the protected activities, features, or attributes of this property in terms of its Section 4(f) significance. As a result, the Build Alternative would not result in constructive use of Brush Canyon Park and would not trigger the requirements for protection of this property under Section 4(f).

Table A.1 Resources Determined Not to Trigger the Requirements for Protection under Section 4(f)

Name, Address, and Owner/Operator of Property	Description of Facilities and/or Resources on Property	Why the Resource does not trigger the requirements for protection under Section 4(f)
Santiago Oaks Regional Park 2145 N. Windes Drive Orange, CA 92869 Owner/Operator: Orange County Parks	Because Santiago Oaks Regional Park is publicly owned and operated and is open to the public, it qualifies for protection under the requirements of Section 4(f). Santiago Oaks Regional Park is within the Irvine Ranch NNL as shown on Figure A.1. Amenities provided at Santiago Oaks Regional Park include on-site parking, a visitor center, an amphitheater, park benches, picnic tables, barbeques/fire rings, horseshoe pits, bike trails, a playground/tot lot, equestrian trails, a wedding ceremony and reception area, and restrooms,. Santiago Oaks Regional Park encompasses 1,760 acres, which includes Weir Canyon Park. Vehicular access to Santiago Oaks Regional Park is from North Windes Drive at the west end of the Park.	Santiago Oaks Regional Park is in the Study Area for the Build Alternative on the west side of SR-241 as shown on Figure A.1. The nearest part of the construction area for the Build Alternative is approximately 2,000 east of the Park boundary. There would be no use of land from the Park property under Section 4(f) (permanent incorporation of land from the property into the transportation facility). There are no TCEs or other temporary occupancies, or permanent surface, aerial, or subsurface easements proposed within the boundary of the Park under the Build Alternative. Because there is no permanent use or temporary occupancy of land from Santiago Oaks Regional Park under the Build Alternative, the requirements for protection under Section 4(f) are not triggered. Visual. Based on the distance of this Park from the project segment of SR-91 and the presence of intervening topography, the construction and operation of the Build Alternative would not result in short- or long-term visual impacts on users of Santiago Oaks Regional Park. Air Quality. Based on the distance of this Park from the project segment of SR-91 and the presence of intervening topography, the construction and operation of the Build Alternative would not result in short- or long-term air quality impacts on users of Santiago Oaks Regional Park. Noise. Based on the distance of this Park from the project segment of SR-91 and the presence of intervening topography, the construction and operation of the Build Alternative would not result in short- or long-term impacts on users of Santiago Oaks Regional Park. Access. Construction and operation of the Build Alternative would not affect existing access to/from Santiago Oaks Regional Park. The construction activities and project improvements would be entirely within Caltrans right-of-way and a substantial distance from this Park and, therefore, would not affect the use or operation of Santiago Oaks Regional Park. Summary. The construction and operation of the Build Alternative would not result in proximity impacts on Santiago Oaks Regional Park and, therefore, would not substantially impair the protected activities, features, or attributes of this property in terms of its Section 4(f) significance. As a result, the Build Alternative would not result in constructive use of Santiago Oaks Regional Park and would not trigger the requirements for protection of this property under Section 4(f).
Gypsum Canyon Nature Preserve (two areas) Owner: Orange County Parks Operator: Orange County Parks and the Irvine Ranch Conservancy	The Gypsum Canyon Nature Preserve is a publicly owned and operated preserve and it open limited public use through scheduled programs. As a result, it qualifies for protection under the requirements of Section 4(f). The approximately 40,000-acre Irvine Ranch NNL includes three areas designated at the Gypsum Canyon Nature Preserve as shown on Figure A.1.	In addition to the part of Gypsum Canyon Nature Preserve on the south side of SR-91 east of SR-241 that would be used by the Build Alternative (refer to Chapters 3.0 and 4.0), two other parts of Gypsum Canyon Nature Preserve in the NNL are in the Study Area for the Build Alternative as shown on Figure A.1. The first part is on the south side of SR-91 west of SR-241 and the other is further south, on the southeast side of SR-241. The nearest part of the project limits for the Build Alternative to the first part of the Nature Preserve is approximately 100 feet from SR-91 and 140 feet from SR-241. The second part of the Nature Preserve extends north-south in the vicinity of and east of SR-241. At the closest point, the project limits are adjacent to the second part of the Nature Preserve. There would be no use of land from these two parts of the Nature Preserve under Section 4(f) (permanent incorporation of land from these properties into the transportation facility). There are no TCEs or other temporary occupancies, or permanent surface, aerial, or subsurface easements proposed within the boundaries of these two parts of the Nature Preserve under the Build Alternative. Because there is no permanent use or temporary occupancy of land from these properties under the Build Alternative, the requirements for protection under Section 4(f) are not triggered. Visual. In the short-term during construction of the Build Alternative, sensitive viewers in these two parts of the Nature Preserve could be exposed to views of during construction of vegetation clearing, grading of slopes, construction vehicles, equipment, and other materials. Views from the first part of the Nature Preserve would include construction of the improvements on both SR-241 and SR-91 and in the interchange area. Views from the second part of the Nature Preserve would be more limited than views of changes to SR-241 to accommodate the express lanes connector. The construction activities would be temporary, and the impacts related to views of those activities would cease after completion of construction. Therefore, no substantial short-term visual impacts would occur to visitors to these two parts of the Gypsum Canyon Nature Preserve during construction. The Build Alternative would result in long-term visual changes associated with the permanent alteration of the existing infrastructure at the SR-241/SR-91 interchange as a result of the widening of SR-241/SR-91 and existing roadway undercrossing, grading improvements, new retaining walls, piers/supports, and buffers. However, views of those improvements from within the first part of the Gypsum Canyon Nature Preserve would be limited and would not be substantially different than

Table A.1 Resources Determined Not to Trigger the Requirements for Protection under Section 4(f)

Name, Address, and Owner/Operator of Property	Description of Facilities and/or Resources on Property	Why the Resource does not trigger the requirements for protection under Section 4(f)
		views of the existing infrastructure in the interchange and the immediately surrounding areas compared to existing views of SR-241 and SR-91 from within that area. Similarly, views from the second part of the Gypsum Canyon Nature Preserve would be of more minor infrastructure improvements, which would not be substantially different than views of the existing infrastructure in that area compared to existing views of SR-241 from within that area. Air Quality. Site preparation and construction would involve clearing, cut-and-fill activities, grading, and paving which could temporarily generate fugitive dust and other emissions. The construction-related emissions would be substantially reduced based on compliance with Caltrans Standard Specifications for construction and SCAQMD Rule 403. As a result, construction of the Build Alternative would not result in substantial short-term air quality impacts at the two parts of the Gypsum Canyon Nature Reserve. Operation of the Build Alternative would not result in changes in regional air emissions or mobile source air toxics compared to the No Build Alternative or in substantial changes in air quality emissions compared to existing conditions along SR-91 adjacent to the two parts of the Nature Reserve. Noise. During construction of the Build Alternative, construction noise may intermittently dominate the noise environment in the immediate area of construction. Noise control during construction will conform to the provisions in Section 14-8.02 of Caltrans "Noise Control Requirements" and, therefore, the project construction would not result in adverse noise impacts on the two parts of the Gypsum Canyon Nature Preserve. These two parts of the Nature Preserve would not experience long-term noise impacts substantially different than the existing effects along SR-241 and SR-91 adjacent to those areas. Access. Construction and operation of the Build Alternative would not affect existing access to/from these two parts of the Gypsum Canyon Nature Preserve. The construction activities and project improvements would be entirely within Caltrans right-of-way and would not affect the use or operation of these two parts of the Nature Preserve. Summary. The construction and operation of the Build Alternative would not result in proximity impacts on these two parts of the Gypsum Canyon Nature Preserve and, therefore, would not substantially impair the protected activities, features, or attributes of these properties in terms of their Section 4(f) significance. As a result, the Build Alternative would not result in constructive use of these two parts of the Nature Preserve and would not trigger the requirements for protection of these properties under Section 4(f).
Weir Canyon Nature Preserve Owner: Orange County Parks Operator: Orange County Parks and the Irvine Ranch Conservancy	The Weir Canyon Nature Preserve is a publicly owned and operated wildlife preserve and it open limited public use through scheduled programs. As a result, it qualifies for protection under the requirements of Section 4(f). The approximately 40,000-acre Irvine Ranch NNL includes the Weir Canyon Nature Preserve as shown on Figure A.1. This Preserve contains one of the largest oak woodlands in Orange County as well as rare habitats and wildlife.	Weir Canyon Nature Preserve is in the Study Area for the Build Alternative southwest of SR-241 as shown on Figure A.1. The Nature Preserve extends north-south along the west side of SR-241 and is several places, is adjacent to the project limits for the Build Alternative. There would be no use of land from this Nature Preserve under Section 4(f) (permanent incorporation of land from these properties into the transportation facility). There are no TCEs or other temporary occupancies, or permanent surface, aerial, or subsurface easements proposed within the boundary of this Nature Preserve under the Build Alternative. Because there is no permanent use or temporary occupancy of land from this property under the Build Alternative, the requirements for protection under Section 4(f) are not triggered. Visual. In the short-term during construction of the Build Alternative, sensitive viewers in this Nature Preserve could be exposed to views of during construction of vegetation clearing, grading of slopes, construction vehicles, equipment, and other materials. Views from the Nature Preserve would include construction of the improvements on southernmost segment of SR-241. The construction activities would be temporary, and the impacts related to views of those activities would cease after completion of construction. Therefore, no substantial short-term visual impacts would occur to visitors to the Weir Canyon Nature Preserve during construction. The Build Alternative would result in only minor long-term visual changes on the southernmost segment of SR-241 and views of those improvements from within the Weir Canyon Nature Preserve would be limited and would not be substantially different than views of existing SR-241 from within that area. Air Quality. Site preparation and construction would involve clearing, cut-and-fill activities, grading, and paving which could temporarily generate fugitive dust and other emissions. The construction-related emissions would be substantially reduced based on compliance with Caltrans Standard Specifications for construction and SCAQMD Rule 403. As a result, construction of the Build Alternative would not result in substantial short-term air quality impacts at the Weir Gypsum Canyon Nature Reserve. Operation of the Build Alternative would not result in changes in regional air emissions or mobile source air toxics compared to the No Build Alternative or in substantial changes in air quality emissions compared to existing conditions along SR-91 adjacent to this Nature Reserve.

Table A.1 Resources Determined Not to Trigger the Requirements for Protection under Section 4(f)

Name, Address, and Owner/Operator of Property	Description of Facilities and/or Resources on Property	Why the Resource does not trigger the requirements for protection under Section 4(f)
		Noise. During construction of the Build Alternative, construction noise may intermittently dominate the noise environment in the immediate area of construction. Noise control during construction will conform to the provisions in Section 14-8.02 of Caltrans "Noise Control Requirements" and, therefore, the project construction would not result in adverse noise impacts on the Weir Canyon Nature Preserve. This Nature Preserve would not experience long-term noise impacts substantially different than the existing effects along SR-241 adjacent to that Nature Preserve. Access. Construction and operation of the Build Alternative would not affect existing access to/from the Weir Canyon Nature Preserve. The construction activities and project improvements would be entirely within Caltrans right-of-way and would not affect the use or operation of this Nature Preserve. Summary. The construction and operation of the Build Alternative would not result in proximity impacts on the Weir Canyon Nature Preserve and, therefore, would not substantially impair the protected activities, features, or attributes of this property in terms of its Section 4(f) significance. As a result, the Build Alternative would not result in constructive use of this the Nature Preserve and would not trigger the requirements for protection of this property under Section 4(f).
Fremont Canyon Nature Preserve Owner: Orange County Parks Operator: Orange County Parks and the Irvine Ranch Conservancy	The Fremont Canyon Nature Preserve is a publicly owned and operated preserve and it open limited public use through scheduled programs. As a result, it qualifies for protection under the requirements of Section 4(f). The approximately 40,000-acre Irvine Ranch NNL includes the Fremont Canyon Nature Preserve as shown on Figure A.1. This Preserve contains massive granite formations, and a number of rare, threatened, and endangered plant and animal species.	Fremont Canyon Nature Preserve is in the Study Area for the Build Alternative southwest of SR-241 as shown on Figure A.1. The Nature Preserve is in the southern part of the Study Area, approximately 900 from the project limits. There would be no use of land from this Nature Preserve under Section 4(f) (permanent incorporation of land from these properties into the transportation facility). There are no TCEs or other temporary occupancies, or permanent surface, aerial, or subsurface easements proposed within the boundary of this Nature Preserve under the Build Alternative. Because there is no permanent use or temporary occupancy of land from this property under the Build Alternative, the requirements for protection under Section 4(f) are not triggered. Visual. Based on the distance of this Nature Preserve from the project limits and the presence of intervening topography, the construction and operation of the Build Alternative would not result in short- or long-term visual impacts on users of Fremont Canyon Nature Preserve. Air Quality. Based on the distance of this Nature Preserve from the project limits and the presence of intervening topography, the construction and operation of the Build Alternative would not result in short- or long-term air quality impacts on users of Fremont Canyon Nature Preserve. Noise. Based on the distance of this Nature Preserve from the project limits and the presence of intervening topography, the construction and operation of the Build Alternative would not result in short- or long-term impacts on users of Fremont Canyon Nature Preserve. Access. Construction and operation of the Build Alternative would not affect existing access to/from the Weir Canyon Nature Preserve. The construction activities and project improvements would be entirely within Caltrans right-of-way and would not affect the use or operation of this Nature Preserve. Summary. The construction and operation of the Build Alternative would not result in proximity impacts on the Fremont Canyon Nature Preserve and, therefore, would not substantially impair the protected activities, features, or attributes of this property in terms of its Section 4(f) significance. As a result, the Build Alternative would not result in constructive use of this the Nature Preserve and would not trigger the requirements for protection of this property under Section 4(f).
Running Springs Elementary School 8670 Running Springs Drive Anaheim, CA 92808 Owner/Operator: Orange Unified School District (OUSD)	Running Springs Elementary School is a K-6 grade school in The Summit of Anaheim Hills community on the west side of SR-241. The school property includes outdoor play areas with a small play area, sports courts, and a sports/play field. Facilities at OUSC properties are available for use on application to the OUSD. The OUSD application form requires that "Use and occupancy of school property shall be primarily for public school purposes. Any authorized use of the property for other than public school purposes shall be subordinate to this primary purpose." It appears from the application form that the recreation facilities at this school could be used by outside groups but not necessarily just open to the public at large.	Running Springs Elementary School is in the Study Area for the Build Alternative on the west side of SR-241 as shown on Figure A.1. The nearest part of the construction area for the Build Alternative is over 2,000 feet east of the boundary of this School. There would be no use of land from the School property under Section 4(f) (permanent incorporation of land from the property into the transportation facility). There are no TCEs or other temporary occupancies, or permanent surface, aerial, or subsurface easements proposed within the boundary of the School under the Build Alternative. Because there is no permanent use or temporary occupancy of land from this School under the Build Alternative, the requirements for protection under Section 4(f) are not triggered. Visual. Based on the distance of this School from the project segment of SR-91 and the presence of intervening land uses and topography, the construction and operation of the Build Alternative would not result in short- or long-term visual impacts on users of recreational facilities at Running Springs Elementary School.

Table A.1 Resources Determined Not to Trigger the Requirements for Protection under Section 4(f)

Name, Address, and Owner/Operator of Property	Description of Facilities and/or Resources on Property	Why the Resource does not trigger the requirements for protection under Section 4(f)
		Air Quality. Based on the distance of this School from the project segment of SR-91 and the presence of intervening land uses and topography, the construction and operation of the Build Alternative would not result in short- or long-term air quality impacts on users of recreational facilities at Running Springs Elementary School. Noise. Based on the distance of this School from the project segment of SR-91 and the presence of intervening land uses and topography, the construction and operation of the Build Alternative would not result in short- or long-term impacts on users of recreational facilities at Running Springs Elementary School. Access. Construction and operation of the Build Alternative would not affect existing access to/from Running Springs Elementary School. The construction activities and project improvements would be entirely within Caltrans right-of-way and a substantial distance from this School and, therefore, would not affect the use or operation of recreational facilities at Running Springs Elementary School. Summary. The construction and operation of the Build Alternative would not result in proximity impacts on recreational facilities are Running Springs Elementary School and, therefore, would not substantially impair the protected activities, features, or attributes of this property in terms of its Section 4(f) significance. As a result, the Build Alternative would not result in constructive use of recreational facilities at Running Springs Elementary School and would not trigger the requirements for protection of this property under Section 4(f).
Other Trails and Fire Roads Owner/Operators: various	AS shown on Figure A.1, in addition to the Santa Ana River Trail/Bike Lane and the Coal Canyon Undercrossing, there are a number of other trails and fire roads in the Study Area for the Build Alternative.	As shown on Figure A.1, there are a number of trails in the Study Area for the Build Alternatives, including trails in the NNL and CHSP. There would be no use of land from any of those trails under Section 4(f) (permanent incorporation of land from the property into the transportation facility). There are no TCEs or other temporary occupancies, or permanent surface, aerial, or subsurface easements proposed within the boundary of any of the trails under the Build Alternative. Because there is no permanent use or temporary occupancy of land from any of the trails under the Build Alternative, the requirements for protection under Section 4(f) are not triggered. Visual. In the short-term during construction of the Build Alternative, sensitive viewers along trails segments with views of SR-241 and SR-91 could be exposed to views of various construction activities including vegetation clearing, grading or other substantial construction activities, and the installation of advance signage on SR-91. However, trail users views would be transitory as they pass through the area. In addition, the construction activities would be temporary, and the impacts related to views of those activities would cease after completion of construction. Therefore, no substantial short-term visual impacts would occur to trail users in the Study Area. The Build Alternative would result in long-term visual changes associated with the permanent alteration of the existing infrastructure at the SR-241/SR-91 interchange as a result of the widening of SR-241/SR-91 and existing roadway undercrossing, grading improvements, new retaining walls, piers/supports, and buffers. However, those improvements would generally not be visible from most trail segments and user views would be transitory as they pass through the Study Area. Air Quality. Site preparation and construction would involve clearing, cut-and-fill activities, grading, and paving which could temporarily generate fugitive dust and other emissions. The construction-related emissions would be substantially reduced based on compliance with Caltrans Standard Specifications for construction and SCAQMD Rule 403. As a result, construction of the Build Alternative would not result in substantial short-term air quality impacts on trail users in the Study Area. Operation of the Build Alternative would not result in changes in regional air emissions or mobile source air toxics compared to the No Build Alternative or in substantial changes in air quality emissions compared to existing conditions along SR-241 and SR-91 in the vicinity of trails in the Study Area. Noise. During construction of the Build Alternative, construction noise may intermittently dominate the noise environment in the immediate area of construction. Noise control during construction will conform to the provisions in Section 14-8.02 of Caltrans “Noise Control Requirements” and, therefore, the project construction would not result in adverse noise impacts on trail users in the Study Area. Trail users would not experience long-term noise impacts substantially different than the existing effects along SR-241 and SR-91 on trails in the Study Area. Access. Construction and operation of the Build Alternative would not affect existing access on trails in the Study Area. The construction activities and project improvements would be entirely within Caltrans right-of-way in the vicinity of the Preserve and would not affect the use or operation of the trails in the Study Area.

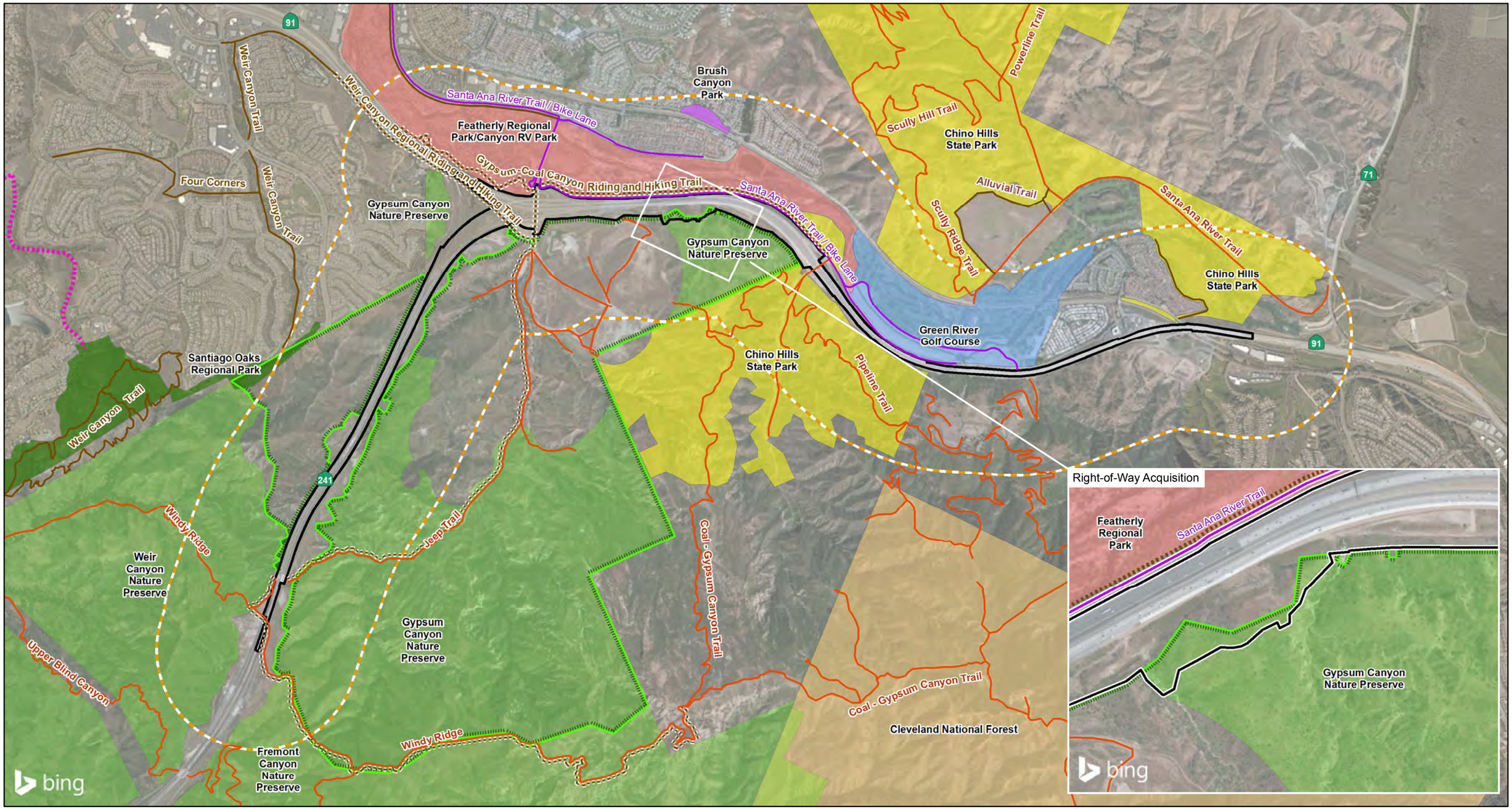
Table A.1 Resources Determined Not to Trigger the Requirements for Protection under Section 4(f)

Name, Address, and Owner/Operator of Property	Description of Facilities and/or Resources on Property	Why the Resource does not trigger the requirements for protection under Section 4(f)
		Summary. The proximity impacts of the construction and operation of the Build Alternative on trails in the Study Area would not substantially impair the protected activities, features, or attributes of those properties in terms of their Section 4(f) significance. As a result, the Build Alternative would not result in constructive use of any trails in the Study Area and would not trigger the requirements for protection of these properties under Section 4(f).

Sources: Websites:
Chino Hills State Park Website: http://www.parks.ca.gov/?page_id=648, Orange County Parks Website (accessed September 1, 2015), and California State Parks System Statistical Report, 2013/14 Fiscal Year, http://www.parks.ca.gov/?page_id=23308 (accessed October 9, 2015).
Santa Ana River Trail/Bike Lane Website: http://www.traillink.com/trail/santa-ana-river-trail-(orange-county).aspx.
Featherly Regional Park Websites: http://ocparks.com/parks/featherly/ (accessed August 31, 2015), and http://www.canyonrvpark.com (accessed September 1, 2015).
Green River Golf Club Websites: http://www.playgreenriver.com/ (accessed August 31, 2015), and http://www.golfnow.com/course-directory/california-golf-courses/corona-golf-courses/green-river-golf-club/ (accessed August 31, 2015).
Brush Canyon Park Website: https://apm.activecommunities.com/ylreconline/Facility_Search (accessed August 31, 2015).
Santiago Oaks Regional Park Websites: http://ocparks.com/parks/santiago/ (accessed August 31, 2015), and http://ocparks.com/parks/santiago/history (accessed September 1, 2015).
Weir Canyon Nature Preserve Website: http://legsgooutside.org/explore/weir-canyon-nature-preserve/ (accessed September 1, 2015).
Fremont Canyon Nature Preserve Website: http://letsgooutside.org/explore/fremont-canyon-nature-preserve/ (accessed September 1, 2015).
Running Springs Elementary School Website: http://www.orangusd.12.ca.us/schools/elementary/runningsprings/ (accessed August 31, 2015).
Irvine Ranch National Natural Landmarks Website: http://irlandmarks.wpengine.netdna-cdn.com/wp-content/uploads/2013/07/IRNLMap.jpg (accessed September 1, 2015).

NNL = National Natural Landmark
SCAQMD = South Coast Air Quality Management District
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241
TCE = temporary construction easements

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LEGEND

- Project Area
- Half-mile Radius from Project Area
- National Natural Landmark (with Preserve names)
- Featherly Regional Park
- Green River Golf Course
- Chino Hills State Park
- Santiago Oaks Regional Park
- Brush Canyon Park
- Cleveland National Forest
- Former Mountain Park Specific Plan*
- Existing Class I Bikeway
- Proposed Class I Bikeway
- Existing Trail
- Proposed Trail
- Existing Fire Trail

0 1250 2500
FEET

*Note: The area in the southeast quadrant of the SR-241/SR-91 interchange was covered under the Mountain Park Specific Plan (MPSP). In August 2014, the land owner, the Irvine Company, permanently dedicated the last remaining 2,500 acres, which was originally part of the MPSP, to the County of Orange, as a permanent open space.

SOURCE: Bing Maps (2014); City of Anaheim General Plan (2015); City of Corona (2015); County of Orange Master Planned Combination Map of Regional Trails and Bikeways (2008); Gaia GPS (2015), OCTA (2013)

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FIGURE A.1

SR-241/SR-91 Express Lanes Connector

Parks and Recreational Resources and Properties

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ATTACHMENT B

CONSULTATION CORRESPONDENCE

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DEPARTMENT OF TRANSPORTATION
DISTRICT 12
Division of Environmental Analysis
1750 East Fourth Street, Suite 100
Santa Ana, CA 92705
PHONE (657) 328-6533
FAX (657) 328-6515

Flex your power!
Be energy efficient!

July 11, 2017

JOHN GANNAWAY
Parks Division Manager
County of Orange
OC Parks
4727 Portola Parkway
Irvine, CA 92620

Re: State Route 241/State Route 91 (SR-241/SR-91) Tolled Express Lanes Connector Project Section 4(f) Proposed Final De Minimis Determination for the Permanent Use of Land from Gypsum Canyon Natural Preserve, Anaheim, California

Dear Mr. Gannaway:

The California Department of Transportation (Caltrans), as the lead agency under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), as assigned by the Federal Highway Administration (FHWA), in coordination with the Foothill/Eastern Transportation Corridor Agency (F/ETCA) and the United States Army Corps of Engineers (USACE) as a Cooperating Agency, is in the process of finalizing the Supplemental Environmental Impact Report/Environmental Impact Statement (SEIR/EIS) for the State Route 241/State Route 91 Tolled Express Lanes Connector Project in Orange and Riverside Counties.

In a letter dated October 13, 2015, Caltrans provided: information regarding the applicability of Section 4(f) (49 U.S.C. Section 303) to the Proposed Project; a description of the Build Alternative and the No Build Alternative and the proposed permanent use of approximately 5 acres (ac) of land from the Gypsum Canyon Nature Preserve in the Irvine Ranch National Natural Landmark (NNL) for the Build Alternative; and a preliminary Section 4(f) De Minimis determination (per 23 Code of Federal Regulations [CFR] Section 774) for the use of land from the NNL. A copy of the October 13, 2015 letter is attached.

Caltrans circulated the Draft SEIR/EIS for the Proposed Project for agency and public review between November 7, 2016 and January 9, 2017. The County of Orange Public Works Department provided a comment letter on the Draft SEIR/EIS (dated January 4, 2017) but did not provide any comments in that letter regarding the use of land from the NNL for the Proposed Project. No other comment letters from the County of Orange were received.

As described in the Section 3.1.3 in the Draft SEIR/EIS (and discussed in detail in Appendix B in the Draft SEIR/EIS) and in the attached October 13, 2015 letter, the Build Alternative would require the permanent acquisition of approximately 5 ac of land on the slope approximately 3,600 feet west of the Coal Canyon Undercrossing on Assessor's Parcel Number 085-071-56. The area that would

be used (permanently incorporated in the transportation facility) is in the northeast part of the Gypsum Canyon Nature Preserve (Nature Preserve). That parcel is part of the NNL, owned by the County of Orange with a Conservation Easement held by The Nature Conservancy. Section 3.1.3 in the Draft SEIR/EIS discussed the applicability of the requirements for protection under Section 4(f) to the project and Caltrans' preliminary determination that the project effect on the NNL would be a De Minimis effect per 23 CFR Part 774.

Caltrans is currently preparing the Final SEIR/EIS for the Proposed Project. The Final SEIR/EIS must include a final determination of the project effects under Section 4(f) and the confirmation of that determination by the County of Orange as the owner/operator of the affected Section 4(f) property. As discussed in the Draft SEIR/EIS, De Minimis impacts on publicly owned parks, recreation areas, and wildlife and waterfowl refuges are defined as those that do not substantially affect the activities, features, and attributes of the Section 4(f) resource. Caltrans must make a finding for each resource, and the responsible official with jurisdiction over each resource must agree in writing with that finding.

The 5 ac in the NNL that would be used by the Build Alternative represent a small percentage (0.013 percent) of the total acreage of the NNL. The primary features of the NNL include its overall size, the wide range of natural resources and geographic features, the connections to other open space and wilderness areas for wildlife, the NNL designation itself, and the overall value of such a large area of open space in a largely urbanized area. The Build Alternative would not affect the access into and out of the Nature Preserve, and there would be no interference with the features, activities, attributes, or purposes of the Nature Preserve or the NNL as a result of the Build Alternative. As noted above, based on the evaluation in the Draft SEIR/EIS, Caltrans made a preliminary De Minimis finding for the use (permanent incorporation) of 5 ac of land from the NNL and that the Build Alternative satisfies the criteria for a De Minimis determination under Section 4(f).

The Final SEIR/EIS must include a final determination of the project effects on the NNL under Section 4(f) and the concurrence of the County of Orange with that final determination. Based on the analyses provided in Section 3.1.3 and Appendix B in the Draft SEIR/EIS, Caltrans is proposing a Final De Minimis determination for the effects of the Build Alternative under Section 4(f). Caltrans is requesting that the County of Orange concur with this Final De Minimis determination. Your signature below would provide the written confirmation of the County's concurrence with the Final De Minimis determination for inclusion in the Final SEIR/EIS.

Please mail a copy this completed signature page to my attention by July 25, 2017, for inclusion in the Final SEIR/EIS. If you have any questions or require additional information, please contact me at (657) 328-6533 or smita.deshpande@dot.ca.gov.

Sincerely,

SMITA DESHPANDE
Branch Chief
Division of Environmental Analysis, Generalist Branch

Attachment: October 13, 2015 letter from Caltrans to the County of Orange

.....

The County of Orange hereby concurs with Caltrans' determination that the proposed SR-241/SR-91 Tolled Express Lanes Connector Project would not interfere with the features, activities, attributes, or purposes of the Nature Preserve or the NNL that are subject to protection under Section 4(f) (i.e., public recreation). Therefore, the County of Orange concurs with Caltrans' Final De Minimis determination for the effects of the Build Alternative under Section 4(f).

JOHN GANNAWAY
Parks Division Manager
County of Orange
OC Parks

DEPARTMENT OF TRANSPORTATION
DISTRICT 12
3347 MICHELSON DRIVE
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Flex your power!
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October 13, 2015

Mr. John Gump
Operations Manager
County of Orange
OC Community Resources/OC Parks
4727 Portola Parkway
Irvine, CA 92620

Dear Mr. Gump:

Re: State Route 241/State Route 91 (SR-241/SR-91) Express Lanes Connector Project Section 4(f) Resource Analysis Relating to Proposed Use for Gypsum Canyon Natural Preserve, Anaheim, California

The California Department of Transportation (Caltrans), as the lead agency under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), as assigned by the Federal Highway Administration (FHWA), in coordination with the Foothill/Eastern Transportation Corridor Agency (F/ETCA), and the United States Army Corps of Engineers (USACE) as cooperating agency, is in the process of producing a Draft Supplemental Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the State Route 241 (SR-241)/State Route 91 (SR-91) Express Lanes Connector Project in Orange and Riverside counties, California.

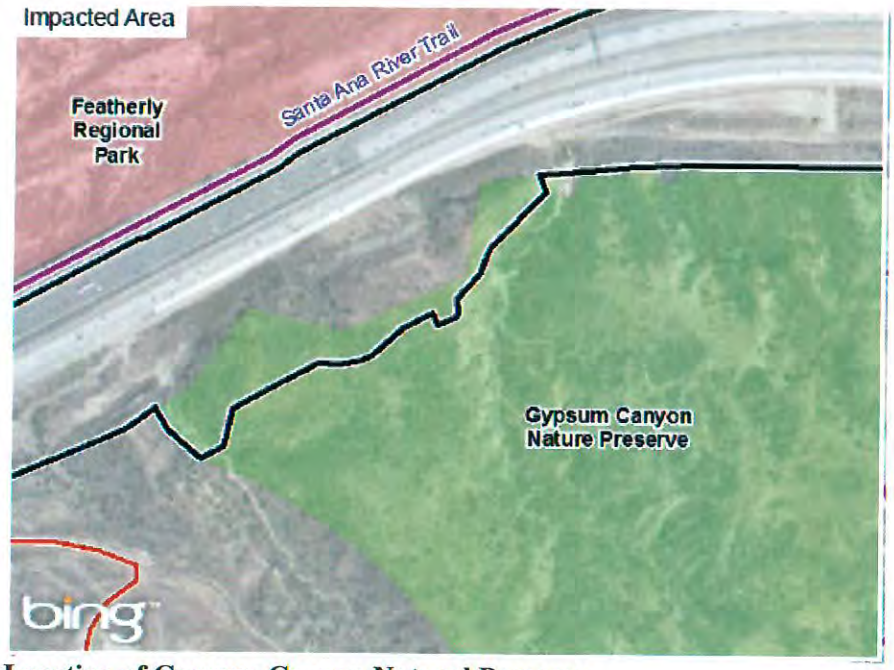
Effective October 1, 2012, Caltrans entered into a Memorandum of Understanding (MOU) pursuant to 23 U.S.C. 327 (NEPA Assignment MOU) with FHWA, in which Caltrans continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. For purposes of carrying out the responsibilities assumed under the Pilot Program, Caltrans is deemed to be acting as FHWA with respect to the environmental review, consultation, and other actions required under those responsibilities.

The proposed SR-241/SR-91 Express Lanes Connector Project may receive federal funding and/or discretionary approvals through the U.S. Department of Transportation (i.e., FHWA); therefore, documentation of compliance with Section 4(f) is required. The purpose of this letter is to share information from the Preliminary Section 4(f) Resource Analysis. Section 4(f) of the federal Department of Transportation Act of 1966 (49 U.S.C. § 303), declares that "[i]t is the policy of the United States government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

De minimis impacts on publicly owned parks are defined as those project impacts that do not adversely affect the activities, features, and attributes that qualify the property for protection under the requirements of Section 4(f). Accordingly, a Preliminary Section 4(f) De Minimis determination has been made. The Resource Analysis identifies the Section 4(f) resources in the Study Area,

describes the nature and extent of the potential effects on the property, and describes measures to minimize harm to the affected resource.

On June 30, 2010, it was announced that The Irvine Company had donated an Irvine Ranch National Natural Landmark (NNL) to the County of Orange (County) for use as parkland and that the Orange County Board of Supervisors had accepted that donation. NNLs are not currently defined as meeting the requirements for protection under Section 4(f). The Irvine Ranch NNL is managed by the Irvine Ranch Conservancy under contract to OC Parks. It is open for limited public use (Website: http://letsgooutside.org/).



Location of Gypsum Canyon Natural Preserve

The Gypsum Canyon Nature Preserve is part of the Irvine Ranch NNL. This preserve currently does not have any park or recreational features and it is geographically isolated from the rest of the preserves in the Irvine Ranch NNL (Irvine Ranch Open Space Trail Map [Website: http://ocparks.com/parks/irvineranch/]).

PROJECT DESCRIPTION

Caltrans, in cooperation with F/ETCA, proposes the SR-241/SR 91 Express Lanes Connector Project (Proposed Project) to construct a median-to-median connector between SR-241 and the tolled lanes in the median of SR-91 (SR-91 Express Lanes). The existing SR-241/SR-91 interchange connects all lanes of the northbound and southbound SR-241 to non-tolled, general purpose lanes of eastbound and westbound SR-91. There is currently no direct connection between the SR-241 and the *91 Express Lanes*.

The Proposed Project, located at the junction of SR-241 and SR-91 in the cities of Anaheim, Yorba Linda, and Corona, and the counties of Orange and Riverside, would provide improved access between SR-241 and SR-91, and is proposed to be a tolled facility. The proposed median-to-median

connector project encompasses a total length of approximately 8.7 miles (mi). The Project Location and Project Vicinity are shown in Figure 1 (all figures attached).

The improvements for the connector include 5.9 mi from south of the Windy Ridge Wildlife Undercrossing on SR-241 to Coal Canyon Undercrossing on SR-91. The remaining 2.8 mi of the Proposed Project include FasTrak signage improvements (advance signage).

Project Alternatives

The proposed median-to-median connector is a later phase of the ETC project, previously approved in 1994. It was originally evaluated as a SR-241/SR-91 high-occupancy vehicle (HOV) direct connector in the 1991 ETC Draft EIR/EIS, the 1992 ETC Final EIR, and the 1994 ETC Final EIS (all of which studied a broader Project Area with improvements on State Route 133 [SR-133], SR-241, and State Route 261 [SR-261]).

To implement this later phase of the ETC, a Draft Supplemental EIR/EIS is being prepared to focus on the northern end of the original project and to address changes to environmental conditions and regulatory requirements.

Caltrans and the F/ETCA intend to begin construction of the Proposed Project in 2017.

Build Alternative (Two-Lane Express Lanes Connector). The Build Alternative would construct a two-lane express lane median-to-median connector between SR-241 and SR-91, which would connect lanes from the median of northbound SR-241 to the existing eastbound SR-91 Express Lanes. The reverse movement would also be accommodated, from the westbound SR-91 Express Lanes to the median of southbound SR-241. The connector would be tolled. The Build Alternative is shown in Figure 2.

On southbound SR-241, an additional lane and shoulder would be provided by widening the Windy Ridge Wildlife Undercrossing into the existing median and improving the highway median. On northbound SR-241, an additional lane and shoulder would be provided by improving the highway median. The two connector lanes would converge within the existing median on fill and two new bridge structures.

The Gypsum Canyon Road on- and off-ramps and the northbound-SR-241-to-eastbound-SR-91 general purpose connector would be realigned to accommodate the Proposed Project.

Existing eastbound SR-91 lanes would be shifted to the south by adding pavement to the south and restriping. Approximately 3,600 ft west of Coal Canyon Undercrossing, grading would occur and a retaining wall would be constructed. The grading and construction of an access road would encroach into County-owned land on Assessor's Parcel Number (APN) 085-071-56. Approximately 5 acres (ac) of land on this parcel would be acquired from the County of Orange for Caltrans right-of-way.

No Build Alternative. Under this alternative, no direct toll connector would be constructed between SR-241 and SR-91. The No Build Alternative:

- Would not close the connector gap between SR-241 and the SR-91 Express Lanes;
- Would not prevent motorists from inappropriately "queue jumping" during congested traffic periods, thereby disrupting traffic flow on the northbound SR-241 connector to the eastbound SR-91 general purpose lanes during PM Peak hours; and
- Would provide a benchmark by which the public and decision-makers can compare the magnitude of the effects of the Build Alternative.

PERMANENT ACQUSITION OF COUNTY-OWNED LAND

The SR-241/SR-91 Express Lanes Connector Project would permanently acquire approximately 5 ac of land on the slope approximately 3,600 ft west of Coal Canyon Undercrossing, on APN 085-071-56. This parcel is part of the Irvine Ranch NNL, owned by the County with a Conservation Easement held by The Nature Conservancy.

While the extent of project improvements is under review, Caltrans has determined that the improvement at the Irvine Ranch NNL will be considered a de minimis impact per 23 Code of Federal Regulations 774. This finding is based on the isolated nature and lack of recreational amenities on the subject parcel. The Proposed Project would result in direct use of the Irvine Ranch NNL through permanent acquisition of approximately 5 ac of this property; however, this use would not diminish the function of the NNL and the impacts do not adversely affect the activities, features, and attributes that qualify the property for protection under the requirements of Section 4(f). Further consultation is necessary to confirm a de minimis impact finding of this direct use under Section 4(f). Currently the Draft Supplemental EIR/EIS is scheduled for circulation to the public in mid-2016. The Section 4(f) Resource Analysis will be included as an appendix to the Draft Supplemental EIR/EIS. As per FHWA and Caltrans guidelines, Caltrans will be in contact with you prior to finalizing the Supplemental EIR/EIS in order to finalize this de minimis finding.

Sincerely,

Smita Deshpande

SMITA DESHPANDE
Branch Chief
Division of Environmental Analysis, Generalist Branch

Attachments: Figure 1, Project Location
Figure 2, Build Alternative

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Appendix C Title VI of the Civil Rights Act of 1964

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DEPARTMENT OF TRANSPORTATION
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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

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Appendix D Avoidance, Minimization, and/or Mitigation Summary

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Date: January 2020
Environmental Coordinator: Bahar Heydari
Phone No.: (657) 328-6155

ENVIRONMENTAL COMMITMENTS RECORD
(ECR)

District-County–Route: 12-ORA-241 PM 36.1/39.1, 12-ORA-91 PM 14.7/18.9
EA and Project No: 0K9700 and 1200020097
Project Description: SR-241/SR-91 Express Lanes Connector

Task and Brief Description[1]	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
DESIGN KICK-OFF	Project Management and Project Development	Beginning of 1 phase							
ENVIRONMENTAL PS&E REVIEW	Project Management and Environmental	District Plans, Specifications and Estimates (PS&E) Circulation							
PRECONSTRUCTION MEETING	Project Management	Contract Award							
Transfer Resident Engineer Book	Project Engineer	Preconstruction Meeting							
PREJOB MEETING	Project Management and Construction	Construction							
ENVIRONMENTAL COMPLIANCE REVIEW	Project Management and Construction	Safety Review							
DESIGN FEATURES MEMORANDUM	Project Management and Construction	Post Construction							
Land Use									
Minimization Measure LU-1: Uniform Act and Park Preservation Act Compliance. Where acquisition and relocation are unavoidable, the provisions of the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended), Title 49 Code of Federal Regulations (CFR) Part 24 and, where applicable, the California Public Park Preservation Act of 1971 will be followed.	Project Engineer	During Final Design and right-of-way acquisition	No						
Utilities and Emergency Services									
Minimization Measure UES-1: Utilities. During final design, utility protection-in-place plans will be prepared in consultation with the affected utility providers/owners for those utility facilities anticipated to be relocated, removed, and protected in-place. Final design will focus on avoiding utility relocations. If relocation is necessary, final design will focus on relocating utilities within the State right-of-way or within other existing public rights-of-way and/or easements. If relocation outside of existing or the additional public rights-of-way and/or easements required for the project is necessary, final design will focus on relocating those facilities in such a manner as to minimize environmental impacts as a result of project construction and ongoing maintenance and repair activities. The utility relocation plans will be included in the project specifications. Prior to and	Project Engineer, Resident Engineer, and Construction Contractor	During Final Design and during construction	No						

[1] Note: Mitigation measures which reduce impacts to a level below significant under CEQA are denoted with an asterisk (*).

Task and Brief Description[1]	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
during construction, the F/ETCA will ensure that the components of any utility relocation plans provided in the project specifications are properly implemented by the construction contractor.									
Minimization Measure UES-2: Law Enforcement, Fire Protection, and Emergency Medical Service Providers. Prior to and during construction, the F/ETCA will require the construction contractor to coordinate all temporary ramp and lane closures and detour plans with law enforcement, fire protection, and emergency medical service providers to minimize temporary delays in emergency response times. The plans shall be developed in coordination with the affected agencies and shall include the identification of alternative routes and access to construction areas for emergency vehicles.	Project Engineer, Resident Engineer, and Construction Contractor	During Final Design and construction	No						
Minimization Measure UES-3: Law Enforcement, Fire Protection, and Emergency Medical Service Providers. Prior to operation of the connector, an emergency call box shall be placed along the alignment in compliance with OCTA Call Box placement policies.	Project Engineer, Resident Engineer, and Construction Contractor	During construction	No						
ETC Final EIR and Final EIS Measure U-2. *In conjunction with Final Design, the TCA shall explore the joint use of Corridor maintenance roads, if needed, by the County and utility companies. (North and East Legs)*	Project Engineer	During Final Design	No						
ETC Final EIR and Final EIS Measure PS-2. *The impact on other law enforcement agencies is considered to be minor. Implementation of several measures by the TCA shall assist law enforcement agencies in fulfilling their responsibilities and in avoiding confusion in providing service to their jurisdictions. These measures are: clear identification of jurisdictional boundaries along the Corridor, clearly signed and well-lit intersections, and distance location markers along the Corridor. (North and East Legs)*	Project Engineer	During Final Design	No						
Traffic and Transportation/Pedestrian and Bicycle Facilities									
Minimization Measure TR-1: Transportation Management Plan. Ensure that a Transportation Management Plan (TMP) is completed in consultation with the California Department of Transportation and included in the Plans, Specifications, and Estimates for implementation by the contractor prior to and during construction of any project improvements. The TMP will be consistent with the Caltrans Transportation Management Plan Guidelines (November 2015), which includes coordination with affected jurisdictions, transportation agencies, and public	Project Engineer, Project Traffic Engineer, and Resident Engineer	During Final Design and construction	No						

Task and Brief Description[1]	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
outreach. The TMP will be prepared by a qualified traffic engineer and will address traffic impacts from temporary detours and weekend or nighttime closures to reduce traveler delays and enhance traveler safety during project construction. The TMP may include the following elements: • Public awareness campaign • Highway advisory radio • Portable changeable message signs • Temporary loop sensor/signals • Bus or shuttle service • Construction Zone Enhanced Enforcement Program • Incident management • Staging construction • Traffic control plan • Freeway service patrol • Transportation management team (TMT)									
ETC Final EIR and Final EIS Measure T-13. *During final design, the TCA shall establish ETC bridge structure clearances to provide an absolute minimum construction false work vertical clearance of 14.0 feet over existing and planned arterial undercrossing identified in the Orange County Master Plan of Arterial Highways.*	Project Engineer	During Final Design	No						
ETC Final EIR and Final EIS Measure C-15. *All traffic control measures shall conform with applicable local and State Regulations*.	Project Engineer and Resident Engineer	During Final Design and construction	No						
Visual									
Minimization Measure V-1: Lighting Fixtures. In conjunction with Final Design, proposed lighting fixtures shall be hooded where feasible and lighting shall be directed on the site to minimize potential intrusion of light and glare onto nearby land uses. Lighting shall be designed consistent with the existing lighting along the State Route 241 corridor.	Project Engineer and Construction Contractor	During Final Design	No						
Minimization Measure V-2: Hillsides. To avoid visual impacts resulting from cut hillsides and filled topography, hills should be preserved where possible. All disturbed areas associated with cut-and-fill activities should appear similar in color to existing topography. Manufactured fill slopes should not exceed a four-to-one ratio. Manufactured cut slopes should not exceed a two-to-one ratio. Rounding of manufactured slopes should be applied.	Project Engineer and District Landscape Architect	During Final Design	No						
Minimization Measure V-3: Architectural Treatments. To maintain consistency with the existing infrastructure (i.e., bridges and walls, etc.) in the Project Area, landscape and/or architectural treatments (i.e., color, texture, etc.) for the structure elements of the Proposed Project shall be	Project Engineer and District Landscape Architect	During Final Design	No						

Task and Brief Description[1]	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
determined in consultation with the District Landscape Architect during the Final Design process.									
Minimization Measure V-4: Landscaping. To maintain the context of the Project Area (color, form, and texture) the Proposed Project shall install landscaping that is compatible with the existing landscape along the freeway. The landscape concept and plant palette shall be determined in consultation with the District Landscape Architect during the Final Design process. Erosion control plant species utilized shall be determined by the District Landscape Architect to ensure that the mix and application strategy is appropriate for the specific soil composition of the area. Drought-tolerant native species shall be used adjacent to areas of native habitat. Enhanced plantings shall occur adjacent to wildlife crossings.	Project Engineer and District Landscape Architect	During Final Design	No						
Minimization Measure V-5: Construction Lighting. For all nighttime construction activities, necessary lighting for safety and construction purposes shall be contained and directed toward the specific area of construction.	Resident Engineer and District Landscape Architect	During construction	No						
Minimization Measure V-6: Context-sensitive Solutions. Context-sensitive solutions will be used. Slopes graded for the Build Alternative will be contoured consistent with the existing topography, and all disturbed soil areas will be seeded with drought-tolerant native plant species consistent with existing vegetation.	Resident Engineer, District Landscape Architect, and Construction Contractor	During Final Design and construction	No						
Minimization Measure V-7: Tree Planting. Permanently impacted Coast live oak, California walnut, and sycamore trees will be replaced at a minimum 1:1 ratio. Heritage oaks (oaks greater than 36 inches in diameter at breast height) will be replaced at a minimum 3:1 ratio.	Resident Engineer, District Landscape Architect, and Construction Contractor	During construction	No						
ETC Final EIR and Final EIS Measure C-19. *Where appropriate and feasible, construction staging areas shall be located inconspicuously to minimize adverse visual effects on residential and recreation areas. They shall be located to avoid any additional impacts on biological, historical or cultural resources. (Construction Staging, North and East Legs)*	Project Engineer, Resident Engineer, and Construction Contractor	During Final Design and construction	No						
Cultural Resources									
Avoidance and Minimization Measure CR-1: Cultural Materials. If cultural materials are discovered during construction, all earthmoving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find. At that time, the Caltrans District 12 Environmental	Resident Engineer, Construction Contractor, and District Environmental Specialist	Construction and after construction	No						

Task and Brief Description[1]	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
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Branch Chief will be contacted to ensure that Section 106 compliance is maintained. Section 106 compliance could include: excavation in accordance with a data recovery plan and standard archaeological field methods and procedures; laboratory and technical analyses; report of findings; curation at an appropriate facility for future research and/or display; an interpretive display at a local school, museum, or library; and public lectures at local schools and/or historical societies on the findings and significance of the site and recovered archaeological materials.									
Avoidance and Minimization Measure CR-2: Human Remains. If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities will cease in any area or nearby area suspected to overlie remains, and the County Coroner will be contacted. Pursuant to Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the Coroner will notify the Native American Heritage Commission (NAHC), who will designate the Most Likely Descendant (MLD). At this time, the Caltrans District 12 Environmental Branch Chief will be contacted so that they may work with the MLD on the respectful treatment and disposition of the remains. The MLD recommendations may include scientific removal and nondestructive analysis, preservation in place, relinquishment to the descendants for treatment, or any other culturally appropriate treatment. Further provisions of PRC 5097.98 are to be followed as applicable.	Resident Engineer, Construction Contractor, and District Environmental Specialist	Construction and after construction	No						
Water Quality and Storm Water Runoff									
Minimization Measure WQ-1: Construction General Permit. The Proposed Project will comply with the requirements prescribed in the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) Order No. 2009-009-DWQ, as amended, or any future replacement permit. The Proposed Project shall comply with the Construction General Permit by preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP) to address all construction-related activities, equipment, and materials that have the potential to impact water quality for the appropriate Risk Level. The SWPPP will identify the sources of pollutants that may affect the quality of storm water and include Best Management Practices (BMPs) to	Resident Engineer and Construction Contractor	During construction	No						

Task and Brief Description[1]	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
control the pollutants, such as Sediment Control, Catch Basin Inlet Protection, Construction Materials Management and Nonstorm Water BMPs. All work shall conform to the Construction Site BMP requirements specified in the latest edition of the Caltrans *Storm Water Quality Handbooks: Construction Site Best Management Practices Manual* to control and minimize the impacts of construction and construction-related activities, materials, and pollutants on the watershed. These include, but are not limited to, temporary sediment control, temporary soil stabilization, waste management and materials pollution control, wind erosion control, and other nonstorm water BMPs.									
Minimization Measure WQ-2: Caltrans Permit. The Proposed Project will comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit, *Waste Discharge Requirements (WDRs) for the State of California, Department of Transportation*, Order No. 2012-0011-DWQ, NPDES No. CAS000003 (Caltrans Permit), as amended, or any future replacement permit.	Resident Engineer and Construction Contractor	During construction	No						
Minimization Measure WQ-3: Design Pollution Prevention Best Management Practices. Caltrans-approved Design Pollution Prevention BMPs will be implemented to the maximum extent practicable (MEP) consistent with the requirements of the *Waste Discharge Requirements (WDRs) for the State of California, Department of Transportation*, Order No. 2012-0011-DWQ, NPDES No. CAS000003 (Caltrans Permit) and the Caltrans Project Planning and Design Guide. Design Pollution Prevention BMPs include preservation of existing vegetation, slope/surface protection systems (erosion control/reseeding and replanting of vegetation) dikes, overside drains, and concentrated flow conveyance systems such as ditches, berms, and biofiltration swales and strips.	Project Engineer and Resident Engineer	During Final Design and construction	No						
Minimization Measure WQ-4: Treatment Best Management Practices. Caltrans-approved Treatment BMPs will be implemented to the MEP consistent with the requirements of the Caltrans Permit, which is described in Measure WQ-2 and the Project Planning and Design Guide. Treatment BMPs may include biofiltration swales, biofiltration strips, and media filters.	Project Engineer, Resident Engineer, and Construction Contractor	During Final Design and construction	No						
Minimization Measure WQ-5: Groundwater Dewatering. If groundwater dewatering is required, the Proposed Project will comply with the provisions of General Waste Discharge Requirements for Discharges to Surface Waters	Resident Engineer and Construction Contractor	During construction	No						

Task and Brief Description[1]	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
that Pose an Insignificant (De Minimis) Threat to Water Quality, Order No. R8-2015-0004, NPDES No. CAG998001, as they relate to discharge of non-storm water dewatering wastes for the Proposed Project.									
ETC Final EIR and Final EIS Measure W-12. *In conjunction with final design, entry into drainages shall be avoided during site preparation, grading and construction, except where required for construction. Activity in drainages shall be limited to crossings rather than using the lengths of drainage courses for access or for parking automobiles, trucks, and construction equipment. In addition, these areas will be marked for "limited access" on construction plans.*	Project Engineer, Resident Engineer, and Construction Contractor	During Final Design and construction	No						
ETC Final EIR and Final EIS Measure W-14. *During site preparation, grading, and construction, vehicles and equipment shall not be parked in washes or other drainages.*	Resident Engineer and Construction Contractor	During construction	No						
ETC Final EIR and Final EIS Measure W-15. *During site preparation, grading and construction, overwatering shall be avoided in washes and other drainages.*	Project Engineer and Construction Contractor	During construction	No						
ETC Final EIR and Final EIS Measure WQ-2. *The TCA will ensure that all herbicides used in landscaping and weed control are handled, stored, applied, and disposed of consistent with all applicable federal, state, and local regulations.*	Resident Engineer and Construction Contractor	During construction	No						
ETC Final EIR and Final EIS Measure WQ-3. *Whenever feasible, construction vehicles will be rinsed before leaving the construction area to remove mud and other materials before the vehicles leave the site.*	Resident Engineer and Construction Contractor	During construction	No						
ETC Final EIR and Final EIS Measure E-1. *In conjunction with final design, the TCA shall map native vegetation outside the right-of-way on grading and construction plans to indicate vegetation to protect from use as vehicle travel or parking areas, storage of equipment and storage of debris or building materials.*	Project Engineer and Construction Contractor	During Final Design and construction	No						
ETC Final EIR and Final EIS Measure E-3. *During final design, the TCA shall ensure that all proposed grading shall conform to the Caltrans Highway Design Manual and the TCA Project Manual Guidelines. All applicable policies and guidelines shall be listed in the grading plans.*	Project Engineer, Resident Engineer, and Construction Contractor	During Final Design and construction	No						
ETC Final EIR and Final EIS Measure E-6. *In conjunction with final design, the TCA shall ensure that cut and fill slopes shall not be steeper than 2:1. Where steeper slopes are indicated, TCA shall, in conjunction with final design, prepare geologic and engineering analyses. These analyses shall*	Project Engineer, Resident Engineer, and Construction Contractor	During Final Design and construction	No						

Task and Brief Description[1]	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
determine the safety of those slopes and proposed erosion control measures consistent with Caltrans design standards.									
ETC Final EIR and Final EIS Measure E-9. *As part of final design, TCA shall ensure that all slopes shall conform to slope criteria developed by TCA and Caltrans. All slope criteria shall be noted on final plans.*	Project Engineer, Resident Engineer, and Construction Contractor	During Final Design and construction	No						
ETC Final EIR and Final EIS Measure E-10. *Fills shall not encroach on natural watercourses or improved channels except as shown on the approved project plans.*	Project Engineer, Resident Engineer, and Construction Contractor	During Final Design and construction	No						
ETC Final EIR and Final EIS Measure E-11. *Fills placed against watercourses shall have suitable protection against erosion during storm flows, such as riprap, protective walls, and culverts.*	Resident Engineer and Construction Contractor	During construction	No						
ETC Final EIR and Final EIS Measure E-12. *During site preparation, grading, and construction, the TCA shall ensure that excavated materials shall not be deposited or stored in or alongside watercourses where the materials can be washed away by high water or storm runoff.*	Resident Engineer and Construction Contractor	During construction	No						
ETC Final EIR and Final EIS Measure E-13. *During site preparation and grading, the TCA shall ensure that all land shall be graded to drain and dispose of surface water without ponding, except where approved by Caltrans or the affected responsible public agency.*	Resident Engineer and Construction Contractor	During construction	No						
Geology									
Minimization Measure GEO-1: Final Geotechnical Report. During Final Design, a qualified geotechnical engineer will conduct a comprehensive geologic and geotechnical investigation and prepare a design-level geotechnical report. This report will document geology-related constraints and hazards such as fault-induced ground rupture, slope instability, settlement, liquefaction, or related secondary seismic impacts that may be present along the alignment of the Build Alternative. The performance standard for this report will be the California Department of Transportation's (Caltrans) Geotechnical Manual (2012 or most recent version) standards as they apply to the project features and structures. The measures recommended in the design-level geotechnical report will be incorporated into the Final Design and project specifications. The construction contractor will implement the measures recommended in the design-level geotechnical reports as included in the project design and specifications.	Project Engineer, Construction Contractor, and Project Geotechnical Engineer	During Final Design	No						

Task and Brief Description[1]	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
Minimization Measure GEO-2: Quality Assurance/Quality Control Plan. During Final Design, a quality assurance/quality control (QA/QC) plan will be prepared and implemented during construction. The QA/QC plan will include observing, monitoring, and testing by the Project Geotechnical Engineer and/or the Project Geologist prior to and during construction to confirm that the geotechnical/geologic recommendations from the design-level geotechnical report and standard design and construction practices are fulfilled by the contractor, or if different site conditions are encountered, appropriate changes are made to accommodate such issues. Weekly reports will be prepared during all project-related grading, excavation, and construction activities.	Project Engineer, Resident Engineer, Construction Contractor, and Project Geotechnical Engineer	During Final Design and during construction	No						
Paleontology									
Mitigation Measure PAL-1: Paleontological Mitigation Plan.* During Final Design a Paleontological Mitigation Plan (PMP) will be prepared and adhered to during construction. The PMP will follow the guidelines of the Society of Vertebrate Paleontologists (SVP) and Caltrans. The PMP requires inclusion of, but not limited to, the following items a through h: a. Attendance at the pregrade meeting by a qualified paleontologist or representative; b. Preconstruction field survey by the paleontological mitigation team; c. Monitoring during construction excavation by the paleontological mitigation team; d. Collection of representative samples from geologic formations; e. Sieving of bulk samples for microfossil recovery; f. Preparation of specimens to the point of identification and permanent preservation; g. Curation of fossils into a repository with permanent retrievable storage that meets Caltrans' requirements; and h. Preparation of a Paleontological Mitigation Report documenting the implementation of the Paleontological Mitigation Plan.	Project Engineer, Resident Engineer, Construction Contractor, Project Paleontologist, and District Environmental Specialist	During Final Design, construction, and post construction	No						

Task and Brief Description[1]	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
Hazardous Waste/Materials									
Minimization Measure HAZ-1: Aerially Deposited Lead. Consistent with Minimization Measure MW-3 of the State Route 91 Corridor Improvement Project Final Environmental Impact Report/Environmental Impact Statement (SR-91 CIP 2012 Final EIR/EIS), dated August 2012, the Project Engineer will ensure that a qualified consultant conducts a new soil Aerially Deposited Lead (ADL) evaluation and/or investigation for this project at the Design Phase. The previous ADL test results may be used if applicable along with any new ADL test results. The new soil ADL evaluation and/or investigation will be consistent with the new DTSC Lead Agreement contaminant concentration limits. In addition, new DTSC Lead Agreement soil reuse requirements and restrictions will apply. A Lead Compliance Plan will be prepared to address workers' health and safety.	Project Engineer, Construction Contractor, and Certified Specialist	During Final Design (35 percent Design for work plan and 65 percent Design for evaluation and/or investigation)	No						
Minimization Measure HAZ-2: Asbestos-Containing Materials. During the design phase, a certified specialist will confirm the presence or absence of asbestos in the Gypsum Canyon Road Undercrossing, if demolition/renovation of the bridge structure will occur as part of the Project. If asbestos is present, the certified asbestos abatement specialist should monitor the disposal of the asbestos-containing materials as they are uncovered. The construction contractor will comply with the Caltrans Standard Specifications Section 14-9.02 pertaining to air pollution control compliance with rules, regulations, ordinances, and statues during renovation and demolition activities.	Project Engineer, Resident Engineer, Construction Contractor, and Certified Specialist	During Final Design and construction	No						
Minimization Measure HAZ-3: Treated Wood Waste. During construction, the construction contractor will comply with Caltrans Standard Specifications Section 14-10 pertaining to the handling and disposal of treated wood waste.	Resident Engineer and Construction Contractor	During construction	No						
Minimization Measure HAZ-4: Traffic Striping. During construction, the construction contractor will comply with Caltrans Standard Specifications Section 14-11 pertaining to the testing, removal, and disposal of any traffic striping and pavement-marking materials.	Resident Engineer and Construction Contractor	During construction	No						

Task and Brief Description[1]	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
Minimization Measure HAZ-5: Petroleum Pipeline. During construction, the construction contractor will comply with Caltrans Standard Specifications pertaining to excavation. The contractor shall notify the regional notification center, ensuring that all utility owners within the project disturbance limits identify the locations of underground transmission lines and facilities (including underground petroleum pipelines).	Resident Engineer and Construction Contractor	During construction	No						
Minimization Measure HAZ-6: Construction Contingency Plan. Prior to the start of construction, the construction contractor will prepare a Construction Contingency Plan (CCP) in accordance with Caltrans Unknown Hazards Procedures for Construction, in the Caltrans Construction Manual. The CCP will include provisions for emergency response in the event that unidentified hazardous materials, petroleum hydrocarbons, or hazardous or solid wastes are discovered during construction activities. The CCP will address field screening, contaminant materials testing methods, mitigation and contaminate management requirements, and health and safety requirements for construction workers. The construction contractor will implement the CCP during all construction activities. During construction, the Resident Engineer will require the construction contractor to cease work immediately if an unexpected release of hazardous substances is found in reportable quantities. If an unexpected release of hazardous substances is found in reportable quantities, the Resident Engineer will require the construction contractor to notify the National Response Center by calling 1-800-424-8802. The construction contractor will perform cleanup of unexpected releases under the appropriate federal, State, and local agency oversight.	Resident Engineer and Construction Contractor	During Final Design and construction	No						
ETC Final EIR and Final EIS Measure HW-2. *Hazardous substances are strictly regulated by the Environmental Protection Agency (U.S. EPA), the California and National Occupational Safety and Health Administration (OSHA) and the United States Department of Transportation (DOT). The DOT specifies the procedures for safely transporting hazardous materials, as well as the procedures to follow in case of accidental spills during transport, in the 49 Code of Federal Regulations (CFR) series of regulations (parts 100 through 177). U.S. EPA specifies the requirements for proper labeling and placarding of hazardous substances. The American National Standards*	Resident Engineer and Construction Contractor	During construction	No						

Task and Brief Description[1]	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
Institute recommends safety procedures for handling and storing hazardous materials, and OSHA specifies the procedures required for using and storing hazardous materials. These procedures shall be followed during all ETC site preparation, grading, construction, operations, and maintenance.									
Air Quality									
Minimization Measure AQ-1: Fugitive Dust Source Controls. During clearing, grading, earthmoving, and excavation operations, excessive fugitive dust emissions will be controlled by regular watering or other dust preventive measures using the following procedures, as specified in the South Coast Air Quality Management District (SCAQMD) Rule 403. • All material excavated or graded will be sufficiently watered to prevent excessive amounts of dust. • Watering will occur at least twice daily with complete coverage, preferably in the late morning and after work is done for the day. • All material transported on site or off site will be either sufficiently watered or securely covered to prevent excessive amounts of dust. The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized so as to prevent excessive amounts of dust. • These control techniques will be indicated in project specifications. Visible dust beyond the property line emanating from the Proposed Project will be prevented to the maximum extent feasible.	Resident Engineer and Construction Contractor	During construction	No						
Minimization Measure AQ-2: Ozone Precursor Emission Controls. Construction equipment vehicle engines will be maintained in good condition and in proper tune per manufacturers' specifications in order to minimize emissions.	Resident Engineer and Construction Contractor	During construction	No						
Minimization Measure AQ-3: Prevention of Spills onto Public Streets. All trucks hauling excavated or graded material on site will comply with State Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2), and (e)(4), as amended, regarding the prevention of such material spilling onto public streets and roads.	Resident Engineer and Construction Contractor	During construction	No						

Task and Brief Description[1]	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
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Minimization Measure AQ-4: Caltrans Standard Specifications for Construction. The contractor will adhere to Caltrans Standard Specifications for Construction (Sections 14-9.02 and 14-9.03).	Resident Engineer and Construction Contractor	During construction	No						
Minimization Measure AQ-5: Construction Vehicles Prohibition. All construction vehicles both on- and off-site shall be prohibited from idling in excess of 5 minutes.	Resident Engineer and Construction Contractor	During construction	No						
Noise									
Minimization Measure N-1: Control of Construction Noise Levels. The control of noise from construction activities will conform to the California Department of Transportation (Caltrans) Standard Specifications, Section 14-8.02, "Noise Control." The nighttime noise level from the contractor's operations, between the hours of 9:00 p.m. and 6:00 a.m., will not exceed 86 A-weighted decibels (dBA) one-hour A weighted equivalent continuous sound level ($L_{eq}(h)$) at a distance of 50 feet.	Resident Engineer and Construction Contractor	During construction	No						
Minimization Measure N-2: Deck Specifications. To ensure that noise impacts are minimized, the deck texture on the direct connector ramps will be constructed using the new quieter longitudinally-tined Groove and Grind deck specification, instead of a transversely-tined texture.	Resident Engineer and Construction Contractor	During construction	No						
Natural Communities									
Minimization Measure NC-1: Coastal California Gnatcatcher Environmentally Sensitive Areas. *Prior to the commencement of grading operations or other activities involving substantial soil disturbance, all areas of CSS habitat to be avoided under the provisions of the NCCP/HCP shall be identified with temporary fencing or other markers clearly visible to construction personnel. Additionally, prior to the commencement of grading operations or other activities involving disturbance of CSS, a survey will be conducted to locate CAGN and cactus wrens within 100 ft of the outer extent of projected soil disturbance activities. The locations of any such species shall be clearly marked and identified on the construction/grading plans.*	Construction Contractor and Monitoring Biologist	Prior to construction	No						
Minimization Measure NC-2: Nesting Coastal California Gnatcatcher. *During clearing or construction, to the maximum extent practicable, no grading of CSS habitat that is occupied by nesting CAGN will occur during the breeding season (February 15 through July 15). It is expressly understood that this provision and the remaining provisions of these "construction-related*	Resident Engineer, Construction Contractor, and Project Biologist	During clearing or construction	No						

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minimization measures" are subject to public health and safety considerations. These considerations include unexpected slope stabilization, erosion control measures, and emergency facility repairs. In the event of such public health and safety circumstances, landowners or public agencies/utilities will provide USFWS/CDFW with the maximum practicable notice (or such notice as is specified in the NCCP/HCP) to allow for capture of CAGN, cactus wrens (Campylorhynchus brunneicapillus), and any other CSS Identified Species that are not otherwise flushed and will carry out the following measures only to the extent practicable in the context of the public health and safety considerations. (Note: While this text is taken directly from NCCP/HCP Construction Minimization Measures to preserve their integrity, the capture and relocation of birds is not encouraged or authorized by the USFWS.) The breeding season is now considered to be from February 15 through August 31; therefore, these dates are applicable to this measure.									
Minimization Measure NC-3: Biological Monitor. *A monitoring biologist acceptable to USFWS/CDFW will be on site during any clearing of CSS. The landowner or relevant public agency/utility will advise USFWS/CDFW at least 7 calendar days (preferably 14 calendar days) prior to the clearing of any habitat occupied by Identified Species to allow USFWS/CDFW to work with the monitoring biologist in connection with bird flushing/capture activities. The monitoring biologist will flush Identified Species (avian or other mobile Identified Species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities. If birds cannot be flushed, they will be captured in mist nets, if feasible, and relocated to areas of the site to be protected or to the NCCP/HCP Reserve System.* (Note: While this text is taken directly from NCCP/HCP Construction Minimization Measures to preserve their integrity, the capture and relocation of birds is not encouraged or authorized by the USFWS.) *It will be the responsibility of the monitoring biologist to ensure that Identified Species will not be directly impacted by brush-clearing and earth-moving equipment in a manner that also allows for construction activities on a timely basis.*	Resident Engineer, Construction Contractor, and Project Biologist	During vegetation clearing	No						

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Minimization Measure NC-4: Coastal Sage Scrub Environmentally Sensitive Area. *Following the completion of initial grading/earth movement activities, all areas of CSS habitat to be avoided by construction equipment and personnel will be marked with temporary fencing or other appropriate markers clearly visible to construction personnel. No construction access, parking, or storage of equipment or materials will be permitted within such marked areas.*	Resident Engineer, Project Biologist, and Construction Contractor	During construction	No						
Minimization Measure NC-5: Coastal Sage Scrub Access Restrictions. *In areas bordering the NCCP/HCP Reserve System or Special Linkage/Special Management areas containing substantial CSS identified in the NCCP/HCP for protection, vehicle transportation routes between cut-and-fill locations will be restricted to a minimum number during construction consistent with project construction requirements. Waste dirt or rubble will not be deposited on adjacent CSS identified in the NCCP/HCP for protection. Preconstruction meetings involving the monitoring biologist, construction supervisors, and equipment operators will be conducted and documented to ensure maximum practicable adherence to these measures.*	Resident Engineer, Project Biologist, and Construction Contractor	During construction	No						
Minimization Measure NC-6: Coastal Sage Scrub Dust Control. *CSS identified in the NCCP/HCP for protection and located within the likely dust drift radius of construction areas shall be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist.*	Resident Engineer, Project Biologist, and Construction Contractor	During construction	No						
Minimization Measure NC-7: Coast Live Oak Tree Environmentally Sensitive Areas. Prior to clearing or construction, highly visible barriers and, as needed, silt fencing will be installed around the protected zone of any oak tree or oak habitat. Such areas will be designated on the project specifications as Environmentally Sensitive Areas (ESAs) to be preserved. The ESAs will extend 5 ft outside the dripline or 15 ft from the trunk of each tree, whichever is greater, unless the area includes a road shoulder or existing asphalt. In those instances, safety requires the road shoulder or existing asphalt not be included in the ESA and the boundary of the ESA will be modified accordingly. These modified ESAs are included because impacts to oaks may occur within these road shoulder and asphalt areas if roots become exposed, soil surrounding roots is excessively compacted, material is deposited over roots, or	Resident Engineer, Project Biologist, and Construction Contractor	Prior to vegetation clearing or construction	No						

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branches or roots are broken or damaged. In addition, to avoid breaking overhanging branches, branch trimming may be required. Proper tree pruning procedures will be followed. No grading or fill activity of any type will be permitted within the ESAs for trees that are expected to be preserved. In addition, heavy equipment, including motor vehicles, will not be allowed to operate in the ESAs. All construction equipment will be operated in such a manner as to prevent accidental damage to nearby oaks. No structure of any kind, or incidental storage of equipment or supplies, will be allowed in the ESAs. Silt fence barriers will be installed at the ESA boundaries to prevent accidental deposition of fill material in areas where trees are immediately adjacent to planned construction activities.									
Minimization Measure NC-8: Coast Live Oak Tree Replacement. During Final Design, the TCA will develop a revegetation program to help compensate for lost oak trees with spacing criteria to be determined by the Project Biologist. Senate Concurrent Resolution No. 17 (filed with the Secretary of State on September 1, 1989) requests all State agencies to preserve and protect native oak woodlands to the maximum extent feasible or to provide for replacement plantings. Impacts to any oak trees (excluding California scrub oaks) with trunk sizes greater than 8 inches diameter at breast height (dbh), but less than 36 inches dbh, will be replaced at a minimum mitigation-to-impact ratio of 1:1. Heritage oaks (oaks greater than 36 inches dbh) will be replaced at a minimum mitigation-to-impact ratio of 3:1. Replacement resources will include a combination of plantings such as acorns, 5-gallon, and 15-gallon trees and/or transplantation where feasible. Replacement plantings may take place in TCA or Caltrans right-of-way or suitable areas in proximity to the project limits.	Project Engineer, Resident Engineer, and Project Biologist	During Final Design and after construction	No						
Minimization Measure NC-9: Existing Wildlife Fencing. If necessary for construction access, the existing wildlife fencing will be removed only after installation of temporary fencing to protect against wildlife-vehicle incidents during construction. Temporary fencing will be the same or greater height than the existing wildlife fencing and must be maintained and functional throughout project construction. After construction, any temporary fencing will be replaced with new permanent fencing consistent with the existing wildlife fencing.	Resident Engineer, Project Biologist, and Construction Contractor	During and after construction	No						

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Minimization Measure NC-10: Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing Revegetation. Following the completion of the project construction, all disturbed habitat adjacent to Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing will be restored with native vegetation consistent with the 1994 Biological Opinion and the 2019 Biological Opinion, as applicable.	Resident Engineer and Project Biologist	After construction	No						
Minimization Measure NC-11: Construction Lighting and Staging. Construction equipment maintenance, lighting, and staging must be in designated areas, away from Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing.	Resident Engineer, Project Biologist, and Construction Contractor	During construction	No						
Minimization Measure NC-12: Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing Avoidance. During construction, Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing will be avoided as much as is feasible. Activity that must take place at the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing will be done as quickly as possible and only during daylight hours. Noise levels generated from construction activities at Coal Canyon Undercrossing shall not exceed 5 A-weighted decibels (dBA) above the ambient noise level within 100 ft from the edge of roadway.	Resident Engineer, Project Biologist, and Construction Contractor	During construction	No						
Minimization Measure NC-13: Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing Access. Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing will be kept clear of all equipment or structures that could potentially serve as barriers to wildlife passage.	Resident Engineer, Project Biologist, and Construction Contractor	During construction	No						
Minimization Measure NC-14: Windy Ridge Wildlife Undercrossing Construction Staging. Within Windy Ridge Wildlife Undercrossing, structures required for bridgework will be erected as to not block the main underpass. Scaffolding and false work will be restricted to the sides of the underpass to maintain the functionality of the crossing for wildlife movement.	Resident Engineer, Project Biologist, and Construction Contractor	During construction	No						
Minimization Measure NC-15: Western Riverside County Multiple Species Habitat Conservation Plan Construction Guidelines. Construction activities in the SR-91 Advanced Signage Area in Riverside County will comply with the objectives, policies, procedures, and guidelines from Section 7.5.3: Construction Guidelines as well as (BMPs outlined in Appendix C (WR-MSHCP Volume 1) of the Western Riverside County	Resident Engineer, Project Biologist, and Construction Contractor	During construction	No						

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Multiple Species Habitat Conservation Plan (WR-MSHCP). The applicable guidelines from Section 7.5.3: Construction Guidelines are: • When work is conducted during the fire season (as identified by the Riverside County Fire Department) adjacent to coastal sage scrub or chaparral vegetation, appropriate fire-fighting equipment (e.g., extinguishers, shovels, and water tankers) shall be available on the site during all phases of project construction to help minimize the chance of human-caused wildfires. Shields, protective mats, and/or additional fire preventative methods shall be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventative actions, and responses to fires shall advise contractors regarding fire risk from all construction-related activities. • Waste, dirt, rubble, or trash shall not be deposited in the Conservation Area or on native habitat. The applicable practices from the 15 practices listed in Appendix C: Standard Best Management Practices are: • The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via pre-existing access routes to the greatest extent possible. • To avoid attracting predators of the species of concern, the project site shall be kept clean of debris. All food-related trash items shall be enclosed in sealed containers and regularly removed from the project site. • Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project construction activities and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas. • The Permittee shall have the right to access									

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and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions including these BMPs.									
Avoidance and Minimization Measure NC-16: Sensitive Species and Habitats. In conjunction with the final design and prior to site preparation, all sensitive species and special habitats within 300 ft of the Project Area shall be mapped on the grading plans by a qualified biologist. Sensitive and candidate species and special habitats shall be defined as: • Coastal California gnatcatcher • Cactus wren • Designated critical habitat for Coastal California gnatcatcher • Thread-leaved brodiaea • Designated critical habitat for Braunton's milk-vetch • Least Bell's vireo • Southwestern willow flycatcher • Drainages and streambeds • Coastal sage scrub • Coast live oak woodland	Resident Engineer, Project Biologist, and Construction Contractor	Prior to and during construction	No						
Avoidance and Minimization Measure NC-17: Cactus. Prior to clearing and grubbing and construction, cactus will be saved where feasible, for use in revegetation efforts.	Resident Engineer, Project Biologist, and Construction Contractor	Prior to and during construction	No						
ETC Final EIR and Final EIS Measure B-2. *Prior to grading and site preparation, all native oak, sycamore, and willow trees of 4 inches in diameter at breast height (DBH-4 ½ ft from mean ground level) within the Project limits and within 20 ft of grading and construction operations shall be tagged and numbered with permanent tags. The tag numbers of the trees to be protected and those to be removed shall be noted. Records of these numbers shall be kept by TCA, the Resource Management Coordinator/Monitor and the Orange County Environmental Management Agency/ Environmental Planning Division for use in mitigation/replacement and monitoring of tree resources before, during and after grading and construction activities.*	Resident Engineer, Project Biologist, and Construction Contractor	Prior to, during, and after construction	No						
ETC Final EIR and Final EIS Measure B-3. *Prior to grading and site preparation, all trees subject to removal shall be marked with a red "X" on the trunk. Trees to be preserved shall be marked with yellow flagging visible from all direction.*	Resident Engineer, Project Biologist, and Construction Contractor	Prior to construction	No						
ETC Final EIR and Final EIS Measure B-4. *In conjunction with grading, site preparation and construction, short term soil stabilization using*	Resident Engineer, Project Biologist, and Construction Contractor	During construction	No						

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accepted soil protection techniques and native species shall be conducted under the direction of a qualified biologist, where determined to be appropriate to protect sage scrub communities.									
ETC Final EIR and Final EIS Measure B-8. *For the period covering all site preparation, grading and construction, a resource management coordinator shall monitor wildlife* [and plant] *habitat preservation to ensure that the ESAs and areas outside the Caltrans right-of-way are not adversely impacted. The monitor shall be on site before, during, and after the completion of site preparation, grading and construction.*	Resident Engineer, Project Biologist, and Construction Contractor	During construction	No						
ETC Final EIR and Final EIS Measure B-11. *Prior to site preparation, grading and construction, the TCA shall implement procedures for protecting sensitive and candidate species and special habitats* [particularly Braunton's milk-vetch critical habitat] *identified and mapped on grading plans during site preparation, grading, construction and maintenance activities by following Caltrans Environmentally Sensitive Area procedures.*	Resident Engineer, Project Biologist, and Construction Contractor	Prior to and during construction	No						
ETC Final EIR and Final EIS Measure B-25. *During site preparation and grading, the TCA shall phase operations around important habitat areas to allow for completion of nesting and breeding activities for the coastal California gnatcatcher and raptor species occurring in oak woodland ~~as well as willow and sycamore forested woodlands~~. This measure will be conducted and overseen by a qualified biologist.*	Resident Engineer, Project Biologist, and Construction Contractor	Prior to and during construction	No						
Wetlands and Other Waters									
Minimization Measure WET-1: Nationwide Permit. Prior to initiation of construction, a permit will be obtained through the United States Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act. As part of coordination with the USACE, a Nationwide Permit will be pursued, if appropriate.	Project Engineer and Project Biologist	During Final Design and prior to construction	No						
Minimization Measure WET-2: Streambed Alteration Agreement. Prior to initiation of construction, a Streambed Alteration Agreement (SAA) with the California Department of Fish and Wildlife will be obtained and any specifications in the SAA will be implemented.	Project Engineer and Project Biologist	During Final Design and prior to construction	No						
Minimization Measure WET-3: Water Quality Certification. Prior to initiation of construction, a Section 401 Water Quality Certification from the Santa Ana Regional Water Quality Control Board will be obtained and any specifications in the Certification will be implemented.	Project Engineer and Project Biologist	During Final Design and prior to construction	No						
ETC Final EIR and Final EIS Measure B-13. *In*	Project Engineer and	During Final Design	No						

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conjunction with final design, the TCA shall, to the extent feasible, construct stream bank reinforcements of ungrouted riprap gabions or other appropriate material at the shallowest possible slope (2:1 or less), allowing for the replacement of soil and the subsequent revegetation of these areas with riparian plant species.	Resident Engineer								
Plant Species									
Minimization Measure PS-1: California Black Walnut Environmentally Sensitive Areas. Prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed around the protected zone of any southern California black walnut tree and designated as an Environmentally Sensitive Area (ESA) to be preserved for those trees not within the footprint of project structures or areas of ground disturbance. The protected zone will extend 5 feet (ft) outside of the drip line or 15 ft from the trunk of the tree, whichever is greater. No grading or fill activity of any type will be permitted within the ESA. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby California black walnut trees. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESA. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where trees are immediately adjacent to planned grading activities.	Resident Engineer, Monitoring Biologist, and Construction Contractor	Prior to vegetation clearing or construction	No						
Minimization Measure PS-2: California Black Walnut Sapling Relocations. The California black walnut saplings in the median of the SR-241/SR-91 interchange will be assessed at the time of construction and relocated within Caltrans right-of-way, if feasible. If not feasible, replacement planting of California black walnut saplings will be done at a minimum 2:1 ratio.	Resident Engineer, Project Biologist, and Construction Contractor	Prior to and during construction	No						
Minimization Measure PS-3: Coulter's Matilija Poppies Environmentally Sensitive Areas. Prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed around the protected zone of any Coulter's Matilija poppies and designated as an ESA to be preserved to the extent feasible. The protected zone will extend 5 ft outside of the vegetation edge. No grading or fill activity of any type will be permitted within the ESA. In addition, no construction activities, materials, or equipment	Resident Engineer, Project Biologist, and Construction Contractor	Prior to vegetation clearing or construction	No						

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will be allowed within the ESAs. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby Coulter's Matilija poppies. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESA. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where Coulter's Matilija poppies are adjacent to planned grading activities.									
Animal Species									
Minimization Measure AS-1: Nesting Birds. Prior to clearing or construction, to avoid impacts to nesting birds, any native vegetation removal or tree- (native or exotic) trimming activities will occur outside of the bird nesting season (February 15 through August 31). In the event that vegetation clearing is necessary during the nesting season or if construction activities or access have the potential to impact nesting birds, a qualified biologist will conduct a preconstruction survey to identify the locations of nests. Should nesting birds be found, an exclusionary buffer will be established by the qualified biologist. This buffer will be clearly marked in the field by construction personnel under guidance of the qualified biologist, and construction or clearing will not be conducted within this zone until the qualified biologist determines that the young have fledged or the nest is no longer active. Construction of the Coal Canyon Undercrossing access ramp and widening of Windy Ridge Wildlife Undercrossing will be conducted outside the bird nesting season (February 15 through August 31). Periodic monitoring by the project biologist will be conducted as needed to ensure that construction activities do not impact bridge-nesting birds at Coal Canyon Undercrossing and Windy Ridge Wildlife Undercrossing.	Resident Engineer, Project Biologist, and Construction Contractor	Prior to vegetation clearing or construction	No						
Minimization Measure AS-2: Bat Maternity Roosting Survey. A qualified bat biologist will survey the Project Area during the maternity roosting period, typically in June, to assess the potential for its use as a maternity roost because maternity roosts are generally formed in late spring. The qualified bat biologist will also perform preconstruction surveys because bat roosts can change seasonally. The surveys will include a combination of structure inspection, sampling, exit counts, and acoustic surveys.	Project Engineer and Project Bat Biologist	During Final Design and prior to construction	No						
Minimization Measure AS-3: Bridgework	Project Engineer,	During Final Design and	No						

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Schedule. To prevent impacts to bridge and crevice-roosting bats, all bridgework will be scheduled between September 1 and November 30 to avoid hibernating bats and the maternity season. If this is not feasible, temporary bat eviction and exclusion devices will be installed between September 1 and November 20 prior to the initiation of construction activities and under the supervision of a qualified bat biologist. Exclusion devices will be installed during the fall, or as otherwise directed by a qualified biologist, to avoid trapping flightless young inside during the summer months or hibernating individuals during the winter. Such exclusion efforts will be continued to keep the structures free of bats until the completion of construction on those structures, at which time the devices will be removed to allow the bats to resume roosting in the structure and prevent any permanent loss of bat-roosting habitat. All bat exclusion techniques will be coordinated between the District Biologist and the resource agencies.	Resident Engineer, and Project Bat Biologist	prior to construction							
Avoidance and Minimization Measure AS-4: Construction Work Activities. To avoid or minimize impacts to bats at a night roost, work activities are not to occur within 100 feet of the structure between sunset and sunrise. If construction work must be performed at night in the vicinity of the bridge structure containing a night roost, noise and direct lighting will be directed away from the structure or lighting will be specifically focused on the section of the bridge actively under construction to minimize impacts to night-roosting bats.	Resident Engineer, Project Biologist, and Construction Contractor	During construction	No						
Avoidance and Minimization Measure AS-5: Bird Exclusion Netting. Airspace access to and from a bridge structure containing a night roost will not be restricted. Bird exclusion netting will not be used unless made from thick plastic and installed with no exposed overlap joints. Clearing of vegetation in the vicinity of the structure will also be minimized to the greatest extent practicable.	Resident Engineer, Project Biologist, and Construction Contractor	During construction	No						
Minimization Measure AS-6: Unfilled Expansion. Subject to public health and safety considerations, existing unfilled expansion joints will remain unfilled and unobstructed to prevent permanent loss of existing day- and/or night-roosting habitat. Habitat for bats may be enhanced in the project limits by leaving newly created expansion joints unrubberized so that they are available to bats for day roosting after construction is complete.	Resident Engineer, Project Biologist, and Construction Contractor	During construction	No						
Avoidance Measure AS-7: Burrowing Owl Survey. In accordance with the California Department of Fish and Wildlife survey guidelines	Resident Engineer and Project Biologist	Prior to ground disturbance and during construction	No						

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for burrowing owl, a take avoidance survey shall be conducted no less than 14 days prior to initiating ground-disturbance activities and, if time lapses between project activities, a final survey may be conducted within 24 hours prior to ground disturbance.									
Threatened and Endangered Species									
Avoidance Measure TE-1: Construction Work Limits Review. During Final Design, the construction work limits will be reviewed to ensure that the lateral work limits are reduced to avoid designated Braunton's milk-vetch critical habitat and that construction staging areas are located in areas that have been previously disturbed or developed. All designated critical habitat for Braunton's milk-vetch adjacent to and outside the project disturbance limits will be delineated on the project specifications as environmentally sensitive areas (ESAs) prior to any construction activities near those areas.	Project Engineer, Resident Engineer, Project Biologist, and Construction Contractor	During Final Design	No						
Avoidance and Minimization Measure TE-2: Thread-leaved Brodiaea Preconstruction Surveys and Environmentally Sensitive Areas. Preconstruction surveys will be conducted to determine if thread-leaved brodiaea is present in the Project Area. If this species is found in the Project Area, prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed around the protected zone of any thread-leaved brodiaea individuals and designated as an ESA to be preserved to the extent feasible. The protected zone will extend 5 feet (ft) outside of the vegetation edge. No grading or fill activity of any type will be permitted within the ESA. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby thread-leaved brodiaea. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESA. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where thread-leaved brodiaea is adjacent to planned grading activities.	Resident Engineer, Project Biologist, and Construction Contractor	Prior to vegetation clearing or construction	No						
Avoidance Measure TE-3: Coastal California Gnatcatcher Survey. Prior to the commencement of grading operations or other activities involving disturbance of coastal sage scrub or areas of coastal California gnatcatcher designated critical habitat (with constituent elements), a survey will be conducted to locate coastal California gnatcatcher	Resident Engineer, Project Biologist, and Construction Contractor	Prior to vegetation clearing or construction	No						

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within 100 ft of the outer extent of projected soil disturbance activities and the locations of coastal California gnatcatchers shall be clearly marked and identified on the construction/grading plans. The 100 ft buffer outside the project soil disturbance limits will be clearly marked in the field by construction personnel under the guidance of the biologist. Construction or clearing will not be conducted within the project disturbance limits adjacent to the 100 ft buffer until the biologist determines that the young have fledged or the nest is no longer active.									
Avoidance Measure TE-4: Barrier Installation. Prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed around coastal sage scrub and coastal California gnatcatcher designated critical habitat (with constituent elements) adjacent to and outside the project footprint to designate ESAs. No grading or fill activity of any type will be permitted within the ESAs and no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby ESAs. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESAs. Silt fence barriers will be installed at the ESA boundaries adjacent to the project footprint to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities.	Resident Engineer, Project Biologist, and Construction Contractor	Prior to vegetation clearing or construction	No						
Avoidance Measure TE-5: Construction Activities Monitoring. A qualified biologist will monitor all construction activities for the duration of the project construction in areas adjacent to ESAs to flush out any wildlife species present from the construction areas prior to construction and to ensure that vegetation removal, best management practices, ESAs, and all avoidance and minimization measures are properly followed.	Resident Engineer, Project Biologist, and Construction Contractor	During construction	No						
Avoidance and Minimization Measure TE-6: Shielded Lighting. Shielded lighting will be used for any nighttime construction adjacent to coastal sage scrub within coastal California gnatcatcher designated critical habitat to avoid and minimize artificial night lighting effects on the gnatcatcher.	Resident Engineer, Project Biologist, and Construction Contractor	During construction	No						
Mitigation Measure TE-7: Section 7 Consultation and Biological Opinion.* Section 7 consultation was conducted with the United States Fish and Wildlife Service (USFWS) to address effects to coastal California gnatcatcher and coastal California gnatcatcher occupied and/or designated critical habitat outside the Natural	Project Engineer, Project Biologist, Resident Engineer, Construction Contractor, and Biological Monitor	During Environmental Document phase, Final Design, and after construction	No						

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Communities Conservation Plan (NCCP) Area. Requirements from the 2019 Biological Opinion are listed below. Temporary impacts to coastal sage scrub and native plant restoration will be offset through restoration of 6.84 ac with coastal sage scrub (not as mitigation slopes, coastal sage scrub will be the baseline condition for future consultations). Temporary impacts to chaparral, oak woodland, nonnative grassland, and ruderal in designated critical habitat will be offset through restoration of 7.31 ac with native fuel modification zone species[1] (not mitigation slopes). Permanent impacts to coastal sage scrub and native plant restoration will be offset through: on-site restoration of 8.73 ac (6.98 ac with coastal sage scrub and 1.75 ac with native fuel modification zone species [not mitigation slopes]); off-site mitigation of 19.63 ac including advance restoration of 13.3 ac at Strawberry Farms (9.75 ac of coastal sage scrub restoration, 1.86 ac of coastal sage scrub and prickly pear cactus restoration, 0.39 ac of native perennial grassland restoration, and 1.3 ac of coastal sage scrub enhancement); and off-site mitigation of 6.33 ac at the Saddle Club (2.63 ac of coastal sage scrub and 3.7 ac of coastal sage scrub/chaparral mix). Permanent impacts to chaparral, oak woodland, nonnative grassland, and ruderal in designated critical habitat will be offset through: on-site restoration of 7.31 ac with native fuel modification zone species (not mitigation slopes); on-site restoration of 0.28 ac with native fuel modification zone species, with maintenance activities within 14 ft from edge of pavement (not mitigation slopes); and off-site mitigation of 4.24 ac at the Saddle Club with coast live oak woodland. The conservation measures included in the 2019 Biological Opinion that will be implemented as part of the Proposed Project to avoid and minimize impacts to gnatcatchers are as follows: ***Avoidance and Minimization through Project Design*** *CM 1. If feasible, the Soil Nail Wall Design Option*									

[1] A fuel modification zone is an area where combustible vegetation in the landscaping is modified or replaced with drought-tolerant or fire-resistant vegetation to provide protection against wildfires. These drought-tolerant and fire-resistant species are considered fuel modification zone species.

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will be selected to minimize permanent impacts to approximately 5 acres of land located within the Gypsum Canyon Nature Preserve. The final engineering design for this area will be reported to the CFWO at least 15 working days prior to initiating project impacts. *CM 2. Permanent project lighting will be of the lowest illumination necessary for safety and will be directed toward the roadway and away from sensitive habitats and wildlife crossing areas. Light glare shields will be used to reduce the extent of illumination into sensitive habitats. The Caltrans Project Biologist[1] will review the permanent lighting plans and then submit them to the CFWO for review and approval at least 15 working days prior to initiating project impacts.* *CM 3. A wildlife connectivity plan will be developed and implemented to ensure that ecosystem functions[2] are maintained by the project for the benefit of listed species. The plan will be provided to the CFWO for review and approval at least 60 days prior to initiating project impacts. The plan will include the following requirements:* *a. Animals may not be able to navigate steep vertical bends and they may not utilize culverts or crossing structures that have horizontal bends that limit visibility. The culvert at drainage feature 4 will be lengthened by the project but no vertical or horizontal bends will be constructed in the culvert extension;* *b. To the maximum extent feasible, rock slope protection will be avoided at culvert and wildlife crossing openings. If rock slope protection is required, modifications (e.g., small pebble, dirt, or grouted movement pathways) will be made such that animals of all sizes can access culverts and wildlife crossings;* *c. If stream bank reinforcements are required at wildlife crossing and culvert areas, project proponents will design them in the manner most conducive to wildlife movement. If stream bank reinforcements of ungrouted riprap gabions or other material are required, they will be constructed at the shallowest possible slope (2:1 or less), and will be covered with soil and revegetated with native riparian plant species in a manner that will*									

[1] The Caltrans Project Biologist will be a Caltrans biologist familiar with the federally listed species potentially affected by the project and with the habitats that support these species; he/she will be the primary contact for the CFWO during project implementation.

[2] For example, dispersal of top predators to control meso-predators that prey on avifauna, such as gnatcatchers (e.g., Crooks and Soule 1999)

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allow for the movement of wildlife of all sizes. Project proponents will ensure that soil placement on top of stream bank reinforcements will occur in a manner that does not result in erosion holes in the soil surface over time; *d. Restoration of temporary impact areas at wildlife crossings will be planned in a manner that will encourage wildlife use and movement. Project proponents will ensure that plantings will not obscure culvert or wildlife crossing openings. Native vegetation may be used to funnel wildlife toward the crossings and create a visual barrier between the roadway and habitat in a manner that will encourage wildlife movement;* *e. Culvert openings will be flush with the road slope and ground to allow animals to easily find and access the culverts. Culvert openings that provide for wildlife movement under the roadway will not be blocked with grates, with the exception of openings from culverts to those portions of the roadway median that are not intended for wildlife access or movement;* *f. Where the project will result in new roadside fencing, project proponents will ensure that fencing ties into culvert and wildlife crossing openings such that animals following the fencing can easily find and access culverts and crossings. Any new roadside fencing will be 10 to 12-foot high chain link fence with an 18-inch "outrigger" (three strands of barbed wire) angled away from the road, located within the Caltrans right-of-way, subject to the Biological Monitor's5 recommendations, and will be buried 24 inches into the ground to discourage wildlife from digging under the fence. In areas where new fencing is installed, old fencing that blocks access to culverts and crossings will be removed. Any new fencing constructed by the project at the SR-241/SR-91 interchange will incorporate recommendations on page 194 of USGS 2013;* *g. Project proponents will coordinate with the Orange County Transportation Authority (OCTA) to ensure that the project will not negatively affect the camera study and native plantings planned by OCTA at the Coal Canyon Undercrossing;* *h. Equipment maintenance, lighting, and staging for the project will be in designated areas, away from the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing. Construction in the Windy Ridge Wildlife Undercrossing and Coal Canyon*									

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Undercrossing will be limited to daylight hours. These areas will be kept clear of all equipment or structures that could potentially serve as barriers to wildlife passage. Structures required for bridgework at the Windy Ridge Wildlife Undercrossing will be erected so as not to block the main underpass, and scaffolding and false work will be restricted to the side of the underpass to maintain the functionality of the crossing for wildlife movement. Construction access to the SR-91 median at Coal Canyon will be provided within the fenced access area at Coal Canyon Road, and no project work or access will take place beyond the fencing within the existing dirt wildlife crossing area at Coal Canyon; *i. Freeway signage with lighting, including changeable message signs, will be located in areas away from the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing;* *j. Construction noise at the Coal Canyon Undercrossing will be limited to no more than 5 dBA hourly Leq above ambient levels beyond 100 feet from the edge of the roadway to avoid noise disturbance to wildlife within the crossing;* *k. A new turnaround has been constructed in the SR-91 median west of Coal Canyon that benefits both wildlife connectivity and human safety by providing a more accessible and rapid turnaround location that is outside of the wildlife undercrossing. This turnaround is not large enough to accommodate construction vehicles and will continue to be accessible to emergency vehicles during project work, maintaining the recent benefits to wildlife movement that the turnaround provides; and* *l. Subject to approval by California Highway Patrol (CHP) and Orange County Fire Authority (OCFA), install a permanent access control gate near the top of the eastbound off-ramp at Coal Canyon, leaving enough room in front of the gate for personnel in authorized vehicles to exit SR-91 and open the gate, but encouraging unauthorized vehicles to use the new median turnaround. Signage will be posted and maintained at the gate to inform the public about adjacent sensitive habitats and species as well as access restrictions (e.g., wildlife crossing, no unauthorized access, no night access). The gate and signage will be installed prior to completion of project construction. If installation of the gate is not approved, Caltrans and TCA will coordinate with the CFWO to identify an alternative measure to enhance connectivity or*									

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improve safety for dispersing wildlife to offset temporal impacts resulting from the substantially degraded functioning of Coal Canyon as a wildlife undercrossing during the 2-year construction period. If enhancing connectivity at Coal Canyon itself isn't practicable, then improvements may occur at a different location identified in coordination with the CFWO. ***Avoidance and Minimization during Vegetation Clearing/Project Construction*** *CM 4. The clearing and grubbing of native upland habitats for the project will occur between September 1 and February 14, to avoid the gnatcatcher breeding season (or sooner than September 1, if a biologist knowledgeable of gnatcatcher biology and ecology approved by the CFWO demonstrates to the satisfaction of the CFWO that all gnatcatcher nesting is complete). The project proponents will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO at least 15 working days prior to initiating project impacts.* *CM 5. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will be restricted to designated staging areas that are a minimum of 100 feet from sensitive habitats and drainages.* *CM 6. All lighting used at night for project construction will be selectively placed and directed at the immediate work area and away from adjacent sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats.* *CM 7. Erosion and sediment control devices used for the project, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.* *CM 8. The project site will be kept as clear of debris as possible. All food-related trash items will be enclosed in sealed containers and regularly removed from the site. All spoils and material disposal will be disposed of properly.* *CM 9. If fill must be borrowed from or disposed of offsite, the construction contractor will identify any necessary borrow and disposal sites and provide this information to Caltrans for review. Caltrans will review borrow and disposal site information and if borrow or disposal activities may affect a listed*									

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species or critical habitat, Caltrans will reinitiate Section 7 consultation. *CM 10. Impacts from fugitive dust will be avoided and minimized through watering and other appropriate measures.* *CM 11. Project personnel will be prohibited from bringing domestic pets to construction sites to avoid disturbance and depredation of wildlife by domestic pets in adjacent habitats.* *CM 12. During project construction all invasive species included on the National Invasive Species Management Plan, the State of California Noxious Weed List, and the California Invasive Plant Council's Invasive Plant Inventory list (Cal-IPC 2006) found growing within the project impact area will be removed. Special care will be taken during transport, use, and disposal of soils containing invasive weed seeds and all weedy vegetation removed during construction will be properly disposed of to prevent spread into areas outside of the construction area.* *CM 13. All native or sensitive habitats outside and adjacent to the construction limits will be designated as Environmentally Sensitive Areas (ESAs) on project maps. ESAs will be temporarily fenced during construction with orange plastic snow fence, orange silt fencing, or in areas of flowing water, with stakes and flagging. No personnel, equipment, or debris will be allowed within the ESAs. Temporary ESA fencing and flagging will be installed in a manner that does not impact habitats to be avoided and such that it is clearly visible to personnel on foot and operating heavy equipment. The project proponents will submit to the CFWO, at least 5 days prior to initiating project impacts (except for impacts resulting from clearing to install temporary fencing), the final plans for initial clearing and grubbing of habitat and project construction. These final plans will include photographs that show the fenced and flagged limits of impact and all areas to be impacted or avoided. Field maps indicating the location of temporary ESA fencing and/or staking will also be provided. If work occurs within gnatcatcher habitat beyond the fenced or demarcated limits of impact, all work will cease until the problem has been remedied to the satisfaction of the CFWO. Temporary ESA fencing and markers will be maintained in good repair until the completion of project work adjacent to each ESA and removed upon completion of project work*									

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adjacent to each ESA. *CM 14. A CFWO-approved biologist (Biological Monitor)[1] will be on site during all initial vegetation clearing/grubbing and weekly during project construction within 500 feet of gnatcatcher habitat to monitor compliance with all conservation measures. The project proponents will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO at least 15 working days prior to initiating project impacts. The contract of the Biological Monitor will allow direct communication with the CFWO at any time regarding the proposed project. The Biological Monitor will be provided with a copy of this consultation. The Biological Monitor will be available during pre-construction and construction phases to address protection of sensitive biological resources, monitor ongoing work, and maintain communications with construction personnel to facilitate the appropriate and lawful management of issues relating to biological resources. The Biological Monitor will perform the following duties:* *a. Perform a minimum of three focused preconstruction surveys, on separate days, to determine the presence of gnatcatchers in the upland project impact footprint. Surveys will begin a maximum of 30 days prior to performing vegetation clearing/grubbing, and one survey will be conducted the day immediately prior to the initiation of vegetation clearing. If any gnatcatchers are found in the upland project impact footprint, the Biological Monitor will direct construction personnel to begin vegetation clearing/grubbing in an area away from the gnatcatchers. It will be the responsibility of the Biological Monitor to implement measures (e.g., direct vegetation clearing away from gnatcatchers, flush gnatcatchers out of the active work area) to avoid death and injury of gnatcatchers by vegetation clearing/grubbing. The Biological Monitor will also record the number and location of gnatcatchers disturbed by vegetation clearing/grubbing. Caltrans will notify the CFWO at least 7 days prior to vegetation clearing/grubbing to allow the CFWO to coordinate with the Caltrans Project Biologist on potential bird flushing activities;* *b. Perform a minimum of three focused surveys, on separate days, to determine the presence of gnatcatcher nest building activities, egg incubation*									

[1] The Biological Monitor will be familiar with the federally listed species potentially affected by the project (i.e., gnatcatcher) and with the habitats that support this species.

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activities, or brood rearing activities within 500 feet of project construction that is initiated during the February 15 to August 31 breeding season for the gnatcatcher. Surveys will begin a maximum of 7 days prior to performing construction within 500 feet of gnatcatcher habitat during the breeding season, and one survey will be conducted the day immediately prior to the initiation of construction within 500 feet of gnatcatcher habitat during the breeding season. Additional surveys will be done once a week during project construction within 500 feet of gnatcatcher habitat during the breeding season. These additional surveys may be suspended as approved by the CFWO; *c. If active gnatcatcher nests are identified within 500 feet of noise generating construction activities and noise is in excess of 60 dBA hourly Leq or if noise is in excess of ambient noise levels if ambient noise levels exceed 60 dBA hourly Leq, noise attenuation structures will be installed at the noise source to reduce noise levels to 60 dBA hourly Leq or to ambient noise levels if ambient noise levels exceed 60 dBA hourly Leq at the nest location. Noise monitoring will occur during the breeding season and be reported monthly to the CFWO. If the Biological Monitor suspects that avoidance and minimization measures are ineffective, and project activities may be adversely affecting the gnatcatcher, culpable activities will be suspended within 500 feet of active nests until nesting activity is completed and fledglings are no longer in the area or until effective avoidance and minimization measures can be identified, implemented, and demonstrated to be effective. If the specified noise targets cannot be met or the Biological Monitor observes potential adverse effects to gnatcatchers from project-related noise, activities that are resulting in potential adverse effects will be halted, and the CFWO will be contacted to determine if reinitiation of consultation is necessary;* *d. Oversee installation of and inspect erosion control measures a minimum of once per week to document and bring to the attention of the contractor any breaks in erosion control measures such that they are repaired immediately;* *e. Oversee installation of and inspect ESA fencing a minimum of once per week to document and bring to the attention of the contractor any breaks in the fence such that they are repaired immediately;*									

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f. Train contractors and construction personnel expected to be in the project impact area on the biological resources associated with the project and document that training is implemented by construction personnel. At a minimum, training will include: *i. The purpose for resource protection;* *ii. A description of the gnatcatcher and its habitats;* *iii. The CMs that should be implemented during project construction to conserve the gnatcatcher, including strictly limiting activities, vehicles, equipment, and construction materials to the project footprint to avoid adjacent sensitive resource areas;* *iv. Environmentally responsible construction practices;* *v. the protocol to resolve conflicts that may arise at any time during the construction process; and* *vi. The general provisions of the Act, the need to adhere to the provisions of the Act, and the penalties associated with violating the Act;* *g. Monitor the project site immediately prior to and during construction to identify the presence of invasive weeds and recommend measures to avoid their inadvertent spread in association with the project. Such measures may include inspection and cleaning of construction equipment and use of eradication strategies;* *h. Periodically monitor the work area to document that work activities do not generate excessive amounts of dust;* *i. Submit monthly email reports (including photographs of impact areas) to the CFWO during clearing of, and construction within, 500 feet of gnatcatcher habitat. The monthly reports will document that authorized impacts were not exceeded and general compliance with all conditions. The reports will also outline the location of construction activities, the type of construction that occurred, and equipment used. These reports will specify numbers and locations of gnatcatchers (if observed), their observed behavior (especially in relation to construction activities), and remedial measures employed to avoid and minimize impacts to these species. Raw field notes should be available upon request by the CFWO; and* *j. Submit a final report to the CFWO within 120*									

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days of the completion of construction for the project that includes: photographs of habitat areas that were to be avoided and other relevant summary information documenting that authorized impacts were not exceeded and that general compliance with all conservation measures was achieved. ***Measures to Offset Impacts to Gnatcatcher and its Habitat*** *CM 15. Areas of temporary impact, as quantified in Tables 1 and 3, will be revegetated and restored with native species as specified in Tables 4 and 5. These areas will be returned to original grade, as feasible. Prior to initiating project impacts, a restoration plan will be developed for the temporary impact areas. The plan will be submitted to the CFWO for review and approval at least 15 working days prior to initiating project impacts. This plan will include a detailed description of restoration methods, slope stabilization, and erosion control, criteria for restoration to be considered successful, and monitoring protocol(s). Following the completion of construction activities within each area of impact, the restoration plan will be implemented for a minimum of 5 years, unless success criteria are met earlier and all artificial water has been off for at least 2 years. Temporary impact areas will be planted as soon as possible, with consideration of seasonal timing, following re-grading after completion of construction to prevent encroachment by nonnative plants.* *CM 16. Some permanent impact cut and fill slopes for the project will be revegetated with native species as specified in Table 4. Duff and rare plants may be salvaged from the project impact footprint to aid in revegetating slopes with native habitats. The revegetated areas will have temporary irrigation and will be planted with native container plants and seeds. At least 3 years of plant establishment/ maintenance on these slopes will be conducted to control nonnative plants. These areas will be planted as soon as possible, with consideration of seasonal timing, following the completion of construction to prevent encroachment by nonnative plants.* *CM 17. If maintenance of a coastal sage scrub restoration area is necessary between February 15*									

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and August 31, a CFWO-approved biologist[1] will survey for gnatcatchers within the restoration area, access paths to it, and other areas susceptible to disturbances by site maintenance. Surveys will consist of three visits separated by 2 weeks starting March 1 of each maintenance/monitoring year. Work will be allowed to continue on the site during the survey period. However, if gnatcatchers are found during any of the visits, the applicant will notify and coordinate with the CFWO to identify measures to avoid and/or minimize effects to the gnatcatcher (e.g., nests and an appropriate buffer will be flagged by the biologist and avoided by the maintenance work). *CM 18. Permanent and temporary impacts to the gnatcatcher and its habitat[2] (as summarized in Tables 1, 2, and 3) will be offset as specified in Tables 4 and 5.* *CM 19. Portions of the Saddle Club property used to offset project-related impacts will be conserved and managed in perpetuity. Each of the sub-measures below will be implemented prior to initiating project-related impacts:* *a. A CFWO-approved conservation easement will be recorded over conserved land in favor of a CFWO-approved entity (e.g., a non-profit environmental organization or government agency). The conservation easement will prohibit all activities that significantly disturb wildlife or detrimentally impact habitat for the gnatcatcher. Potential recreation uses that do not impact habitat or result in significant disturbance to gnatcatchers (e.g., hiking along existing trails) may be proposed in a CFWO-approved habitat management plan for the property provided that the management plan includes sufficient measures and funding to ensure that these activities are appropriately monitored and managed;* *b. A CFWO-approved habitat management plan will be prepared that addresses potential threats to the conserved habitat, such as unauthorized human access, monitoring and management of any authorized recreational activities, control of non-native invasive plant species, and habitat degradation from fire;* *c. A CFWO-approved land manager will be*									

[1] The biologist for this measure will be a trained ornithologist with at least 40 hours of observing gnatcatchers in the field and documented experience locating and monitoring nests of the target species.

[2] Permanent and temporary impacts to 3.81 acres and 26.63 acres of habitat, respectively, have already been offset in accordance with the requirements of Biological Opinion 1-6-94-F-17.

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identified to implement the habitat management plan; and *d. A CFWO-approved non-wasting endowment or endowments will be established with sufficient funds to implement the habitat management plan and to monitor and enforce the conservation easement. The funding for the endowment(s) will be determined through a Property Analysis Record (PAR) or equivalent analysis.* *Caltrans will monitor and report on compliance with the established take exemptions for gnatcatchers associated with the proposed action. The terms and conditions of the 2019 Biological Opinion are as follows:* ***Coastal California Gnatcatcher*** *1.1 Prior to initiating project work, three preconstruction surveys will be conducted within all suitable gnatcatcher habitat within the project footprint, within 30 days prior to initiation of vegetation removal activities, to verify that no more than 1 pair of gnatcatchers will be harmed as a result of the project.* *1.2 Prior to initiating project work, Caltrans will provide to the CFWO a map showing the distribution of gnatcatchers relative to the project footprint and an estimate of the number of gnatcatcher territories that will be impacted by the project, or confirm in writing that maps, distribution information, and the number of territories that will be impacted by the project remain correct.* *1.3 Prior to project construction, the project proponent will submit to the CFWO Geographic Information System (GIS) shapefiles in UTM, Zone 11N (meters), NAD 83 coordinate system that show the following: anticipated permanent impacts, temporary impacts, habitat restoration sites, and habitat conservation sites. Please note that these polygons may overlap. For example, one location could be temporarily impacted and subsequently restored and conserved. Include the following metadata for each shapefile: summary/description of the data, attribute definitions, coordinate system/projection information or any other pertinent information. If there are any changes to the boundaries anticipated impacts, restoration, or conservation sites, such changes must be addressed consistent with the Reinitiation Notice below. In addition, updated GIS shapefiles will be submitted to the CFWO.*									

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1.4 Caltrans will notify the CFWO within 30 days of completing removal of gnatcatcher occupied habitat. The purpose of this notification is to ensure that impacts to gnatcatcher-occupied habitat from the proposed project do not exceed the take thresholds.									
Avoidance and Minimization Measure TE-8: Foraging Special-Status Riparian Birds. Prior to vegetation clearing or construction within the species foraging habitat areas during the nesting periods (generally mid-March through August), a qualified biologist will conduct a preconstruction survey to identify the locations of any special-status riparian birds. If foraging individuals are found within the vegetation-clearing area during the breeding season, clearing will be delayed until the species is absent. Per the NCCP/HCP construction minimization measures, outside the breeding season, the monitoring biologist will flush NCCP/HCP identified species from the area, prior to brush-clearing and earth-moving activities.	Resident Engineer, Project Biologist, and Construction Contractor	Prior to vegetation clearing or construction	No						
ETC Final EIR and Final EIS Measure B-27. *Grading and construction activities shall be redirected temporarily around any nesting sites for a distance of 500 ft for candidate and listed species of birds and at a distance of 1,000 ft for raptors during nesting and breeding seasons. ~~In the event that a coyote, bobcat, or mountain lion den is located, grading and construction operations shall be redirected around the den for a distance of 1,000 ft.~~ The nesting sites ~~and dens~~ should be resurveyed toward the end of the breeding seasons of these species to verify completion of the breeding cycle. Nests ~~and dens~~ that will be removed ~~due to ETC~~ must be removed during the nonbreeding season only.*	Resident Engineer, Project Biologist, and Construction Contractor	Prior to vegetation clearing or construction	No						
Invasive Species									
Minimization Measure IS-1: Weed Abatement Program/Non-Standard Special Provisions. During Final Design, a qualified landscape architect will develop a Weed Abatement Program/Non-Standard Special Provisions (NSSP) for inclusion in the project specifications. The Weed Abatement Program/NSSP will be developed in compliance with Executive Order 13112 to minimize the potential for intrusion or export of invasive plant species to and from the Biological Study Area during project construction. At a minimum, the following will be included in the Weed Abatement Program/NSSP and implemented prior to and during construction to address potential effects associated with invasive species. The Weed	Project Landscape Architect, Project Engineer, Project Biologist, Resident Engineer, and Construction Contractor	During Final Design	Yes						

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Abatement Program/NSSP will define the specific details, frequency, and, if applicable, performance standards for the following individual activities and requirements: • Inspect and clean construction equipment at the beginning and end of each day and prior to transporting equipment from one project location to another. • Limit soil and vegetation disturbance to those areas specifically required for the project construction. • Obtain soil, gravel, and rock from weed-free sources. • Use only certified weed-free straw, mulch, and/or fiber rolls for erosion control during construction. • Prior to the completion of construction, revegetate affected areas adjacent to native vegetation with plant species that are native to the vicinity and approved by California Department of Transportation (Caltrans) District 12 Biologists. • Not use any species listed in the California Invasive Plant Council Invasive Plant Inventory with a High or Moderate rating in revegetation. • After construction, ensure that erosion control and revegetation sites are monitored until achievement of the project-specific performance standards defined in the Weed Abatement Program/NSSP or a period of 1 year, whichever is greater, after installation, to detect nonnative species prior to the establishment of the native vegetation. • Implement eradication procedures (e.g., spraying and/or hand weeding) should an infestation occur during or after construction. The use of herbicides will be prohibited within and adjacent to native vegetation, except as specifically authorized and monitored by Caltrans District 12 Biologists during and after project construction. • During construction, reduce indirect impacts of exotic plant infestations and litter by roadside maintenance at least once daily during construction to remove litter and weeds from the right-of-way.									

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Greenhouse Gas Emissions									
Also see Measures AQ-2, AQ-4, AQ-5, and TR-1 above.									
• Landscaping reduces surface warming, and through photosynthesis, decreases CO2. Landscaping would be provided where necessary within the corridor to provide aesthetic treatment, replacement planting, or mitigation planting for the Proposed Project. The landscape planting would help offset any potential CO2 emissions increase. The project will plant native trees and shrubs within the project area and right of way; see visual measure V-7. • The Proposed Project would specify the use of energy efficient lighting, such as light emitting diode (LED) traffic signals. LED bulbs consume 10 percent of the electricity of traditional lights, which will also help reduce the Proposed Project's CO2 emissions. • According to Caltrans Standard Specifications, idling time for lane closure during construction is restricted to 10 minutes in each direction. In addition, the contractor must comply with Title 13, California Code of Regulations (CCR) Section 2449(d)(3) that was adopted by the ARB on June 15, 2008. This regulation restricts idling of construction vehicles to no longer than 5 consecutive minutes. Compliance with this regulation reduces harmful emissions from diesel-powered construction vehicles. • Transportation System Management (TSM)/Transportation Demand Management (TDM) elements, described more fully in Section 2.2.1.2, are included in the scope of the Build Alternatives. • Legally enforceable measures intended to reduce GHG emissions from the 2016 SCAG RTP/SCS will be included in the Plans, Specifications, and Estimates package prepared for the Project. For example, the new toll lanes would be available for high occupancy vehicles such as buses and vehicles with three or more persons.	Project Engineer, District Landscape Architect, and Construction Contractor	During Final Design and during construction	No					

Appendix E 2012 RTP, 2015 FTIP, 2017 FTIP, 2019 FTIP, and 2016 RTP/SCS Project Listings

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County	System	Lead Agency	RTP ID	FTIP ID	Begin PM	End PM	Route #	Route Name	From	To	Description	Baseline	Completion Year	Model Segment	Roadway Segment: Route Name	Roadway Segment: Length	Roadway Segment: From	Roadway Segment: To	Roadway Segment: Description	Roadway Segment: Existing Lanes	Roadway Segment: Proposed Lanes	Transit Segment: Route	Additional Details
Orange	State Highway	TCA	10254	10254	9.6	25.45	73				SJHC, 15 MI TOLL RD BETWEEN I-5 IN SAN JUAN CAPISTRANO & RTE 73 IN IRVINE, EXISTING 3/M/F EA.DIR.1 ADD'L M/F EA DIR, PLUS CLIMBING & AUX LNS AS REQ, BY 2020 PER SCAG/TCA MOU 4/5/01	X	2020		73	15.85	I-5	Bison	Widening	6	8		
Orange	State Highway	CALTRANS	2M0726				73	SR-73	Glenwood Drive/Pacific Park Drive		Complete southbound ramp at interchange with Glenwood Dr/Pacific Park Dr		2035	1									Existing Config: No interchange to/from the South
Orange	State Highway	CALTRANS	2H0706				73	SR-73	I-405		HOV Connector between I405 and SR73. Includes merging lanes and reconstruction of Fairview bridge.		2035	1									The connector is one lane each direction w/ ingress and egress aux lanes on I405 and SR73. No capacity enhancements anticipated for the Fairview bridge.
Orange	State Highway	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2H0707				73	SR-73	I-405	MacArthur	Add 1 HOV lane each direction from MacArthur to 405		2035	1									Existing Config: No HOV lanes
Orange	State Highway	CALTRANS	2M01125	ORA000821	8.1	9.3	91				SR-91 WB (SR-55 THROUGH TUSTIN INTERCHANGE) EXTEND LANE AND RECONSTRUCT AUX. LANE. PPNO 4587A EA 0C560)		2016		91	1.2	SR-55	Tustin Interchange	Extend land on SR-91 from SR-55 through Tustin Interchange	3	4		
Orange	State Highway	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2M01126	ORA000822	0.87	5.47	91				CONNECT EXISTING AUXILIARY LANE THROUGH INTERCHANGES ON WB SR-91 BETWEEN SR-57 AND I-5 WITH ITS ELEMENTS PPNO 4516A EA 0C5700		2015		91	4.6	SR-57	I-5	continue auxillary lane	3	4		
Orange	State Highway	CALTRANS	2T04128				91	SR-91	Fairmont Drive		CONSTRUCT OVERCROSSING AND SR-91 INTERCHANGE AT FAIRMONT BLVD		2028	1									Adds main line interchange.
Orange	State Highway	CALTRANS	2T01135				91	SR-91	SR-241		HOV/HOT CONNECTOR: NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241 (1 LANE EACH DIR) AS REQ, BY 2020 PER SCAG/TCA MOU 4/05/01. Parent project ORA050		2020	1									The connector will have 1 lane each direction. Widen the Express lanes to 2 lanes in each direction and 1 ingress/egress lane in each direction. See Diagram uploaded to in the Maps section.
Orange	State Highway	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2M0737				91	SR-91	SR-241	I-15	In Orange County, add a WB MF lane from 241 off ramp to Gypsum Canyon and Aux lanes each direction between 241 and County line. See Riverside County for additional improvements.		2018	1									Existing Config: 4 to 5 lanes each direction ADD 1 WB MF LANE FROM SR-241 OFF RAMP TO GYPSUM CYN OFF RAMP (FROM 4 WB TO 5 WB) AND ADD 1 AUX LANE EACH DIR FROM SR-241 TO RIVERSIDE COUNTY LINE
Orange	State Highway	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2M0736				91	SR-91 EB	SR-57	SR-55	ADD 1 MF LANE EASTBOUND; IMPROVE INTERCHANGE AT SR-91/SR-55 AND LAKEVIEW AVE; OPERATIONAL, NO INCREASE IN CAPACITY		2021	1									Existing Config: 3 lanes
Orange	State Highway	TCA	2T01135	ORA111207	36	39.5	241				HOV/HOT CONNECTOR: NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241 (1 LANE EACH DIR) AS REQ, BY 2020 PER SCAG/TCA MOU 4/05/01. Parent project ORA050		2020		241	3.5	SR-241	SR-91	HOT/HOV connector from SR-241 to SR-91	0	1		
Orange	State Highway	TCA	ORA050	ORA050	38.8	12.4	241				ETC (RTE 241/261/133) (RTE 91 TO I-5/JAMBOREE) EXISTING 2 M/F EA.DIR, 2 ADD'L M/F IN EA. DIR, PLUS CLIMB AND AUX LNS AS REQ, BY 2020 PER SCAG/TCA MOU 4/05/01.	X	2020		241	-26.4	SR-91	I5/Jamboree	Widening	4	8		
Orange	State Highway	TCA	ORA051	ORA051	13.8	26.5	241				(FTC-N) (OSO PKWY TO ETC) (13MI) EXISTING 2 MF IN EA. DIR, 2 ADDITIONAL M/F LANES, PLS CLMBNG & AUX LANES AS REQ BY 2020 PER SCAG/TCA MOU 4/05/01.	X	2020		241	12.7	Oso	Sr-261	Ultimate Project Widening	2	4		
Orange	State Highway	TCA	ORA052	ORA052	0.01	15.9	241				(FTC-S) (I-5 TO OSO PKWY) (15MI) 2 MF EA. DIR BY 2021; AND 1 ADDITIONAL M/F EA. DIR. PLS CLMBNG & AUX LANES AS REQ BY 2030 PER SCAG/TCA MOU 4/05/01. #1988	X	2030		241	15.89	I-5	Oso	New Highway	0	4		
Orange	State Highway	ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)	2120003				241	SR-241	Jeffrey		New interchange at Jeffrey and 241.		2025	1									
Orange	State Highway	CALTRANS	2M04131	ORA113030	5	5.6	405				Widen Ramp for Deceleration Lane - NB I-405 from 1 mile north of Jeffery Rd to Culver Dr. 0.6 Miles Split from ORA001105		2014		405	0.6	Jeffery Rd	Culver Dr	Widen ramp for deceleration lane	1	1		
Orange	State Highway	CALTRANS	2M0728	ORA150007	2.89	2.45	405				Interstate 405 Southbound Sand Canyon Avenue to SR-133 - Auxiliary Lane		2019		405	-0.44	Sand Canyon Ave	SR-133	Add Aux Lane.	5	5		Add auxiliary lane.

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Final 2015 Federal Transportation Improvement Program

Orange County Project Listing
State Highway
(In $000`s)

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment
ORA000820	Orange	SCAB		2TK01116	CAX63	57	21.2	.68	S	NON-EXEMPT	0
Description:							PTC	124,600	Agency	CALTRANS	

SR-57 TRUCK CLIMBING AUX LANE FROM LAMBERT TO LA CO. LINE PPNO 3847A EA 0C120 (PE ONLY)

Fund	ENG	R/W	CON	Total	Prior	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	Total
AGENCY	5,800			5,800				5,800				5,800
ORA000820 Total	5,800			5,800				5,800				5,800

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment
10254	Orange	SCAB		10254	CAN69	73	9.6	25.45	S	TCM Committed	0
Description:							PTC	351,188	Agency	TCA	

SJHC, 15 MI TOLL RD BETWEEN I-5 IN SAN JUAN CAPISTRANO & RTE 73 IN IRVINE, EXISTING 3/M/F EA.DIR.1 ADD'L M/F EA DIR, PLUS CLIMBING & AUX LNS AS REQ, BY 2020 PER SCAG/TCA MOU 4/5/01

Fund	ENG	R/W	CON	Total	Prior	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	Total
PRIVATE FUNDS	4,290		346,898	351,188	24,188	900	8,100		31,800	143,100	143,100	351,188
10254 Total	4,290		346,898	351,188	24,188	900	8,100		31,800	143,100	143,100	351,188

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment
ORA052	Orange	SCAB		ORA052	CAN69	241	.01	15.9	S	TCM Committed	0
Description:							PTC	1,331,269	Agency	TCA	

(FTC-S) (I-5 TO OSO PKWY) (15MI) 2 MF EA. DIR BY 2021; AND 1 ADDITIONAL M/F EA. DIR. PLS CLMBNG & AUX LANES AS REQ BY 2030 PER SCAG/TCA MOU 4/05/01. #1988

Fund	ENG	R/W	CON	Total	Prior	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	Total
DEMO-SAFETEA-LU			7,119	7,119	7,119							7,119
PRIVATE FUNDS	144,254	98,682	820,802	1,063,738	302,294	97,364	90,245	97,164	43,869	216,401	216,401	1,063,738
ORA052 Total	144,254	98,682	827,921	1,070,857	309,413	97,364	90,245	97,164	43,869	216,401	216,401	1,070,857

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment
ORA051	Orange	SCAB		ORA051	CAN69	241	13.8	26.5	S	TCM	0
Description:							PTC	269,045	Agency	TCA	

(FTC-N) (OSO PKWY TO ETC) (13MI) EXISTING 2 MF IN EA. DIR, 2 ADDITIONAL M/F LANES, PLS CLMBNG & AUX LANS AS REQ BY 2020 PER SCAG/TCA MOU 4/05/01.

Fund	ENG	R/W	CON	Total	Prior	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	Total
PRIVATE FUNDS	4,453		264,592	269,045	117,377				50,556	50,556	50,556	269,045
ORA051 Total	4,453		264,592	269,045	117,377				50,556	50,556	50,556	269,045

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment
ORA111207	Orange	SCAB		2T01135	CAXT7	241	36	39.5	S	TCM	0
Description:							PTC	183,557	Agency	TCA	

HOV/HOT CONNECTOR: NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241 (1 LANE EACH DIR) AS REQ, BY 2020 PER SCAG/TCA MOU 4/05/01. Parent project ORA050

Fund	ENG	R/W	CON	Total	Prior	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	Total
PRIVATE FUNDS	3,557		180,000	183,557	3,557				60,000	60,000	60,000	183,557
ORA111207 Total	3,557		180,000	183,557	3,557				60,000	60,000	60,000	183,557

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Orange County Transportation Authority

2015 Federal Transportation Improvement Program ($000)

TIP ID **ORA111207** Implementing Agency **Transportation Corridor Agency (TCA)**

SCAG RTP Project #: 2T01135

PPNO:

EA Number:

IFAS #:

System: State Hwy
Route: 241
Postmile: 36.1 to 39.1

Program Code
CAXT7 - NEW INTERCHANGE W/ TCM: RS

Enviromental Document
CATEGORICALLY EXEMPT -

Conformity Category
TCM

Air Basin
SCAB

Project Completion Date
12/31/2020

Current Implementation Status
Environmental Document/Pre-Design Phase (PAED) - 07/27/2011

Project Manager
David Lowe - (949) 754-3488

Last Modified By
Pontip Somchai on 09/14/2015

Project Title
241/91 EXPRESS LANES (HOT) CONNECTOR: NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241

Project Description
241/91 EXPRESS LANES (HOT) CONNECTOR: NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241, PER SCAG/TCA MOU 4/05/01. PARENT PROJECT ORA050

Fiscal Year	Revenue Source	Engineering	Right of Way	Construction	Total Revenue
11/12	PVT - Private	$2.000			$2.000
12/13	PVT - Private	$346			$346
13/14	PVT - Private	$1,211			$1,211
17/18	PVT - Private			$60,000	$60,000
18/19	PVT - Private			$60,000	$60,000
19/20	PVT - Private			$60.000	$60.000
		$3,557	**$0**	**$180,000**	**$183,557**

Notes:
ENG only = TCM-Type project
The 241/91 Express Lanes Project is one lane in each direction, with approximately 1,000 feet of additional WB and EB express lane for safe transitions and to eliminate queue-jumping. Advance signage is included within the post miles.

Post miles for the facility, including advanced signage, are as follows:
12-ORA-241 PM 36.1/39.1
12-ORA-91 PM 14.7/18.9
08-RIV-91 PM 0.0/1.5

Last Revised **Amendment 15-13 - In Progress**

Total Cost **$183,557**

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Final 2017 Federal Transportation Improvement Program

Orange County Project Listing
State Highway
(In $000`s)

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment
ORA111207	Orange	SCAB		2T01135	CAXT7	241	36.1	39.1	S	TCM	0
Description:							PTC	183,557	Agency	TCA	

241/91 EXPRESS LANES (HOT) CONNECTOR: NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241, PER SCAG/TCA MOU 4/05/01.

Fund	ENG	R/W	CON	Total	Prior	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	Total
PRIVATE FUNDS	3,557		180,000	183,557	3,557			60,000	60,000	60,000		183,557
ORA111207 Total	3,557		180,000	183,557	3,557			60,000	60,000	60,000		183,557

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment
ORA050	Orange	SCAB		ORA050	CAN69	241	38.8	12.4	S	TCM Committed	0
Description:							PTC	631,902	Agency	TCA	

EASTERN TRANSPORTATION CORRIDOR (ETC- SR 241/261/133) 26.4 MI TOLL ROAD CONNECTS SR 91 to I-5 via SR 261 and SR 133, CONSISTENT WITH SCAG/TCA MOU 4/05/01. EXISTING 2 M/F EA DIR. 2 ADDITIONAL M/F IN EA DIR, PLUS CLIMBING AND AUX LANES BY 2020.

Fund	ENG	R/W	CON	Total	Prior	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	Total
PRIVATE FUNDS	17,980		613,922	631,902	178,902	15,000	146,000	146,000	146,000			631,902
ORA050 Total	17,980		613,922	631,902	178,902	15,000	146,000	146,000	146,000			631,902

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment
ORA130064	Orange	SCAB		2M0728	NCN21	405	3.81	3.09	S	EXEMPT - 93.126	0
Description:							PTC	16,379	Agency	CALTRANS	

I-405 – add one southbound auxiliary lane from University Drive to Sand Canyon (Segment 2) and Sand Canyon Avenue to SR-133 (Segment 1)(PPNO 4956)

Fund	ENG	R/W	CON	Total	Prior	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	Total
STIP ADVANCE CON-RIP	2,767	114	13,498	16,379	528	2,353	13,498					16,379
ORA130064 Total	2,767	114	13,498	16,379	528	2,353	13,498					16,379

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment
ORA030605	Orange	SCAB		ORA030605	CAX63	405	9.3	24.2	S	NON-EXEMPT	0
Description:							PTC	1,300,000	Agency	ORANGE COUNTY TRANS AUTHORITY (OCTA)	

I-405 FROM SR-73 TO I-605. Add 1 MF lane in each direction, and additional capital improvements. Combined with ORA045, ORA151, ORA100507 and ORA120310. Phase 2 listed under ORA030605A

Fund	ENG	R/W	CON	Total	Prior	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	Total
FFY 2006 APPROPRIATIONS EARMARKS	990			990	990							990
DEMO-SAFETEA-LU	2,968			2,968	2,968							2,968
DEMO - TEA 21	5,560			5,560	5,560							5,560
INTERSTATE MAINTENANC			1,130	1,130		1,130						1,130
STP LOCAL - REGIONAL	10,923	746	23,331	35,000	31,192	3,808						35,000
LOCAL ADVANCE CONSTRUCTION					3,808	-3,808						
ORANGE M2 - FREEWAY	75,144	96,000	1,083,208	1,254,352	1,254,352							1,254,352
ORA030605 Total	95,585	96,746	1,107,669	1,300,000	1,298,870	1,130						1,300,000

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Orange County Project Listing
State Highway
(in $000`s)

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage Begin	Signage End	System	Conformity Category	Amendment
10254	Orange	SCAB		10254	CAN69	73	9.6	25.45			S	TCM	0
Description:							PTC	351,188			Agency	TCA	

SAN JOAQUIN HILLS TRANSPORTATION CORRIDOR (SJHTC – SR 73). 15 MI TOLL RD BETWEEN 1-5 IN SAN JUAN CAPISTRANO & RTE 73 IN IRVINE, CONSISTENT WITH SCAG/TCA MOU 4/5/01. EXISTING 3 M/F EA DIR. 1 ADDITIONAL M/F EA DIR, PLUS CLIMBING & AUX LANES BY 2020.

Fund	ENG	R/W	CON	Total	Prior	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	Total
PRIVATE FUNDS	4,290		346,898	351,188	64,988	143,100	143,100					351,188
10254 Total	4,290		346,898	351,188	64,988	143,100	143,100					351,188

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage Begin	Signage End	System	Conformity Category	Amendment
ORA150110	Orange	SCAB		2M0736	PLN40	91	4.2	11			S	EXEMPT/MODELED	0
Description:							PTC	456,190			Agency	ORANGE COUNTY TRANS AUTHORITY (OCTA)	

SR-91 (SR-57 to SR-55) - ADD 1 MF LANE EB FROM 55 TO 57; ADD 1 MF LANE WB FROM GLASSELL TO STATE COLLEGE; IMPROVE INTERCHANGES AND MERGING FROM LAKEVIEW TO RAYMOND(PA&ED Phase). AUXILIARY LANES WILL BE ADDED IN CERTAIN SEGMENTS (PA&ED PHASE).

Fund	ENG	R/W	CON	Total	Prior	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	Total
STP LOCAL - REGIONAL	7,000			7,000	7,000							7,000
AGENCY	50			50							50	50
ORANGE M2 - FREEWAY	2,000			2,000	2,000							2,000
ORA150110 Total	9,050			9,050	9,000						50	9,050

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage Begin	Signage End	System	Conformity Category	Amendment
ORA051	Orange	SCAB		ORA051	CAN69	241	13.8	26.5			S	TCM	0
Description:							PTC	269,045			Agency	TCA	

FOOTHILL TRANSPORTATION CORRIDOR-NORTH (FTC-N - SR 241). 12.7 MI TOLL ROAD BETWEEN OSO PKWY AND ETC, CONSISTENT WITH SCAG/TCA MOU 4/05/01. EXISTING 2 M/F IN EA DIR. 2 ADDITIONAL M/F, PLS CLIMBING & AUX LANES BY 2020.

Fund	ENG	R/W	CON	Total	Prior	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	Total
PRIVATE FUNDS	4,453		264,592	269,045	167,933	50,556	50,556					269,045
ORA051 Total	4,453		264,592	269,045	167,933	50,556	50,556					269,045

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage Begin	Signage End	System	Conformity Category	Amendment
ORA052	Orange	SCAB		ORA052	CAX67	241	14.4	4.1			S	EXEMPT/MODELED	0
Description:							PTC	560,505			Agency	TCA	

FOOTHILL TRANSPORTATION CORRIDOR-SOUTH (FTC-S - SR 241). 10.3 MI TOLL ROAD BETWEEN SAN DIEGO COUNTY LINE AND OSO PKWY. 2 M/F EA DIR FROM OSO PKWY TO SAN DIEGO CO LINE BY 2026. PAED Phase.

Fund	ENG	R/W	CON	Total	Prior	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	Total
PRIVATE FUNDS	487,733			487,733	204,251	49,617	18,493	14,000	18,000	107,986	75,386	487,733
ORA052 Total	487,733			487,733	204,251	49,617	18,493	14,000	18,000	107,986	75,386	487,733

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage Begin	Signage End	System	Conformity Category	Amendment
ORA111207	Orange	SCAB		2T01135	STUDY	241	36.1	39.1			S	EXEMPT/MODELED	0
Description:							PTC	33,728			Agency	TCA	

241/91 EXPRESS LANES (HOT) CONNECTOR: NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241, PER SCAG/TCA MOU 4/05/01. PAED Phase.

Fund	ENG	R/W	CON	Total	Prior	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	Total
PRIVATE FUNDS	33,728			33,728	22,698	4,000	3,500	3,530				33,728
ORA111207 Total	33,728			33,728	22,698	4,000	3,500	3,530				33,728

2019 FEDERAL TRANSPORTATION IMPROVEMENT PROGRAM
Orange County Transportation Authority
Amendment #19-13

(in $000's)

	LEAD AGENCY	PROJECT ID	PROJECT DESCRIPTION	AUTOMATED NARRATIVE	CHANGE REASON
17	Various Agencies	ORA111207	241/91 EXPRESS LANES (HOT) CONNECTOR: NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241.	PROJECT CHANGES (FROM PREVIOUS VERSION): Description changed from: "241/91 EXPRESS LANES (HOT) CONNECTOR: NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241. PAED Phase." Changed Conformity Category: - from "EXEMPT/ MODELED" to "TCM" Changed Project Lead Agency: - from " Transportation Corridor Agency (TCA)" to " Various Agencies" Changed Primary Program Code: - from "STUDY - PROJECT STUDY" to "CANT9 - NEW HOT LANE(S) REGIONALLY SIGNIFICANT" PVT ► Add funds in FY 21/22 in ROW for $2,000 ► Add funds in FY 24/25 in CON for $18,000 ► Add funds in FY 23/24 in CON for $18,632 ► Add funds in FY 22/23 in CON for $52,803 AGENCY ► Add funds in FY 22/23 in CON for $57,085 STPL-R ► Add funds in FY 21/22 in ROW for $50 *Total project cost increased from $33,728 to $182,298 (440.5%)*	COST INCREASE Fund ROW and CON. Added ROW and CON funds
18	Various Agencies	ORA120535	Widen Route 74 (Ortega Highway) - In San Juan Capistrano from Calle Entradero to city/county line. Widen from 2 lanes to 4 lanes.	PROJECT CHANGES (FROM PREVIOUS VERSION): Description changed from: "Widen Route 74 (Ortega Highway) - In San Juan Capistrano from Calle Entradero to city/county line. Widen from 2 lanes to 4 lanes. (PA/ED only)" AGENCY ► Add funds in FY 24/25 in PE for $8,540 STIP-AC ► Delete funds in FY 24/25 in PE for $8,540 *Total project cost stays the same $16,653*	NEW PROJECT Added final design funding.
19	Various Agencies	ORA130302	I-5 Improvement (I-405 to Yale Avenue) - Add one mixed flow lane northbound from truck bypass on-ramp to SR 55; add one mixed flow lane southbound from SR 55 to truck bypass.	PROJECT CHANGES (FROM PREVIOUS VERSION): Changed Conformity Category: - from "EXEMPT/ MODELED" to "NON-EXEMPT" Changed Modeling: - from "NO" to "YES" AGENCY ► Add funds in FY 20/21 in PE for $14,791 ► Add funds in FY 23/24 in CON for $125,338 STIP-AC ► Delete funds in FY 23/24 in CON for $95,338 SB1-LPPF ► Delete funds in FY 20/21 in PE for $14,791 ► Delete funds in FY 23/24 in CON for $30,000 *Total project cost stays the same $223,430*	COST INCREASE Updated project fund sources. Segmenting the I-5, I-405 to SR-55 project into two. Segment 1 is from I-405 to Yale Avenue. Updated modeling info for Segment 1.
20	Various Agencies	ORA151401	I-5 Managed Lanes from Avenida Pico to San Diego County Line. Toll Credit for RSTP and CMAQ.	PROJECT CHANGES (FROM PREVIOUS VERSION): AGENCY ► Add funds in FY 23/24 in PE for $5,500 STIP-AC ► Delete funds in FY 23/24 in PE for $5,500 *Total project cost stays the same $6,071*	MINOR CHANGE Fund source and FY updated from 19-08.

Transit

U.S. Department of Transportation
Federal Highway Administration

California Division

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Sacramento, CA 95814
(916) 498-5001
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November 25, 2019

In Reply Refer To:
HDA-CA

Mr. Bruce de Terra, Division Chief
Transportation Programming Federal Resources Office, M.S. 82
California Department of Transportation
1120 N Street
Sacramento, CA 95814

SUBJECT: SCAG 2019 FTIP/FSTIP AMENDMENT NO. 19-13

Dear Mr. de Terra:

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have completed our reviews of Amendment No. 19-13 to the Southern California Association of Governments' (SCAG) 2019 Federal Transportation Improvement Program (FTIP), which was submitted by your letter dated November 14, 2019. As detailed in your letter's enclosure this amendment requests to add 31 new individual and two grouped project listings to SCAG's portion of the Federal Statewide Transportation Improvement Program (FSTIP), and to modify 35 individual and six grouped project listings with removal of four individual project listings previously approved for California FSTIP inclusion.

We have determined the project listings from this amendment are from SCAG's adopted 2016/2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), and the modifications requested rely on a previous regional emissions analysis. Acceptance of this amendment has been coordinated with Region 9 of the Environmental Protection Agency (EPA) in accordance with the procedures outlined in the *National Memorandum of Understanding (MOU) between the Department of Transportation (DOT) and EPA on Transportation Conformity*, dated April 25, 2000. SCAG's portion of the FSTIP, including its 2019 FTIP Amendment No. 19-13, conforms to the applicable State Implementation Plan (SIP) for air quality.

Pursuant to the February 14, 2018 *Memorandum of Agreement (MOA) between the FHWA – California Division and FTA – Region 9*, and based on our review of information submitted with the State's proposed 2018/19 – 2021/22 FSTIP, which includes revenues, proposed project funding information to demonstrate financial constraint, and statewide and metropolitan planning process documentation, we accept this FSTIP modification proposed for the SCAG region in accordance with 23 Code of Federal Regulations (CFR) Part 450 and 49 CFR Part 613 (see the Final Rule on Statewide and Metropolitan Transportation Planning published in the May 27,

2016 Federal Register). We have determined SCAG's amended portion of the FSTIP, to include its FTIP Amendment No. 19-13, is financially constrained as required by the Federal surface transportation programs authorizing legislation and statewide planning, metropolitan planning, and programming regulations. SCAG's portion of the FSTIP was developed through a continuing, cooperative, and comprehensive transportation planning process in accordance with the metropolitan transportation planning provisions of 23 United States Code (U.S.C.) § 134 and 49 U.S.C. Chapter 53 as amended by Public Law 114-94 (the Fixing America's Surface Transportation (FAST) Act).

Our approval is being given with understanding that an eligibility determination of individual projects for funding must be met, and the applicant must ensure satisfaction of all administrative and statutory requirements. If you have questions or would like additional information about our FSTIP approval for this amendment, contact Michael Morris of the FHWA California Division's Cal-South Office at (213) 894-4014 or michael.morris@dot.gov; or Stacy Alameida of the FTA's Region 9 Los Angeles Metro Office at (213) 202-3953 or stacy.alameida@dot.gov.

Sincerely,

/s/ Ray Tellis

Ray Tellis
Regional Administrator
FTA Region 9

Antonio Johnson
Planning & Air Quality Team Leader
FHWA California Division

TABLE 1 FTIP Projects - Continued

County	System	FTIP ID	Route #	Description	Project Cost ($1,000's)
ORANGE	STATE HIGHWAY	ORA150110	91	SR-91 (SR-57 TO SR-55) - PROJECT PROPOSES TO ADD 1 GP LANE EASTBOUND FROM SR-57 TO SR-55, AND 1 GP LANE WESTBOUND FROM GLASSELL STREET TO STATE COLLEGE BLVD. ADDITIONAL FEATURES OF THE PROJECT INCLUDE IMPROVEMENTS TO NEARBY LOCAL INTERCHANGES AND FREEWAY TO FREEWAY CONNECTORS. AUXILIARY LANES WILL BE ADDED IN CERTAIN SEGMENTS (PA&ED PHASE).	$425,000
ORANGE	STATE HIGHWAY	ORA000821	91	SR-91 WB (SR-55 THROUGH TUSTIN INTERCHANGE) EXTEND LANE AND RECONSTRUCT AUX. LANE. PPNO 4587A EA 0C560)	$46,270
ORANGE	STATE HIGHWAY	ORA020807	91	IN ORANGE COUNTY, AT THE COAL CANYON ROAD INTERCHANGE. THE PROJECT IS TO INSTALL VEGETATION ENHANCEMENTS. EA12-0K3300	$802
ORANGE	STATE HIGHWAY	ORA051	241	FOOTHILL TRANSPORTATION CORRIDOR-NORTH (FTC-N - SR 241). 12.7 MI TOLL ROAD BETWEEN OSO PKWY AND ETC, CONSISTENT WITH SCAG/TCA MOU 4/05/01. EXISTING 2 M/F IN EA DIR. 2 ADDITIONAL M/F, PLS CLIMBING & AUX LANES BY 2020.	$269,045
ORANGE	STATE HIGHWAY	ORA052	241	FOOTHILL TRANSPORTATION CORRIDOR-SOUTH (FTC-S - SR 241). 10.3 MI TOLL ROAD BETWEEN SAN DIEGO COUNTY LINE AND OSO PKWY, CONSISTENT WITH SCAG/TCA MOU 4/05/01. 2 M/F EA DIR FROM OSO PKWY TO COW CAMP RD BY 2017. 2 M/F EA DIR FROM COW CAMP RD TO SAN DIEGO CO LINE BY 2021. 1 ADDITIONAL M/F EA DIR PLS CLIMBING & AUX LANES BY 2030.	$1,331,269
ORANGE	STATE HIGHWAY	ORA111207	241	241/91 EXPRESS LANES (HOT) CONNECTOR: NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241, PER SCAG/TCA MOU 4/05/01.	$183,557
ORANGE	STATE HIGHWAY	ORA111207	241	241/91 EXPRESS LANES (HOT) CONNECTOR: NB SR-241 TO EB SR-91, WB SR-91 TO SB SR-241, PER SCAG/TCA MOU 4/05/01. PARENT PROJECT ORA050	$183,557
ORANGE	STATE HIGHWAY	ORA050	241	EASTERN TRANSPORTATION CORRIDOR (ETC- SR 241/261/133) 26.4 MI TOLL ROAD CONNECTS SR 91 TO I-5 VIA SR 261 AND SR 133, CONSISTENT WITH SCAG/TCA MOU 4/05/01. EXISTING 2 M/F EA DIR. 2 ADDITIONAL M/F IN EA DIR, PLUS CLIMBING AND AUX LANES BY 2020.	$631,902
ORANGE	STATE HIGHWAY	ORA131304	405	I-405(I-5 TO SR-55)-ADD 1 MF LANE EACH DIRECTION FROM I-5 TO SR-55 AND IMPROVE MERGING.(UTILIZE TOLL CREDIT MATCH FOR RSTP) ENG ONLY.	$190,000
ORANGE	STATE HIGHWAY	ORA130064	405	I-405 – ADD ONE SOUTHBOUND AUXILIARY LANE FROM UNIVERSITY DRIVE TO SAND CANYON (SEGMENT 2) AND SAND CANYON AVENUE TO SR-133 (SEGMENT 1)	$16,379
ORANGE	STATE HIGHWAY	ORA113030	405	WIDEN RAMP FOR DECELERATION LANE - NB I-405 FROM 1 MILE NORTH OF JEFFERY RD TO CULVER DR. 0.6 MILES SPLIT FROM ORA001105	$3,230
ORANGE	STATE HIGHWAY	ORA000194	405	HOV CONNECTORS FROM I-405 TO I-605, BETWEEN KATELLA AVE. (I-605 PM R001.104) AND SEAL BEACH BLVD. (I-405 PM 022.643), WITH A SECOND HOV LANE IN EACH DIRECTION ON I-405 BETWEEN THE TWO DIRECT CONNECTORS. TOLL CREDITS FOR CMAQ.	$162,830
ORANGE	STATE HIGHWAY	ORA030605	405	I-405 FROM SR-73 TO I-605. ADD 1 MF LANE IN EACH DIRECTION, AND ADDITIONAL CAPITAL IMPROVEMENTS. COMBINED WITH ORA045, ORA151, ORA100507 AND ORA120310. PHASE 2 LISTED UNDER ORA030605A	$1,300,000
ORANGE	STATE HIGHWAY	ORA030605A	405	I-405 FROM SR-73 TO I-605. CONVERT EXISTING HOV TO HOT. ADD 1 ADDITIONAL HOT LANE EACH DIRECTION AND ADD A HOT DIRECT CONNECTOR TO SR-73 (BY 2035). PHASE 1 PROJECT LISTED UNDER ORA030605	$400,000
ORANGE	STATE HIGHWAY	ORA001108	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SHOPP MANDATES PROGRAM. SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - RAILROAD/HIGHWAY CROSSING, SAFER NON-FEDERAL-AID SYSTEM ROADS, SHOULDER IMP, TRAFFIC CONTROL DEVICES AND OPS ASSISTANCE OTHER THAN SIGNALIZATION PROJECTS, LIGHTING IMP	$23,623
ORANGE	STATE HIGHWAY	ORA040607	999	ORANGE COUNTY - COUNTYWIDE ACTIVITIES: PLANNING, PROGRAMMING AND MONITORING (PPM)	$16,459
ORANGE	STATE HIGHWAY	ORA001104	999	GROUPED PROJECTS FOR SHOULDER IMPROVEMENTS - SHOPP ROADSIDE PRESERVATION PROGRAM. SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - FENCING, SAFETY ROADSIDE REST AREAS	$1,264
ORANGE	STATE HIGHWAY	ORA084402	999	GROUPED PROJECTS FOR PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES. SCOPE - PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - PURCHASE OF OFFICE, SHOP, AND OPERATING EQUIPMENT FOR EXISTING FACILITIES	$580
ORANGE	STATE HIGHWAY	ORA001103	999	GROUPED PROJECTS FOR PAVEMENT RESURFACING AND/OR REHABILITATION - SHOPP ROADWAY PRESERVATION PROGRAM. SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - PAVEMENT RESURFACING AND/OR REHABILITATION, EMERGENCY RELIEF (23 U.S.C. 125), WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES)	$52,962
ORANGE	STATE HIGHWAY	ORA001105	999	GROUPED PROJECTS FOR SAFETY IMPROVEMENTS - SHOPP MOBILITY PROGRAM. SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - RAILROAD/HIGHWAY CROSSING, SAFER NON-FEDERAL-AID SYSTEM ROADS, SHOULDER IMP, TRAFFIC CONTROL DEVICES OPS ASSISTANCE.INTERSECTION SIGNALIZATION PROJECTS, PAVEMENT MARKING DEMO,LIGHTING	$47,730
ORANGE	STATE HIGHWAY	ORA001109	999	GROUPED PROJECTS FOR BRIDGE REHABILITATION AND RECONSTRUCTION - SHOPP PROGRAM. SCOPE: PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 CATEGORIES - WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES).	$5,200

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Appendix F List of Acronyms and Abbreviations

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F.1 List of Acronyms and Abbreviations

°F	degrees Fahrenheit
A	
AADT	annual average daily traffic
AB	Assembly Bill
ac	acre(s)
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing materials
ACS	American Community Survey
ADA	Americans with Disabilities Act
ADI	Area of Direct Impact
ADL	aerially deposited lead
ADT	average daily traffic
AGR	Agricultural Supply
APD	Area of Potential Disturbance
APE	Area of Potential Effects
APN	Assessor's Parcel Number
AQMP	Air Quality Management Plan
AQR	Air Quality Report
ARB	California Air Resources Board
B	
BACM	best available control measures
Basin	South Coast Air Basin
BAU	business as usual
BMPs	best management practices
BNSF	Burlington Northern Santa Fe
BSA	Biological Study Area
BTUs	British thermal units
C	
CAA	Clean Air Act
CAFE	Corporate Average Fuel Economy
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Division of Occupational Safety and Health
California Register	California Register of Historical Resources
Cal-IPaC	California Invasive Plant Council
Caltrans	California Department of Transportation
CaRFG	California Reformulated Gasoline
CCAA	California Clean Air Act
CCP	Construction Contingency Plan
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDP	census designated place

CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CERFA	Community Environmental Response Facilitation Act of 1992
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CFWO	California Fish and Wildlife Office
C-G	Commercial-General
CH_4	methane
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CHSP	Chino Hills State Park
CIP	Corridor Improvement Project
CNDDB	California Natural Diversity Data Base
CNE	Common Noise Environments
CNG	compressed natural gas
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2 e	carbon dioxide equivalent
CO-CAT	Coastal and Ocean Working Group of the California Climate Action Team
CPA	City Planning Area
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CSS	Coastal Sage Scrub
CTC	California Transportation Commission
CTP	California Transportation Plan
CWA	Clean Water Act
CZMA	Coastal Zone Management Act

D

dB	decibel
dBA	A-weighted decibels
DBH	diameter at breast height
DHHS	United States Department of Health and Human Services
DOI	United States Department of Interior
DOT	United States Department of Transportation
DP	(Caltrans) Director's Policy
DSA	Disturbed Soil Area
DTSC	Department of Toxic Substances Control
DWR	California Department of Water Resources

E

EDR	Environmental Data Resources, Inc.
EIC	Eastern Information Center
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EO	Executive Order
ESA(s)	Environmentally Sensitive Area(s)
ETC	Eastern Transportation Corridor

F

F/ETCA	Foothill/Eastern Transportation Corridor Agency
FCAA	Federal Clean Air Act
FAST Act	Fixing America's Surface Transportation Act
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIRM	Flood Insurance Rate Map
FPPA	Farmland Protection Policy Act
FSTIP	Federal Statewide Transportation Improvement Program
ft	foot/feet
FTA	Federal Transit Administration
FTC	Foothill Transportation Corridor
FTIP(s)	Federal Transportation Improvement Program(s)

G

GGES	gasoline gallon equivalents
GHG	greenhouse gas
GIS	geographic information system
GMP	Growth Management Plan
Guidelines	Section 404 (b)(1) Guidelines
GWP	Global Warming Potentials
GWR	Groundwater Recharge

H

h:v	horizontal to vertical
H_2S	hydrogen sulfide
HA	Hydrological Areas
HCP	Habitat Conservation Plan
HEI	Health Effects Institute
HOT	High Occupancy Toll
HOV	High Occupancy Vehicle
HPSR	Historic Property Survey Report
HSA	Hydrologic Subareas
HU	Hydrologic Units
HVAC	heating, ventilation, and air conditioning

I

I-15	Interstate 15
I-5	Interstate 5
IEOC	Inland Empire of Orange County
IEPR	Integrated Energy Policy Report
IND	Industrial Supply
IPaC	Information, Planning, and Conservation
IPCC	Intergovernmental Panel on Climate Change
IRIS	Integrated Risk Information System
ISA	Initial Site Assessment

L

L&WCF	Land and Water Conservation Fund
LACM	Natural History Museum of Los Angeles County
LBP	lead-based paint
lbs/day	pounds per day
LCFS	low carbon fuel standard
LED	light-emitting diode
LEDPA	least environmentally damaging practicable alternative
LNG	liquefied natural gas
LOS	level(s) of service
LPG	liquefied petroleum gas
LRTP	Long Range Transportation Plan
LSA	LSA Associates, Inc.

M

MBTA	Migratory Bird Treaty Act
MCAS	Marine Corps Air Station
MEP	maximum extent practicable
mg/L	milligrams per liter
mi	mile(s)
MLD	Most Likely Descendant
MMT CO_2e	million metric tons of carbon dioxide equivalent
MOU	Memorandum of Understanding
MPAH	Master Plan of Arterial Highways
mph	miles per hour
MPO	Metropolitan Planning Organization
MPSP	Mountain Park Specific Plan
MRZs	Mineral Resource Zones
MS4s	Municipal Separate Storm Sewer Systems
MSAT	Mobile Source Air Toxics
MSE	mechanically stabilized earth
MTBE	methyl tertbutyl ether
MU	Mixed Use
MUN	Municipal and Domestic Supply
MW	Megawatts

N

N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NAHC	Native American Heritage Commission
NATA	National Air Toxics Assessment
National Register	National Register of Historic Places
NCCP	Natural Communities Conservation Plan
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NHPA	National Historic Preservation Act of 1966
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NNL	National Natural Landmark
NO_2	nitrogen dioxide
NOAA Fisheries Service	National Oceanic and Atmospheric Administration's National Marine Fisheries Service
NOI	Notice of Intent
NOP	Notice of Preparation
NO_x	nitrous oxide
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRHP	National Register of Historic Places
NSR	Noise Study Report
NSSP	Non-Standard Special Provisions

O

O_3	ozone
OCFA	Orange County Fire Authority
OCFCD	Orange County Flood Control District
OC MPAH	Orange County Master Plan of Arterial Highways
OCS	Outer Continental Shelf
OCSD	Orange County Sherriff's Department
OCTA	Orange County Transportation Authority
OCWD	Orange County Water District
OPR	Governor's Office of Planning and Research
Orange County Basin	Orange County Groundwater Basin
OSHA	Occupational Safety and Health Administration
OSTP	Office of Science and Technology Policy

P

PA	Section 106 Programmatic Agreement
PA/ED	Project Approval/Environmental Document
PAR	Property Analysis Record
Pb	lead

PDPM	Project Development Procedures Manual
PDT	Project Development Team
PeMS	(Caltrans) Performance Measurement System
PER	Paleontological Resources Evaluation Report
Pilot Program	Surface Transportation Project Delivery Pilot Program
PIR	Paleontological Resources Identification and Evaluation Report
PM	particulate matter
PM	Post Mile
PM_{10}	particulate matter less than 10 microns in size
$PM_{2.5}$	particulate matter less than 2.5 microns in size
PMP	Paleontological Mitigation Plan
PMR	Paleontological Mitigation Report
POAQC	Project of Air Quality Concern
POM	polycyclic organic matter
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
ppm	parts per million
PRC	Public Resources Code
PROC	Process Water Supply
Proposed Project	SR-241/SR-91 Tolled Express Lanes Connector Project
Protocol	Caltrans Transportation Project–Level Carbon Monoxide Protocol
PS&E	Plans, Specifications, and Estimates
PSR/PDS	Project Study Report/Project Development Support

Q

QA/QC	quality assurance/quality control
Questar	Four Corners Pipeline

R

RAP	Relocation Assistance Program
RARE	Rare, Threatened, or Endangered Species
RCRA	Resource Conservation and Recovery Act of 1976
RCTC	Riverside County Transportation Commission
RE	Estate Residential
REC	Recognized Environmental Conditions
REC-1	Contact Water Recreation
REC-2	Noncontact Water Recreation
Resources Agency	California Natural Resources Agency
RMP	Regional Mobility Plan
ROD	Record of Decision
ROGs	reactive organic gases
RSA	Resource Study Areas
RTA	Riverside Transit Agency
RTP	Regional Transportation Plan
RV	recreational vehicle
RWQCB	Regional Water Quality Control Board

S

SAA	Streambed Alteration Agreement
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SAHSP	Summit of Anaheim Hills Specific Plan
SARI	Santa Ana River Interceptor
SART	Santa Ana River Trail
SB	Senate Bill
SBCM	San Bernardino County Museum
SBSD	Bernardino County Sheriff's Department
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCE	Southern California Edison
SCG	Southern California Gas Company
SCH	State Clearinghouse
SCS	Sustainable Communities Strategy
SCSP	Sycamore Canyon Specific Plan
SDC	Seismic Design Criteria
SER	Standard Environmental Reference
sf	square foot/feet
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SJHTCA	San Juan Hills Transportation Corridor Agency
SLF	Sacred Lands File
SLR	sea-level rise
SLR Guidance	*State of California Sea-Level Rise Interim Guidance Document*
SMARA	Surface Mining and Reclamation Act
SO_2	sulfur dioxide
SONGS	San Onofre Nuclear Generating Station
SR-55	State Route 55
SR-71	State Route 71
SR-91	State Route 91
SR-133	State Route 133
SR-241	State Route 241
SR-261	State Route 261
SSC	Species of Special Concern
SVP	Society of Vertebrate Paleontology
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board

T

TCA	Transportation Corridor Agencies
TCAP	Temescal Canyon Area Plan
TCE	temporary construction easements

TCWG	Transportation Conformity Working Group
TDM	Transportation Demand Management
TDS	Total Dissolved Solids
TIP	Transportation Improvement Program
TMDLs	Total Maximum Daily Loads
TMP	Transportation Management Plan
TMT	Transportation Management Team
TNM	Traffic Noise Model
TSCA	Toxic Substances Control Act
TSM	Transportation System Management

U

U.S. EPA	United States Environmental Protection Agency
Uniform Act	Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970
USACE	United States Army Corps of Engineers
USC	United States Code
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

V

VA	Value Analysis
VHT	vehicle hours travelled
VIA	Visual Impact Assessment
VMT	vehicle miles traveled
VOCs	volatile organic compounds

W

WARM	Warm Freshwater Habitat
WDRs	Waste Discharge Requirements
WILD	Wildlife Habitat
WMAs	Watershed Management Areas
WPCP	Water Pollution Control Program
WQAR	Water Quality Assessment Report
WR-MSHCP	Western Riverside County Multiple Species Habitat Conservation Plan

Appendix G List of Technical Studies

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The following reports were prepared for the Proposed Project and were used in the development of this Supplemental EIR/EIS. These reports are available for review, pursuant to Title 14 CCR 151501 and Title 40 CFR 1502.21, at Caltrans District 12, 1750 East Fourth Street, Suite 100, Santa Ana, California 92705, and the Foothill/ Eastern Transportation Corridor Agency (F/ETCA) office, 125 Pacifica, Suite 120, Irvine, California 92618, during regular business hours. In addition to the Caltrans District 12 and the F/ETCA offices, the Supplemental EIR/EIS and associated technical studies are available for review at the following locations and on the Caltrans website:

- **East Anaheim Library**
  8201 East Santa Ana Canyon Road
  Anaheim, CA 92808
- **Corona Public Library**
  650 South Main Street
  Corona, CA 92882
- **El Modena Branch Library**
  380 South Hewes Street
  Corona, CA 92869

Caltrans Website: http://www.dot.ca.gov/d12/DEA/241-91/0K9700/

The following technical studies are referenced throughout this Supplemental EIR/EIS:

- *Air Quality Report* (LSA Associates, Inc., July 2015)
- *Air Quality Report Errata* (LSA Associates, Inc., August 2016)
- *Biological Assessment* (April 2016)
- *District Preliminary Geotechnical Report* (CH2M Hill, February 2016)
- *Draft Project Report* (Michael Baker International, October 2016)
- *Final Project Report* (Michael Baker International, January 2020)
- *Final Relocation Impact Memorandum* (Overland Pacific Cutler May 2017)
- *Final Value Analysis Report* (CVS & Associates, Inc., October 2015)
- *Jurisdictional Delineation Report* (LSA Associates, Inc., May 2015)
- *Location Hydraulic Study* (RBF Consulting, May 2014)
- *Natural Environment Study* (LSA Associates, Inc., December 2015)
- *Natural Environment Study Errata* (LSA Associates, Inc., August 2016)
- *Noise Study Report* (CH2M Hill, August 2015)

- *Noise Study Report Errata* (CH2M Hill, August 2016)
- *Paleontological Resources Identification and Evaluation Report* (LSA Associates, Inc., January 2014)
- *Phase I Initial Site Assessment* (RBF Consulting, October 2015)
- *Supplemental Archaeological Survey Report* (LSA Associates, Inc., September 2015)
- *Supplemental Historic Property Survey Report* (LSA Associates, Inc., September 2015)
- *Supplemental Natural Environmental Study* (LSA Associates, Inc., April 2016)
- *Supplemental Natural Environmental Study Errata* (LSA Associates, Inc., August 2016)
- *Supplemental Paleontological Resources Identification and Evaluation Report* (LSA Associates, Inc., August 2015)
- *Traffic Analysis Report* (CH2M Hill, July 2015)
- *Traffic Analysis Report Errata Sheet* (CH2M Hill, July 2016)
- *Traffic Analysis for Response to Comments on the SR 241/SR 91 Express Lanes Connector Draft Supplemental EIR/EIS* (Stantec Consulting Services, Inc., July 2019)
- *Visual Impact Assessment* (RBF Consulting, August 2015)
- *Visual Impact Assessment Clarification Memorandum* (Michael Baker International, June 2016)
- *Water Quality Assessment Report* (LSA Associates, Inc., August 2015)

Appendix H USFWS and NMFS Species Lists

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901
http://www.fws.gov/carlsbad/

In Reply Refer To: July 17, 2019
Consultation Code: 08ECAR00-2019-SLI-1268
Event Code: 08ECAR00-2019-E-02919
Project Name: SR-241/SR-91 Express Lanes Connector

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species 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 U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

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:

Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
(760) 431-9440

Project Summary

Consultation Code: 08ECAR00-2019-SLI-1268

Event Code: 08ECAR00-2019-E-02919

Project Name: SR-241/SR-91 Express Lanes Connector

Project Type: TRANSPORTATION

Project Description: Transportation Corridor agencies(TCA) in corporation with California Department of Transportation propose to construct new direct connectors between SR-241 toll lanes and SR-91 Express lanes. Project is located in Orange and Riverside counties.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/33.85063133432693N117.71701281959679W



Counties: Orange, CA | Riverside, CA

Endangered Species Act Species

There is a total of 12 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.

Birds

NAME	STATUS
Coastal California Gnatcatcher *Polioptila californica californica* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8178	Threatened
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered

Amphibians

NAME	STATUS
Arroyo (=arroyo Southwestern) Toad *Anaxyrus californicus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3762	Endangered

Fishes

NAME	STATUS
Santa Ana Sucker *Catostomus santaanae* Population: 3 CA river basins There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3785	Threatened

Insects

NAME	STATUS
Delhi Sands Flower-loving Fly *Rhaphiomidas terminatus abdominalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1540	Endangered
Quino Checkerspot Butterfly *Euphydryas editha quino (=E. e. wrighti)* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5900	Endangered

Crustaceans

NAME	STATUS
San Diego Fairy Shrimp *Branchinecta sandiegonensis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6945	Endangered

Flowering Plants

NAME	STATUS
Braunton's Milk-vetch *Astragalus brauntonii* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5674	Endangered
San Diego Ambrosia *Ambrosia pumila* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8287	Endangered
Santa Monica Mountains Dudleyea *Dudleya cymosa ssp. ovatifolia* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2538	Threatened
Thread-leaved Brodiaea *Brodiaea filifolia* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6087	Threatened

Critical habitats

There are 3 critical habitats wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Braunton's Milk-vetch *Astragalus brauntonii* https://ecos.fws.gov/ecp/species/5674#crithab	Final
Coastal California Gnatcatcher *Polioptila californica californica* https://ecos.fws.gov/ecp/species/8178#crithab	Final
Santa Ana Sucker *Catostomus santaanae* https://ecos.fws.gov/ecp/species/3785#crithab	Final

NMFS Species list for SR-241/SR-91 Express Lanes Connector Project obtained from NMFS KMZ Resources tool on 7/17/2019

Quad Name **Black Star Canyon**
Quad Number **33117-G6**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) - **X**
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH -
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

An "X" following listed feature indicates it may be present, identified resources may be present throughout the entire quadrangle or only a portion of it.

Appendix I Traffic Management Plan Data Sheet

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TRANSPORTATION MANAGEMENT PLAN DATA SHEET

(Preliminary TMP Elements and Costs)

12-0RA-241 PM 36.1/39.1
12-ORA-91 PM 14.7/18.9

Co/Rte/PM 08-RIV-91 PM 0.0/1.5 EA 0K97000 Alternative No. BUILD

Project Limit: On Route SR-241 and SR-91 between SR-241 Windy Ridge Toll Plaza and SR-91/Coal Canyon Road

Project Description: State Route 241/91 Express Lanes Connector Project

1) Public Information	
☒ a. Brochures and Mailers	$ 1,000
☒ b. Press Release	
☐ c. Paid Advertising	$ 50,000
☒ d. Public Information Center/Kiosk	$ 20,000
☐ e. Public Meeting/Speakers Bureau	$
☒ f. Telephone Hotline	
☒ g. Internet	$ 14,000
☐ h. Others _____	$
2) Motorists Information Strategies	
☐ a. Changeable Message Signs (Fixed)	$
☒ b. Changeable Message Signs (Portable)	$ 60,000
☒ c. Ground Mounted Signs	$ 10,000
☒ d. Highway Advisory Radio	$ 3,000
☐ e. Caltrans Highway Information Network (CHIN)	
☐ f. Others _____	$
3) Incident Management	
☒ a. Construction Zone Enhanced Enforcement Program (COZEEP)	$ 109,440
☒ b. Freeway Service Patrol	$ 199,800
☐ c. Traffic Management Team	
☐ d. Helicopter Surveillance	$
☐ e. Traffic Surveillance Stations (Portable CCTV and traffic monitoring stations)	$
☒ f. Others Call Boxes	$ 5,000

4) Construction Strategies

☐	a. Lane Closure Chart	
☐	b. Reversible Lanes	
☐	c. Total Facility Closure	
☐	d. Contra Flow	
☐	e. Truck Traffic Restrictions	$
☐	f. Reduced Speed Zone	$
☐	g. Connector and Ramp Closures	
☐	h. Incentive and Disincentive	$
☒	i. Moveable Barrier	$ 100,000
☐	j. Others _____	$

5) Demand Management

☐	a. HOV Lanes/Ramps (New or Convert)	$
☐	b. Park and Ride Lots	$
☐	c. Rideshare Incentives	$
☐	d. Variable Work Hours	
☐	e. Telecommute	
☐	f. Ramp Metering (Temporary Installation)	$
☐	g. Ramp Metering (Modify Existing)	$
☐	h. Others _____	$

6) Alternative Route Strategies

☐	a. Add Capacity to Freeway Connector	$
☐	b. Street Improvement (traffic signal timing modification and striping modification)	$
☐	c. Traffic Control Officers	$
☐	d. Parking Restrictions	
☒	e. Others Detours	$ 5,000

7) Other Strategies

☐	a. Application of New Technology	$
☐	b. Others _____	$

TOTAL ESTIMATED COST OF TMP ELEMENTS = $ 577,240

Appendix J FEMA FIRMs

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Exhibit 1: FEMA FIRM – 06059C0180J dated December 3, 2009

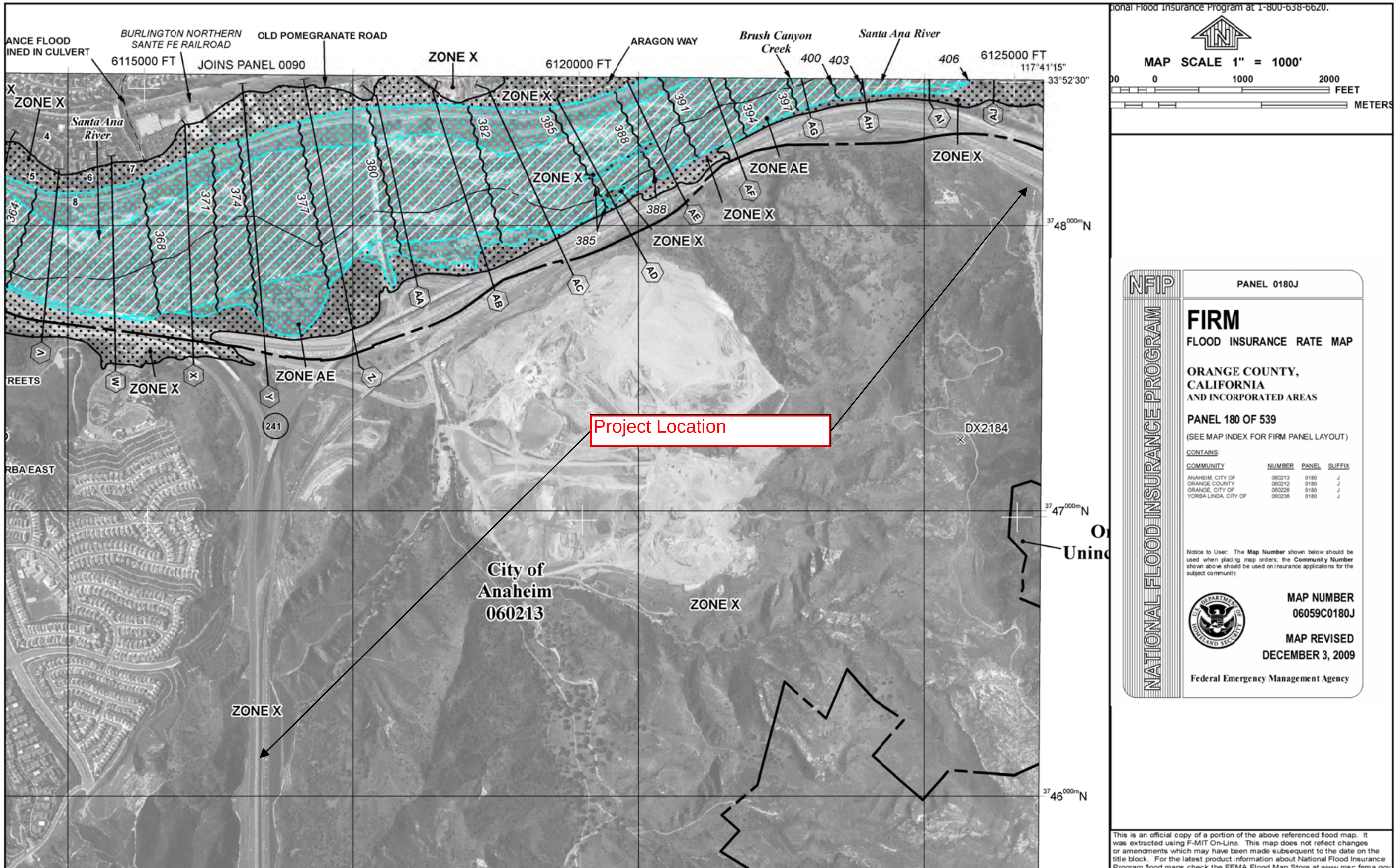
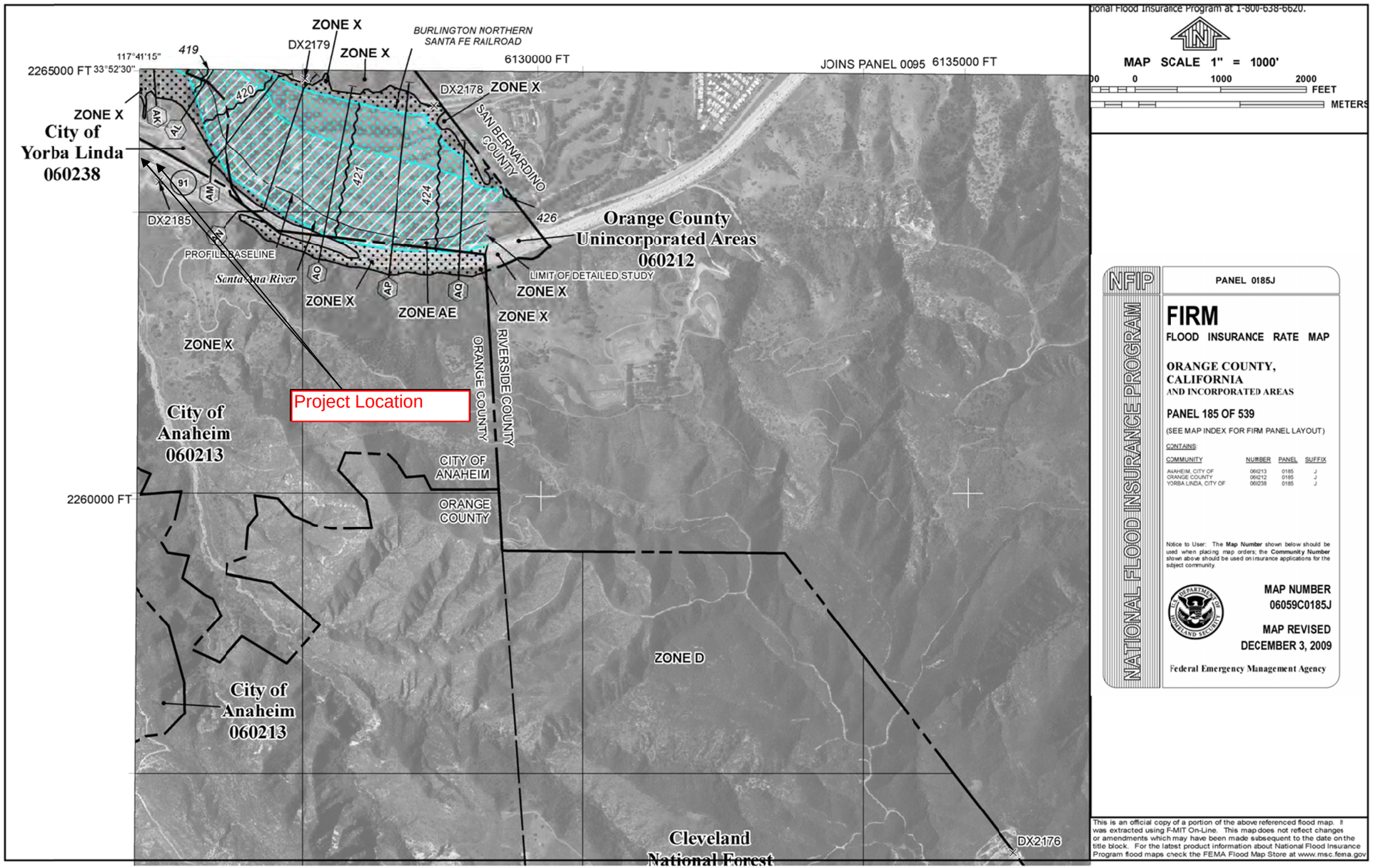


Exhibit 2: FEMA FIRM – 06059C0185J dated December 3, 2009



Appendix K Biological Opinions

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Field Office
2730 Loker Avenue West
Carlsbad, California 92008

July 6, 1994

OPTIONAL FORM 99 (7-90) 408 p 7/6/94
FAX TRANSMITTAL # of pages ▶ 4/4
To Mary Gray From Acting FS
Dept/Agency FHA Phone # 619/431-9440
Fax # 916/551-1273 Fax # 431-9618
NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

Mr. Peter C. Markle
Acting Division Administrator
U.S. Department of Transportation
Federal Highway Administration
California Division
980 9th Street, Suite 400
Sacramento, California 95814

Attn: Ms. Mary Gray

Re: Biological Opinion on the Effects of the Eastern Transportation Corridor (ETC) on the Coastal California Gnatcatcher, and Conference Report on the Brauntons' Milkvetch, Orange County, California (1-6-94-F-17)

Dear Mr. Markle:

This Biological Opinion responds to your January 14, 1994 request to the Fish and Wildlife Service (Service) for a formal consultation, pursuant to Section 7(a)(2) of the Endangered Species Act of 1973, as amended (Act) on the effects of the ETC on the coastal California gnatcatcher (Polioptila californica californica). On February 22, 1994 the Service sent you a letter that indicated that the Biological Assessment for the ETC project satisfactorily addressed impacts to the listed and candidate species affected by the ETC project. However, after further review and analysis, the Service determined that additional information was needed regarding the impact of the ETC project on Orange County's Natural Community Conservation Plan (NCCP) Program before the Service could proceed with completion of the biological opinion; you were notified of the additional information needs in a letter from the Service dated March 10, 1994. On June 7, 1994, the Service received the final package containing the additional information needed to complete the biological opinion via your letter dated June 2, 1994.

The Service listed the coastal California gnatcatcher (Polioptila californica californica), hereinafter referred to as "the gnatcatcher", as a threatened species on March 25, 1993. On May 2, 1994, the listing was invalidated by the United States District Court of Columbia on the basis that the Secretary of the Interior failed to obtain and make available for public review and comment the data underlying a published scientific report on the specific taxonomy of the gnatcatcher. On June 16, 1994, Judge Sporkin granted a stay of his earlier decision to vacate the listing of the gnatcatcher, allowing the gnatcatcher to retain its threatened status while the Service made the data in question available to the public for review and comment. On June 2, 1994, the Service published a 60 day notice of availability (Notice) of the data in the Federal Register. In compliance with the Judge's order, the Secretary of the

DO NOT REMOVE FROM FILE 3.210.1

Biological Opinion

It is the biological opinion of the Service that the proposed project, including the mitigation and avoidance measures required by the Final EIS and Biological Assessment, and as modified by the additional mitigation measures proposed in the Federal Highway Administration's final submittal to the Service (FHA 1994c), is not likely to jeopardize the continued existence of the coastal California gnatcatcher. Critical habitat for this species has not been proposed and, therefore, no critical habitat would be modified.

The Service further concludes that the proposed project is not likely to jeopardize the continued existence of the Braunton's milkvetch.

This Biological Opinion is based upon the best available information, including the draft Subregional Reserve Design for the Central and Coastal NCCP Subregions of the County of Orange, presented to the Service on April 22, 1994, as discussed later in this document. If these conditions change substantially, reinitiation of formal consultation may be required, pursuant to 50 CFR 402.16.

Description of the Proposed Action

The Transportation Corridor Agencies (TCA) and Caltrans propose to authorize and have built a multiple lane tollway that would extend from State Route 91 south and west to Interstate 5 in central Orange County. The tollway would include a North Leg and an East Leg. As shown on Figure 1 of the Biological Assessment (P&D Technologies 1994), the North Leg would begin at State Route 91 and would traverse Gypsum and Blind Canyons to the East Orange Interchange. It would include six general purpose lanes, either one concurrent flow high occupancy vehicle (HOV) lane in each direction or two reversible HOV lanes and climbing and auxiliary lanes. The East Leg would begin at the East Orange interchange near Santiago Canyon Road and would extend southeast to connect with the Laguna Freeway at Interstate 5 near the United States Marine Corps Air Station in El Toro. It would include six general purpose lanes, two concurrent flow HOV lanes, and climbing and auxiliary lanes. The East Leg includes an interchange connection with the Foothill Transportation Corridor (North), west of Sand Canyon Avenue. The FTC (North) would extend from the ETC east to Oso Parkway. The ETC (North and East Legs) would be approximately 16.8 miles in length and have a grading width that varies from approximately 500 feet to 2,200 feet. Two maintenance stations to serve the tollway would be constructed as part of this project.

The ETC also includes, as a local related project, a West Leg, which would extend from a connection with the North and East Legs of the ETC at the East Orange Interchange to Jamboree Road south of Interstate 5 in Irvine, with no connection with Interstate 5. The West Leg would be constructed by TCA as a separate, locally funded project and is not part of the federal action assessed in this Biological Opinion. However, a separate Biological Opinion will be prepared for the West Leg ETC in consultation with the U.S. Army Corps of Engineers.

Interior must make a determination whether the listing should be revised or revoked in light of his review of the data and public comments received, no later than 100 days following the Notice. This 100-day period concludes on September 10, 1994.

The referenced action may affect the gnatcatcher. The project also may adversely affect this species' habitat, coastal sage scrub, in the project area and environs, and an avian species being considered for imminent listing by the Service, the coastal cactus wren (Campylorhynchus brunneicapillus couesi); we have included technical assistance recommendations concerning the effects of the project on this species in the opinion. This biological opinion also constitutes the conference report on a plant species proposed for federal listing, the Brauntons' milkvetch (Astragalus brauntonii). In addition, as requested by the project applicant, the Service has also provided technical assistance on two Category 2 candidate plant species that would be affected by the project in this opinion: the many-stemmed dudleya (Dudleya multicaulis) and chaparral beargrass (Nolina cismontana).

At issue in this biological opinion, are impacts to the gnatcatcher, cactus wren and the Brauntons' milkvetch that may result from direct, indirect, interrelated or interdependent actions that are enabled or regulated by the Federal Highway Administration and implemented by one or more or its agents (e.g. California Department of Transportation, [Caltrans], Transportation Corridor Agencies [TCA], private construction firms, private parties).

This Biological Opinion was prepared using the following information: 1) Eastern Transportation Corridor, Final Environmental Impact Report/Environmental Impact Statement, Foothill/Eastern Transportation Corridor Agency, March 1994 (hereinafter referred to as "EIS"); 2) Biological Resources Analysis Technical Report, P&D Technologies, May 1992; 3) Deer Telemetry Study, Foothill/Eastern Transportation Corridor Agency, March 1992; 4) Supplemental Draft Environmental Impact Study, Foothill/Eastern Transportation Corridor Agency, January 1993; 5) Federal Action on the Eastern Transportation Corridor Biological Assessment, Foothill/Eastern Transportation Corridor Agency, February 1994; 6) Southern California Coastal Sage Scrub Natural Community Conservation Planning (NCCP) Process Guidelines, including Attachment A: Conservation Guidelines and all attached and referenced documents, prepared by California Department of Fish and Game and California Resources Agency, November 1993 (hereinafter referred to a "Conservation Guidelines"); 7) County of Orange Coastal and Central NCCP/HCP Preliminary Reserve Design and Supporting Documentation, County of Orange, April 22, 1994; 8) various communications, including additional data and information developed between March through June 1994 by the Federal Highway Administration and/or their agents (on file); 9) Biological Opinion on the effects of the San Joaquin Hills Transportation Corridor on the Coastal California Gnatcatcher and Coastal Cactus Wren (on file); 10) Other biological references (see below, "Literature Cited and References").

Peter C. Markle (1-6-94-F-17) 4

As part of the proposed project, the Federal Highway Administration or its agents (specifically TCA) have agreed to implement the following mitigation measures, summarized below. For additional detail, refer to the Final EIS, Biological Assessment, and additional mitigation measures contained in the Federal Highway Administration's final submittals to the Service (FHA 1994b, 1994c). These measures are also further discussed in the "Terms and Conditions" related to the incidental take statement later in this document. In part, TCA (or the Federal Highway Administration) has agreed to:

1. Shift the ETC an estimated 500 feet further east away from Siphon Ridge. This shift reduces coastal sage scrub impacts, gnatcatcher and cactus wren impacts and provides a larger block of contiguous open space around Siphon Reservoir;

2. Develop and implement a Siphon Reservoir/Ridge Preservation and Restoration Program. Approximately 82 acres of existing coastal sage scrub in the Siphon Ridge area will be preserved. Another 112 acres of coastal sage scrub habitat located generally to the west and northwest of the reservoir will be restored, through a restoration/enhancement program developed in cooperation with the Service;

3. Implement a one-half acre pilot coastal sage scrub restoration/revegetation project. The results of this pilot program will be the basis for developing the coastal sage scrub restoration/enhancement project described above. The ultimate goal is to restore native coastal sage scrub to the surrounding reservoir hills, historically in agricultural production, providing increased forage and nesting, not only for the California gnatcatcher but many other coastal sage scrub-associated species;

4. Contribute $1,515,000 to a Conservation Fund. The Conservation Fund is to be used to support the Natural Communities Conservation Planning Efforts, including but not limited to management, restoration and enhancement of lands preserved through the Central and Coastal Subregional NCCP Planning effort. The Conservation Fund will be set up in a phased-installment program over a three-year period. Each installment will be for the amount of $505,000. The first installment will be paid by January 1996 or within 90 days after the bond sale (based on the bond sale occurring on or after October 1, 1995), the second installment will be paid by January 1, 1997 and the third installment will be paid by January 1, 1998;

5. Restore 170 acres at designated areas along the ETC graded slopes with coastal sage scrub plant species. (There would be a 14-foot buffer between pavement and the restored vegetation to accommodate Caltrans maintenance activities (P&D Technologies 1994);

6. Construct a minimum of four wildlife crossings at four locations. These locations are described in the FEIS (FHA 1994a), Biological Assessment (P&D Technologies 1994) and subsequent documentation developed between the Service, the Federal Highway Administration and the TCA (FHA 1994b and 1994c). In conjunction with construction at the

four wildlife crossings, natural springs or seeps will be protected and/or gallinaceous guzzlers (catch basin/watering devices) or other water storage containers and salt licks shall be constructed and installed to encourage the use of the wildlife crossings. The Federal Highway Administration or its agents will coordinate with the Service during preparation of the final grading plan for the wildlife crossing at Station No. 816;

7. Provide 10 culverts at least 54" in diameter along the East Leg and 9 culverts at least 54" in diameter along the North Leg, and three culverts at least 54" in diameter for the Foothill Transportation Corridor Connection to enhance wildlife crossing. The locations and dimensions of the culverts meeting this criteria are described in FHA 1994c;

8. Revegetate the area disturbed by construction of the wildlife crossings. A wildlife crossing revegetation plan for each crossing will be coordinated with the Service prior to the construction of the crossings;

9. Obtain wildlife conservation easements for all habitat mitigation areas and movement corridors under the wildlife crossings related to the ETC;

10. Conduct wildlife movement studies near each of the four wildlife crossing locations during the Spring and Fall. Reports shall be prepared annually, beginning one year after the opening of ETC and continuing for a total of five years. Alternatively, TCA may participate in or provide monetary contributions to radio tracking studies of predators in the region, conducted by the Service or other parties approved by the Service.

If the studies indicate the wildlife crossings are less than successful, as determined by the Service, then additional corrective measures shall be conducted, as necessary;

11. Ensure the operation of twenty cowbird traps in the Siphon Reservoir area and along the East Leg in perpetuity. Funds shall be provided sufficient to conduct trapping annually or to establish an endowment sufficient to provide trapping in perpetuity;

12. Perform a series of monitoring studies until performance criteria are met, to provide additional information on gnatcatcher habitat utilization. The purposes of these studies shall be as follows:

a. To determine the success of the revegetation efforts in providing nesting opportunities for the gnatcatcher with consideration of predation, nest parasitism and other factors, and, in addition,

b. A banding study will be conducted to determine extent of juvenile gnatcatcher dispersal at Siphon Reservoir and along the frontal slopes across the East Leg of the ETC. The banding study will be initiated in March of 1995.

The study methodologies shall be approved by the Service;

13. Immediately replace or restore all coastal sage scrub habitat outside of the approved construction footprint, at a ratio of five acres replaced for each acre lost, that is destroyed or significantly modified as a result of the construction, implementation, or operation of the proposed project;

14. Implement all mitigation measures that are implied or identified in the Technical Studies or EIS, pertaining to water quality or erosion to prevent the dissemination or concentration of pollutants in the project area or "Action Area";

15. Mitigate light and glare impacts according to the measures identified in the EIS;

16. Provide a minimum of seven, and if feasible, 14 days prior notice to the Service before commencing grading activities. Grubbing or other land clearing activities shall not occur unless and until construction of the ETC is ready to begin in earnest. The following construction monitoring measures will be implemented to minimize impacts to gnatcatchers, coastal cactus wrens, and coastal sage scrub habitat:

a) Construction will be monitored by a biologist to minimize construction impacts on natural resources outside the actual construction zone. The monitor will observe the contractor's work to ensure that work does not take place in high value natural areas outside the clearing limits as staked in the field.

b) The contractor will review the rough grading plans and staking to ensure that the grading is within the project footprint as described for the Biological Opinion.

c) Construction monitoring activities will include the prevention of harm, harassment, injury, or death of wildlife by means of the education of contractor and construction crews. In addition, the monitor will work to prevent violation of existing laws, such as the Migratory Bird Treaty, Clean Water Act, and Fish and Game Code. If any violations or potential violations of these and other laws are noted, the monitor will advise the TCA accordingly. If necessary, work will be stopped, and the monitor shall advise the Federal Highway Administration, TCA, Service, and the Department of Fish and Game and other appropriate resource agencies to resolve the situation.

d) Monitoring of coastal sage scrub habitat within or immediately adjacent to active or future project construction areas will occur throughout the construction period, in order for the monitor to be aware of gnatcatcher and coastal cactus wren locations.

e) Continuous monitoring of gnatcatchers in active territories will be conducted during any construction operations that occur within

100 feet of occupied habitat. The purpose of this monitoring will be either to verify that the construction does not significantly adversely affect the gnatcatcher activity or to determine whether "take" occurs, whichever the case may be. If this monitoring indicates that unauthorized take of gnatcatchers may occur, construction will cease pending coordination with the Service; and,

17. Mitigation measures for the many-stemmed dudleya and the chaparral beargrass will be conducted, as outlined in the ETC FEIS and the Biological Assessment, as modified below (FHA 1994a and P&D Technologies 1994):

a. The North Lake Interchange, as evaluated in the FEIS, will not be built as part of the ETC in order to avoid impacts to the many-stemmed dudleya. If this interchange should become necessary in the future, based on traffic demand, it will be redesigned to avoid impacts on the many-stemmed dudleya, or the impacts will be mitigated through the selection of an alternative site for transplantation and establishment of the plants, and as approved by the Service. The dudleya will be transplanted prior to the impact and reach a level of success, as approved by the Service, prior to impact by construction; and

b. A salvage program will be developed to remove and relocate chaparral beargrass that would be impacted by ETC construction, in consultation with the Service, CDFG and other qualified resources specialists. Revegetation/transplantation and enhancement of beargrass will occur along the graded slopes of the ETC alignment and within Open Space Area 31 and Blind Canyon; a 20 acre area in the Limestone Regional Park ETC reservation area has been set aside for chaparral beargrass preservation (P&D Technologies 1994).

In addition, the Service notes that the TCA has enrolled in the NCCP Program. The NCCP Program was established in 1991 by the State of California through passing of the Natural Community Conservation Planning Act of 1991. Planning and implementation of the NCCP Program is the responsibility of the California Department of Fish and Game, in collaboration with The Resources Agency. The purpose of the NCCP Program is to provide long-term, regionally designated protection of natural wildlife diversity while permitting appropriate and compatible land development. Subregional Conservation Plans are guided by the Natural Community Conservation Guidelines, which are based on recommendations by a five-member panel of experts on various aspects of coastal sage scrub ecology. The ultimate goal of a NCCP Program is to provide for the establishment and management of permanent multi-species preserves. This establishment of preserves under the NCCP Program includes the identification and subsequent permanent protection of a network of core reserves, and the incorporation of biological corridors and linkages between core reserves and with other natural lands. NCCP planning is currently underway in Orange, San Diego, Riverside and Los Angeles counties.

In Orange County, two subregions have been designated that encompass most of the coastal sage scrub habitat in the county - the Southern Subregion, and the

Central and Coastal Subregion. Draft NCCP plans are being prepared for both subregions, through a collaborative effort between local governments, environmental group representatives, land owners, land developers, TCA, CDFG and the Service.

The ETC project would affect the Central and Coastal NCCP planning effort, specifically, the Central subarea. A draft reserve design for this subregion was presented on April 22, 1994. The reserve design incorporates the ETC, along with its proposed wildlife crossings intended to preserve connectivity between habitat reserves bisected by the ETC. While a significant amount of coastal sage scrub habitat, including most gnatcatcher and coastal cactus wren population centers appear to have been included in habitat preserves, this reserve design was clearly identified as a preliminary design and subject to change as the planning process proceeded (County of Orange 1994). The Service has reviewed the draft reserve design and provided preliminary comments, but has not had the opportunity to review the data upon which the habitat reserves were based. Once the data have been received and analyzed by the Service, final comments on the Central and Coastal NCCP reserve design will be provided.

As discussed above, TCA is an active member of the Central and Coastal Subregional NCCP planning effort. In this capacity, TCA has responded to a number of requests for modification of the ETC project, including a strategic alignment shift in the Siphon Reservoir area to specifically reduce impacts to gnatcatchers, cactus wren and their coastal sage scrub habitat, and has incorporated other modifications to the project to improve wildlife movement across the ETC.

Effects of Proposed Action on Listed Species

Species Accounts

Coastal California Gnatcatcher

Primarily because of substantial, recent reductions in the habitat and range of the species and the inadequacy of existing regulations, the Service listed the gnatcatcher as threatened on March 30, 1993 (58 FR 16742). In recognition of the State's Natural Community Conservation Planning Program (NCCP Program), being implemented under the authority of the State of California's Natural Community Conservation Planning Act of 1991 (NCCP Act), and several local government on-going multi-species conservation planning efforts that intend to apply Federal Endangered Species Act standards to activities affecting the gnatcatcher, on December 10, 1993, the Service issued a special rule, pursuant to section 4(d) of the Act, defining the conditions under which take of the gnatcatcher would not be a violation of section 9 (58 FR 65088). Under the special rule, incidental take of the gnatcatcher by land-use activities addressed in an approved Natural Community Conservation Plan (NCCP) would not be considered a violation of section 9 of the Act, provided that the Service determined that the NCCP meets the issuance criteria for an "incidental take" permit, pursuant to section 10(a)(2)(B) of the Act and 50 CFR 17.32 (b)(2). A limited amount of incidental take of the gnatcatchers within subregions actively engaged in preparing a NCCP would also not be considered a violation

of section 9 of the Act, provided that such take results from activities conducted consistent with the State's NCCP Conservation and Process Guidelines. The Conservation Guidelines limit this "interim take" to no more than 5% of existing coastal sage scrub habitat.

The coastal California gnatcatcher is a recognized subspecies of the California gnatcatcher (Polioptila californica [Brewster]) and is endemic to coastal southern California and northwestern Baja California, Mexico (American Ornithologists' Union 1983, 1989; Atwood 1980, 1988, 1990, 1991).

The gnatcatcher, a small, gray songbird, is an obligate resident of coastal sage scrub dominated plant communities from Los Angeles County generally south along the coast to El Rosario at about 30 degrees north latitude (American Ornithologists' Union 1957, Atwood 1990, Phillips 1991, Banks and Gardner 1992). The appropriate habitat or habitat type, occurs in a patchy or mosaic distribution. The distribution and size of these patches of suitable habitat varies throughout the range of the species from year to year due to the expressed effects of a variety of variables.

Typical coastal sage scrub habitat constituents are relatively low-growing, drought-deciduous, and succulent plant species. Representative plant taxa in this plant community include coastal sagebrush (Artemisia californica), several species of sage (Salvia spp.), California buckwheat (Eriogonum fasiculatum), California encelia (Encelia californica), various species of cactus and cholla (Opuntia spp.), and several species of Happlopappus (Munz 1974; Kirkpatrick and Hutchinson 1980). Of the 11 subassociations of coastal sage scrub identified by Kirkpatrick and Hutchinson (1977), the gnatcatcher apparently routinely occupies only three of these.

The gnatcatcher is primarily insectivorous and defends territories ranging in size from approximately 2 to 40 acres (Atwood 1990; John Konecny, personal communication). Atwood's comprehensive studies (1988, 1991) and status review (1990) further reveal that the breeding season of the species extends from February through July, and apparently peaks in April. Juveniles associate with their parents for several weeks or even months after fledgling.

Although considered locally common fewer than 50 years ago (Grinnell and Miller 1944), Atwood (1990, 1992b) estimated that the approximately 1,811 to 2,291 pairs of gnatcatchers remain in the United States population. In the listing package, the Service estimated that there could be as many as 2,562 pairs gnatcatchers in Southern California (58 FR 16742). Although the documented decline of the gnatcatcher undoubtedly is the result of numerous factors, including nest depredation and brood parasitism by the essentially non-native brown-headed cowbird (Molothrus ater), habitat destruction, fragmentation or modification are the principal reasons for the gnatcatcher's current, precarious status (58 FR 16742). It has been estimated that as much as 90 percent of coastal sage scrub vegetation has been lost as a result of development and land conversion (Westman 1981a, 1981b; Barbour and Major 1977), leaving coastal sage scrub as one of the most depleted habitat types in the United States (Kirkpatrick and Hutchinson 1977; Axelrod 1978; Klopatek et al. 1979; Westman 1987; O'Leary 1990).

For references that contain thorough accounts of the gnatcatcher and its coastal sage scrub habitat, please see the section entitled "References and Literature Cited" at the conclusion of this document.

Species Accounts

Coastal Cactus Wren

The cactus wren (Campylorhynchus brunneicapillus) is a large (length 18-22 cm) member of the wren family (Troglodytidae). Its body plumage is brown above and whitish below. The crown is often a rust-colored brown bordered by a conspicuous whitish eyebrow. The underparts are heavily spotted with black especially on the upper breast. The back is streaked, and the wings and tail are conspicuously barred in black and white (Dunn 1987, Terrill 1988, Rea and Weaver 1990).

One recognized subspecies of cactus wren (C. b. couesi) occurs in the United States. Although Rea (1986) proposed a new subspecies of cactus wren, C. b. sandiegensis (San Diego cactus wren), the American Ornithologists' Union Committee on Classification and Nomenclature has not accepted this proposed change in taxonomy (Dr. Burt Monroe, American Ornithologists' Union, pers. comm.).

On September 21, 1990, the Service received two petitions to list the San Diego cactus wren, C. b. sandiegensis (Rea 1986), as an endangered species pursuant to Section 4 of the Act. Given the biological information contained therein pertaining to sandiegensis and the remainder of the coastal population of the cactus wren, the Service affirmed that the petitioned action may be warranted on January 24, 1991, pursuant to Section 4(b)(3)(A) of the Act. This finding was subsequently published in the Federal Register on March 22, 1991 (56 FR 12146).

Accordingly, it is the coastal population of C. b. couesi that is referred to herein as the coastal cactus wren. A discussion of the nomenclatural history of the coastal California population of the cactus wren is presented by Rea and Weaver (1990).

The coastal cactus wren occurs from southern Ventura County southeast to the Baldwin Hills and the Palos Verdes Peninsula in Los Angeles County, east along the southern flank of the San Gabriel and San Bernardino Mountains from the northern San Fernando Valley in Los Angeles County to Mentone in San Bernardino County, and south along the coastal slopes and interior valleys west of the Peninsular ranges in western Riverside, Orange, and San Diego Counties to extreme northwestern Baja California, Mexico, in the vicinity of Tijuana and Valle de las Palmas. Maps depicting the distribution of the coastal population of the cactus wren are presented in Garrett and Dunn (1981) and Rea and Weaver (1990).

The geographic isolation of coastal and interior cactus wren populations has been enhanced by the urbanization of southern California and may be facilitating their genetic differentiation (e.g., see Rea and Weaver 1990). The hiatus of suitable habitat formed by the Transverse and Peninsular ranges

also serves to maintain and define the disjunct distribution of coastal and interior populations of the cactus wren. In addition, Garrett (1992) concluded that "...the habitat occupied by coastal Los Angeles and Ventura County cactus wrens (never considered to be part of the sandiegensis subspecies) is strikingly different than that occupied by the nearest desert populations in the western Antelope Valley..." and that "...all of the coastal slope populations are now functionally isolated from the desert ones...".

The coastal cactus wren is an obligate, nonmigratory resident of the coastal sage scrub plant community. As its common name suggests, this species is found in association with various species of cacti which provide sites for nesting, roosting, and foraging. The coastal cactus wren occurs almost exclusively in thickets of tall prickly pear (Opuntia littoralis and O. oricola) and coastal cholla (O. prolifera) at elevations up to 450 m above sea level (Rea and Weaver 1990). Rea and Weaver (1990) reported that "The wrens are absent from areas where only low, sprawling cacti grow."

From the early 1880's to the early 1930's, the coastal cactus wren was considered a locally common resident of cactus-dominated habitat from San Diego northwest to Santa Paula in Ventura County (Grinnell 1915; Willett 1912, 1933). However, even during this period, a decline in its status was noted. Dawson (1923) reported that "All proper desert areas west of San Gorgonio Pass are being threatened sharply by the human invasion ... The cactus wren has receded from many parts of the San Diego-Ventura section already, and is in danger of being altogether cut off."

Willett (1933) noted that this species had declined significantly in Ventura County (including its apparent extirpation from Simi Valley) as a result of land clearing activities for agricultural purposes. Grinnell and Miller (1944) characterized the range of the cactus wren on the coastal slope of southern California as "now much restricted as compared with conditions in the 1880's and 1890's, owing to great reduction of requisite habitat..."

The coastal cactus wren has been extirpated from at least 57 sites known to be occupied between 1976 and 1990 (Salata 1992). Many of the sites currently occupied by the coastal cactus wren contain very few pairs and are threatened by urban development, fire, agriculture, and a variety of other factors (Salata 1992). Rea and Weaver (1990) reported that only 10 of 52 sites currently occupied by the coastal cactus wren in San Diego County support five or more pairs. Overall, it is estimated that fewer than 2,400 pairs of coastal cactus wrens remain throughout its entire range (Salata 1992).

Considering the small overall population size of the coastal cactus wren, the precarious status of the coastal sage scrub plant community upon which it depends (O'Leary 1990), and the high degree of wren habitat fragmentation (Rea and Weaver 1990), further losses of habitat can be expected to have a significant adverse effect on the viability of extant subpopulations. Indeed, the status of the coastal cactus wren is symptomatic of the status of the coastal sage scrub plant community upon which it depends for its continued existence. As was indicated above, this plant community is one of the most depleted habitat types in the United States (Kirkpatrick and Hutchinson 1977; Axelrod 1978; Klopatek et al. 1979; Westman 1981a,b, 1987; O'Leary 1990).

Braunton's milkvetch

The Service first proposed Braunton's milkvetch (Astragalus brauntonii) for listing as federally threatened or endangered in January 1975. No action on the proposal was taken prior to 1978, when ESA amendments were enacted that required all proposals over two years old be withdrawn. A one-year grace period was provided to those proposals already more than two years old; however, Braunton's milkvetch was included in a Federal Register notice of withdrawal of the proposals that had expired in September 1979. The Service published an updated notice of review for the plants for which proposals had been withdrawn in December 15, 1980. This list included Braunton's milkvetch as Category 1 candidate species. In September 27, 1985 the list was revised and Braunton's milkvetch was listed as a Category 2 candidate species. More recent reviews of the threats facing the species throughout its range resulted in its elevation to a Category 1 candidate. In subsequent years, the Service found the petitioned listing of Braunton's milkvetch and other species warranted, but listing was precluded by other pending proposals of higher priority. Braunton's milkvetch was proposed for listing as endangered on November 30, 1992 (USFWS 1993).

The Braunton's milkvetch is a stout perennial of the legume family (Fabaceae). This species is approximately four to five feet tall covered with dense white hairs (Hickman 1993). This characteristic and its two-chambered pod allow it to be easily distinguished from other species of Astragalus. Fire or other site perturbation is required for seed germination. Individual plants live only two to three years; thus, the plant is only visible for a short period following a fire event. Braunton's milkvetch is thought to be associated with limestone soils and chaparral beargrass. The majority of the populations outside of limestone soils, occurrences have thus far been attributed to seed drift following a fire event (USFWS 1993). Braunton's milkvetch is known to occur in Ventura, Orange and Los Angeles Counties. Specific sites of known populations include Simi Hills, Coal and Gypsum Canyons, and historically Clamshell Canyon and the Santa Monica Mountains. In Orange County, it commonly occurs in areas supporting chaparral beargrass (Roberts 1993, pers. comm.). The current estimate of extant individuals of Braunton's milkvetch is approximately 300 plants (USFWS 1993).

Analysis of Impacts

Pursuant to the regulations at 50 CFR 402, the following constitutes an analysis of impacts to the gnatcatcher, coastal cactus wren, and Brauntons' milkvetch in and around the project Action Area, which includes all of the land that would be directly impacted by project construction, and indirectly affected by project construction and operation (e.g. noise effects), or affected because of potential induced growth.

As described above, there may be as many as 2,562 gnatcatchers remaining in the U.S. Of this total, about 757 pairs of gnatcatchers were estimated to occur in Orange County (58 FR 16743), prior to the wildfires that burned a significant amount of Orange County, primarily the coastal areas, in October 1993. Over 7,700 acres of coastal sage scrub burned as a result of the 1993 wildfires in Orange County. An estimated 144 pairs of gnatcatchers were

assumed lost (USFWS 1993). The most significant fire damage to the Orange County coastal sage scrub ecosystem occurred in the coastal areas, especially in the San Joaquin Hills area. Impacts to the gnatcatcher and coastal cactus wren resulting from this fire were analyzed in the Biological Opinion for the San Joaquin Hills Transportation Corridor (USFWS 1994). While significant impacts to the coastal populations of gnatcatchers and cactus wrens, it is expected that these populations will eventually increase as the habitat recovers from the fire (USFWS 1994).

The existing information on the abundance and distribution of the gnatcatcher in Orange County was supplemented by field surveys conducted as part of the NCCP planning effort. Intensive field surveys for the NCCP target species (gnatcatcher, coastal cactus wren and orange-throated whiptail lizard) were conducted in various locations within the coastal sage scrub habitat in the Santa Ana Mountains/Lomas de Santiago Ridge that comprises the reserve planning area for the Central subarea. Field surveys were conducted in 1991 through 1992 and again in the spring of 1994. Field survey locations included lands owned by the Irvine Company (a substantial portion of the Central Subarea) and County regional parks. In 1994, additional survey locations were selected, the basis of selection being those areas determined to have the greatest potential presence of gnatcatchers and cactus wrens. The purpose of these surveys were merely to note the presence or absence of NCCP target species, including the gnatcatcher. No attempt was made to determine the status of individuals sighted; NCCP survey results are reported as sightings. During the 1991-1992 field surveys in the Central subarea, approximately 163 gnatcatchers and 476 cactus wren were sighted. In the 1994 spring surveys, 174 gnatcatchers and 190 coastal cactus wren were sighted (R.J. Meade, Pers. Comm).

As stated above, the gnatcatcher is an obligate species of the coastal sage scrub habitat. Gnatcatchers are found more consistently and in higher densities in subassociations of coastal sage scrub generally found near the coast and lower in elevation (NCCP Scientific Review Committee: J. Atwood, J. Rotenberry and D. Murphy, Pers. Comm.). This is particularly noticeable in Orange County, where there is a relatively quick transition between the flatter, coastal areas, and the steeper, more mountainous portions of the county in the Santa Ana Mountains. Coastal sage scrub habitat in the foothill portion of the Loma Ridge and adjacent lowland areas provide an example of this observation. The Loma Ridge foothill area and adjacent lowlands traversed by the ETC range in elevation from about 500 to 1,200 feet in elevation and the existing patches of coastal sage scrub habitat supports significant populations of the gnatcatcher and coastal cactus wren (P&D Technologies 1994). Steeper areas immediately adjacent to these flatter foothill/lowland areas in the vicinity of the Limestone Canyon area have more scattered, less dense populations of gnatcatchers (P&D Technologies 1994). The coastal sage scrub patches in the foothill/lowland areas of the Loma Ridge may be the source population of gnatcatchers for the steeper, more mountainous areas to the east (NCCP Scientific Review Committee: J. Atwood, J. Rotenberry and D. Murphy, Pers. Comm).

Direct and Indirect Effects

As described in the Biological Assessment and as modified by the alignment shift off the Siphon Ridge area, the project will result in the permanent, direct loss of 250 acres of coastal sage scrub habitat. In addition it is estimated that indirect effects of project construction and operation (e.g., noise, light impacts, potential pollutant dispersal) may extend up to 1,000 feet from the centerline of the ETC. It is estimated that the construction will directly affect approximately 14 pairs and 5 single gnatcatchers for a total of 33 gnatcatchers; indirect effects may include an additional 9 pairs of gnatcatchers (P&D Technologies 1994, FHA 1994b).

Approximately 19.2 acres of potential habitat for the Braunton's milkvetch would be subject to direct impacts due to construction of the ETC. (P&D Technologies 1994).

Technical Assistance

Coastal Cactus Wren

Approximately 10 pairs and 11 single cactus wrens, for a total of 30 wrens would be directly affected by ETC construction. An additional 6 pairs and 10 individual cactus wrens may be indirectly affected (P&D Technologies 1994, FHA 1994b).

Many-stemmed Dudleya and Chaparral Beargrass

For the many-stemmed dudleya, approximately 4,500 to 6,256 plants would be directly affected by ETC construction. Indirect impacts could occur as a result of soil erosion, fugitive dust, and air pollution. The mitigation measure proposed, elimination of (possibly only temporarily) the North Lake Interchange, will significantly reduce the impacts to dudleya. If the transplatation program should become necessary, a monitoring program of at least three to five years would likely be required to determine success.

A minimum of about 19.2 acres of chaparral beargrass would be lost by ETC construction. Indirect impacts could occur as a result of soil erosion, fugitive dust, and air pollution. Since the potential for success of revegetation/transplantation of this species is unknown, a minimum Monitoring Program of 5 years would likely be necessary to ensure that the transplanted population is selfsustaining. Selection of the Limestone Canyon site for mitigation would depend upon the suitability of the soils.

Habitat Fragmentation

While the direct and indirect impacts associated with the ETC pose a significant threat to gnatcatcher populations in the Central Subarea, a more serious aspect of the ETC for gnatcatcher populations is habitat fragmentation, which tends to disrupt various ecosystem processes.

As discussed previously, habitat destruction and fragmentation are the most significant threats to gnatcatchers (and coastal cactus wrens). As noted by

Noss (1992) and Soule et al. (1992), "In the coastal sage of Southern California, a classic sequence of habitat destruction and fragmentation has occurred, involving a reduction in total habitat area and apportionment of the remaining area into small isolated pieces. These pieces, mostly canyons, then continue to lose native vegetation as human activities fragment them internally and nibble at their edges." The NCCP Conservation Guidelines notes that "...threats to coastal sage scrub habitat are more than losses of total habitat area alone. Threats also include losses of distinct subtypes of sage scrub and losses of the special conditions needed to maintain the broad suite of coastal sage scrub-resident species" (CDFG 1993) Habitat fragments have little long-term value for conservation, as smaller habitat areas contain fewer species. Also, smaller habitat patches with proportionally larger perimeters are more vulnerable to deleterious edge effects, although such effects have not yet been documented in coastal sage scrub (Atwood 1990).

In the County of Orange, relatively large, contiguous patches of coastal sage scrub still exist. This is due to a combination of a unique and proactive approach to land-use planning, which requires dedication of open space in return for development rights, and geography. In the Central subarea, open space dedication has been concentrated in the higher elevation areas adjacent to the Cleveland National Forest, such as the Limestone Regional Park and large canyon areas, such as Weir Canyon Wilderness Area. These dedicated open space lands contain a significant amount of coastal sage scrub. Development has tended to be more focused in the flatter, lower elevation areas, such as the coast and the inland valley area. The more steep foothill and mountain areas have been traditionally less attractive for development.

The ETC would bisect these contiguous coastal sage scrub patches, embedded within a mosaic of other natural habitats such as grasslands or chaparral. This will result in fragmentation of relatively contiguous patches of habitat into smaller patches to the west of the ETC, to a lesser extent, to the east of the corridor. Along the East Leg, the ETC would isolate the south-facing, lower elevation coastal sage scrub patches along the Loma Ridge and adjacent lowland areas, which support a significant population of gnatcatchers, away from a significantly larger, contiguous block of coastal sage scrub currently protected within Limestone Regional Park. Along the North Leg, Irvine Park, Weir Wilderness and Planning Area 31 would be isolated from coastal sage scrub and matrix habitats in the Gypsum and Coal Canyon areas, which abut the Cleveland National Forest. As discussed previously, coastal sage scrub typically exists in a patchy distribution, embedded within a matrix of other natural habitats, such as grassland or chaparral. Thus, the gnatcatcher and other species wholly dependent upon coastal sage scrub appear to be able to survive on small patches of habitat. Fragmentation of coastal sage scrub would impact gnatcatchers, and other obligate species, by isolating populations and preventing dispersal.

Fragmentation of habitat by the ETC is expected to inhibit, to some degree, juvenile dispersal of gnatcatchers and thus affect immigration between subpopulations that would be separated by the ETC. Little is known about juvenile gnatcatcher dispersal, or to what extent large roadways act as barriers to the gnatcatchers. Recent information suggests that 96% of juvenile gnatcatchers disperse within 1.5 miles of their natal territory; 80%

disperse within 1.25 miles of their natal territory (G. Braden, USFWS, Pers. Comm). Gnatcatchers have been observed flying high over roadways; it may be that they fly high to get a view of where they want to go, and if they see coastal sage scrub, they may move there (Bontrager, Pers. Comm). Since gnatcatchers probably prefer to utilize natural habitats to disperse (Noss 1992), the ETC may act as a barrier, especially in those areas where coastal sage scrub or other native habitat cannot be seen across the corridor. The ETC would be a significant barrier to terrestrial wildlife species, such as the coyote and other large predators and their prey, which would ultimately affect the coastal sage scrub ecosystem, and therefore the gnatcatcher and cactus wren.

In the Loma Ridge area, the alignment of the ETC is generally along the less steep portion of the foothill area, immediately adjacent to much steeper terrain, which may already form a barrier to gnatcatcher dispersal into this area. The ETC would effectively broaden this exiting natural barrier, and further impair dispersal of gnatcatchers from coastal sage scrub patches located west of the ETC to coastal sage scrub habitat located to the east (NCCP Scientific Review Committee: J. Atwood, J. Rotenberry and D. Murphy, Pers. Comm).

At Siphon Reservoir, fragmentation would also have a more significant effect on gnatcatchers due to the relative isolation of coastal sage scrub habitat. A total of approximately 115 acres of occupied gnatcatcher habitat exists within the Siphon Reservoir area. Approximately 26 acres occurs within proposed ETC grading limits. Gnatcatchers in the Siphon Reservoir area subject to direct or indirect impacts may attempt to disperse to adjacent habitats. However, little suitable habitat exists in proximity to this population to allow for potentially successful colonization by these birds. The gnatcatcher population at Siphon Ridge is bordered by avocado and citrus orchards to the east, citrus and row crops to the south, citrus orchards to the west and a combination of citrus and native open space to the north. Consequently, this population is surrounded by non-native habitats, except for a fairly narrow opening to natural open space to the north. It would appear that the best chance for successful dispersal would be to the north.

The project description includes a coastal sage scrub preservation/restoration program to partially mitigate the effects of the ETC construction and operation on the gnatcatcher population in the Siphon Ridge/Reservoir area. While only a few small scale efforts at coastal sage scrub restoration have been attempted, they indicate that net enhancement of habitat quality may be attainable. As stated in the Conservation Guidelines, ecological studies of coastal sage scrub show natural recovery from disturbance, which suggests that active restoration may be successful. The Conservation Guidelines recognize the feasibility of active coastal sage scrub restoration projects and conservatively estimate that a 5% habitat quality enhancement potential exists for coastal sage scrub habitat. The Conservation Guidelines' acknowledgement that up to a 5% interim habitat loss is acceptable during the period in which NCCPs are being developed is based upon the 5% restoration/enhancement potential estimate. The goal of the Restoration/Preservation Program at Siphon Ridge is to restore native coastal sage scrub to the surrounding reservoir hills, historically in agricultural production providing increased

forage and nesting, not only for the California gnatcatcher but for many other coastal sage scrub-associated species. Approximately 82 acres of existing coastal sage scrub in the Siphon Ridge area will be preserved, and another 112 acres of coastal sage scrub habitat located generally to the west and northwest of the reservoir will be restored. If successful, this restoration program will improve the connectivity to coastal sage scrub habitat mosaic in the Loma Ridge area to the north.

In summary, the Service finds that fragmentation of coastal sage scrub habitat by the ETC poses a threat to the long-term viability of the gnatcatcher and likely other coastal sage scrub-associated species. The habitat patches remaining on the west side of the ETC, particularly in the Loma Ridge foothill and adjacent lowland areas, would be isolated to some degree from habitat to the east of the corridor.

As noted earlier, another negative result of fragmentation is edge effects. The 16.8-mile long corridor will create artificial edges along its length as it bifurcates natural, undisturbed habitat. The remaining habitat adjoining the ETC will have deteriorated value for wildlife to some distance away from the road due to the adverse affects of noise, air pollution and other factors. The ETC will also be a cause of mortality to a variety of species that move across the landscape.

The artificial edge created by the construction of the ETC could result in increased habitat disruption in areas that were previously inaccessible, and in increased rate of weedy plants (Noss 1992). This affect should be minimized by the revegetation of the graded slopes along the corridor with coastal sage scrub plant species, as proposed as part of the project's mitigation package (P&D Technologies 1994). The habitat fragmented and remaining on the west side of the ETC will be exposed to edge effects on both its east and west sides. Edge effects will include those created by the corridor along the eastern boundary of the habitat fragment, and those that will be created in the future along the western boundary of the habitat fragment by anticipated development, as it proceeds to press eastward into the foothill areas from the valley below.

Brood parasitism by the brown-headed cowbird (Molothrus ater), could be exacerbated by increased edge effect, likely affecting the reproductive potential of the gnatcatcher. Cowbird parasitism and the direct and indirect impacts of a variety of projects currently limit the distribution and potential expansion of gnatcatchers in Orange County, and in California as a whole. A composite of the best scientific information available suggests that cowbird abatement program proposed as part of the project should alleviate or offset the depression of gnatcatcher productivity that might otherwise result from the direct or indirect effects of the project. Specifically, management programs including cowbird abatement and predator surveillance have been extraordinarily successful in bringing about rapid and statistically significant increases in southern California populations of the least Bell's vireo (Vireo bellii pusillus), a Federally-listed endangered species (Salata 1987; Hays 1989; The Nature Conservancy 1993). More importantly, the available data reveal that 40% of the 10 gnatcatcher nests monitored in the Coyote Hills in Fullerton, California were parasitized by cowbirds (UNOCAL

1993) as were 31% (54) of 176 gnatcatcher nests monitored in Riverside County study sites during the 1992-1993 breeding seasons (G. Braden, Pers. Comm.). It is critical that the reproductive capability of the gnatcatcher and coastal cactus wren be maximized to the extent possible in the short-term and in perpetuity to conserve and recover the local populations of these species. The cowbird management measures proposed as part of the Project (P&D Technologies 1994), will contribute to the elimination of a significant threat to gnatcatcher reproductive capability.

Impacts to Central and Coastal NCCP Reserve Design

The impact of fragmentation of coastal sage scrub and its resident species, including the gnatcatcher, must be analyzed with respect to the County of Orange's NCCP planning efforts in the Central Subregion. As discussed earlier, the listing of the gnatcatcher as threatened was followed by the issuance of a special rule, which, in general, would allow land-use activities associated with a NCCP plan to not be considered a violation of section 9 of the Act. Orange County is enrolled in the NCCP Program and is currently preparing a NCCP for the Central and Coastal Subregions (and Southern Subregion); a draft reserve design for the Central/Coastal Subregional NCCP plan has been prepared (County of Orange 1994a).

The NCCP program is intended to establish and manage a viable, permanent system of coastal sage scrub reserves complete with its matrix of other habitats, as well as identify areas that would be appropriate for development within the Central Subregion. The potential for establishment of a viable reserve system in the Central Subregion is the critical element in determining the impact of the ETC on the gnatcatcher; the ETC is a critical factor affecting/influencing reserve design and viability in this area. If it can be found that a viable coastal sage scrub reserve system can be established in the Central Subregion that includes the ETC project and its accompanying mitigation measures, the ETC, (assuming these are adequate means to minimize and mitigate impacts) would likely not impair the overall utility of the habitat in the Central Subregion as essential gnatcatcher population centers.

Connectivity

Connectivity between habitat reserve areas is essential for maintenance of the viability of the wide range of species inhabiting coastal sage scrub, including the gnatcatcher, over the long-term. As discussed above, while it is not clear to what extent major highways act as barriers to gnatcatcher movement, the ETC would be a significant barrier to terrestrial species, such as the coyote, mountain lion and other large predators and their prey. The presence of a full compliment of resident species is important to the health and viability of a naturally functioning ecosystem. Since the Central subarea is bifurcated by the ETC, connectivity between reserve units must be provided through wildlife crossings.

The ETC has incorporated four wildlife crossings into its project design: three along the North Leg and one along the East Leg. The sites for these four wildlife crossings were selected to optimize wildlife crossing, particularly the wide-ranging mountain lion and deer, as determined by

movement studies conducted for both these species, and expert opinion (FHA 1994a, P&D Technologies 1994, FHA 1994b, 1994c). The wildlife crossing locations and sizes are described briefly here and in more detail in FHA 1994c. The North Leg wildlife crossings include: the Oak Canyon wildlife crossing at ETC Station Number 710, approximately 50 feet high, 100 feet wide at bottom to 250 feet wide at the top, with a 220-foot traverse; the Southern California Edison easement crossing at ETC Station Number 758, approximately 29 to 40 feet high, 100 feet wide (which includes a dirt maintenance and fire road) to 230 feet wide at the top, with a 250-foot traverse; and the Windy Ridge crossing at ETC Station Number 816, approximately 30 feet high, 80 feet wide at the bottom to 220 feet wide at the top, with a 260-foot traverse. The East Leg wildlife crossing includes the Haul Road, at ETC Station Number 395, approximately 20 feet high, 70 feet wide at the bottom to 130 feet wide at the top, with a 600-foot traverse. The ETC structure above this crossing has three large gaps between bridges, ranging between approximately 40 to 160 feet. In addition, the ETC mitigation program provides for 10 culverts at least 54 inches in diameter along the East Leg, 3 culverts at least 54 inches in diameter for the Foothill Transportation Corridor Connection and 9 culverts at least 54" in diameter along the North Leg to further enhance wildlife crossing of the ETC (FHA 1994c).

The NCCP Conservation Guidelines state that "Corridors or linkages function better when the habitat within them resembles habitat that is preferred by target species". As part of the project description, the area disturbed by construction of the wildlife crossings will be revegetated with the appropriate vegetation, to provide appropriate cover, as described in a revegetation plan that will be coordinated with the Service. In addition, wildlife conservation easements will be obtained for all habitat mitigation areas and movement corridors under the wildlife crossings. Also, natural seeps or springs will be protected and/or water guzzlers and salt licks will be constructed/installed as part of each wildlife crossing, to induce wildlife to use these artificial structures. The Service finds that the four wildlife crossings and other associated mitigation measures proposed as part of the project and included in "Terms and Conditions" below, together with the Central Subarea NCCP Reserve Design that includes large reserve areas which could be connected via the crossings, will provide connectivity between the Central Subregion reserve units, as described below.

Along the North Leg, the northern-most wildlife crossing is located on Windy Ridge (FHA 1994c). This crossing location would provide a major connection between existing dedicated open space and NCCP reserve areas on both sides of the ETC (County of Orange 1994). This crossing is located approximately 500 feet downslope of an existing wildlife corridor, and although there has been some doubt as to whether this crossing would be effective, especially for deer (Padly, Pers. Comm), deer and mountain lion would likely use this crossing (FHA 1994b, Heffley, CDFG, Pers. Comm.). The topography is steep. In consultation with the Service, the TCA proposes to recontour the area leading to the crossing on the eastern side of the alignment to modify and flatten the slope, and make the area more attractive for wildlife movement. Careful consideration will be required to ensure that the topography is favorable to wildlife movement, while ensuring that a revegetation plan will be successful

for this crossing. The water guzzlers should also help to induce wildlife to use this crossing.

Another crossing is provided about midway along the North Leg, at the Southern California Edison easement. This crossing would provide animals with access across the corridor into the Weir Canyon Wilderness Area, as expanded by the NCCP reserve. This crossing is located in the "Policy Plan" area of the Central Subarea NCCP; a designation which means that planning and reserve design decisions will be delayed until some time in the future, but will be dictated by "Policy Plan development criteria" developed as part of the Central Subregion NCCP (County of Orange 1994). The NCCP, through specific development criteria, will be required to ensure the use of these areas as wildlife crossings.

The third crossing along the North Leg of the ETC will occur at the Oak Canyon Crossing. This site is considered to be excellent for ensuring both deer and mountain lion movement (TCA 1992, FHA 1992, FHA 1994a, FHA 1994b). Fremont, Weir and Blind Canyons all connect in this area, providing animals with numerous possibilities for dispersal. The topography is easily traversed. This crossing is also located within the "Policy Plan" area of the Central subarea and will have the same requirements as the Southern California Edison easement crossing.

A large bridge spanning Santiago Canyon would be constructed as part of the ETC. This structure, designed primarily to avoid flood control problems, will also provide for recreational pedestrian, bikeway, and equestrian pathways between development proposed on both sides of the ETC in this area. This bridge will allow for the movement of coyotes and other small mammals, but will primarily encourage movement of nuisance species, such as skunks, opossums and red fox.

On the East Leg, a wildlife crossing has been sited within the Hick's Canyon Watershed near Haul Road (FHA 1994b, 1994c). This crossing will provide for wildlife movement from the Cleveland National Forest, through the currently designated Limestone Canyon Wilderness area, as augmented by NCCP reserve design, across the ETC to the Lomas Ridge Open Space area, as significantly augmented by the NCCP reserve design. While it presents a long traverse for wildlife (approximately 600 feet), the design of the bridge structure above the crossing includes three large gaps of space that will allow a significant amount of natural light will penetrate the crossing and reduce its potential to be tunnel-like. There are gaps ranging from 40 feet to 160 feet at regular intervals (50 to 110 feet) that accommodate the bridge structures planned. The most important animal anticipated to use this corridor is the coyote. Along the East Leg, there are also three culverts at least 54 inches in diameter associated with the ETC/FTC(N) interchange in this area that will allow movement of small mammals. In addition, the existing Bee Canyon Access Road will also provide for wildlife movement. The Haul Road crossing is essential to maintaining the health and viability of the Lomas Ridge reserve unit. The Haul Road Crossing will reduce the impacts to wildlife movement in this area.

As discussed earlier, the ETC design includes large culverts along both legs which may be used by small mammals and provide additional potential for wildlife to traverse the corridor. Coyotes have been known to use culverts with a diameter of 54 inches or greater. These culverts will supplement the main wildlife crossings considered minimally necessary to maintain connectivity between habitat fragments.

Central Subregional NCCP Reserve Design

As discussed previously, a draft Reserve Design for the Central and Coastal Subregions was presented on April 22, 1994 (County of Orange 1994). In general, the Central Subregional Reserve Design incorporates already committed open space and areas of open space contemplated in conjunction with the approval of certain development projects in other areas. This open space system would also be augmented by adding reserve areas known to contain significant populations of gnatcatchers and cactus wren, and to provide linkages of natural habitat. The Central Subregion draft Reserve Design incorporates over 21,000 acres of coastal sage scrub and its matrix of other associated habitats, including lands necessary for connectivity (R.J. Meade, Pers. Comm.). Existing, planned and/or proposed regional open space lands in the Central Subregion, as identified in the Biological Assessment, includes a total of 8,379 acres of coastal sage scrub in Weir Canyon Wilderness Park, Santiago Oaks Regional Park, Irvine Regional Park, Open Space Area 31 in Gypsum Canyon, Peter's Canyon Regional Park, the Loma Ridge Open Space system, miscellaneous open space associated with the East Orange General Plan, Limestone Canyon Regional Park, and Whiting Ranch Wilderness Park. Significant areas which were added as reserve unit areas as part of the NCCP planning process include: a significant expansion to incorporate coastal sage scrub and significant gnatcatcher and coastal cactus wren populations south of the existing Loma Ridge Open Space system, including Upper Rattlesnake Canyon, Hicks Canyon, lower Foothills of Bee/Round Canyons - a NCCP reserve unit totalling 2,441 acres in size, with connections to the Limestone Canyon Regional Park NCCP reserve unit, totaling 10,934 acres; and a major expansion of natural habitat around the Weir Canyon Wilderness Area - a NCCP reserve unit totalling 3,923 acres, which would connect with a significant amount of coastal sage scrub habitat in a habitat matrix in the Weir, Gypsum and Coal Canyon areas across the ETC - a NCCP reserve unit totaling about 2,579 acres (R.J. Meade Pers. Comm.).

The Reserve Design provides substantial acreage both east and west of the ETC, and utilizes the wildlife crossings included in the ETC project to maintain connectivity between significant reserve areas. As discussed previously, the ETC includes three wildlife crossings at strategic locations along the North Leg to provide for connectivity between reserve units. The reserve design, together with these crossings, is intended to allow for the movement of small and large mammals, including predators and their prey base among the Cleveland National Forest, Gypsum and Coal Canyon areas across the ETC into the Weir Canyon Wilderness Area as expanded by the Central Subregional draft Reserve Design. Gnatcatchers (and cactus wren) would be more likely to disperse over the ETC.

The East Leg of the ETC essentially fragments the south-facing frontal slopes and lowland areas of the Loma Ridge, from a large, contiguous block of natural habitat to the east, which could have disastrous impacts to coastal sage scrub ecosystem in this area, including significant impacts to the viability of gnatcatcher and coastal cactus wren populations. As stated previously, the ETC, in combination with the existing natural barrier of rugged, steep terrain immediately adjacent to this area could provide a significant barrier to gnatcatcher dispersal from the Loma Ridge source populations to the more scattered, less dense eastern subpopulations. The Central Subregional reserve design shows coastal sage scrub patches on these south facing frontal slopes and lowland areas of the Loma Ridge preserved as an approximately 2,400-acre reserve unit. This reserve unit provides for connectivity of coastal sage scrub in a matrix of grassland habitat, from the Siphon Reservoir north to the Loma Ridge/Santiago Hills area. Connectivity to preserved habitat across the ETC to the 10,934-acre Limestone Canyon NCCP reserve unit is provided by the Haul Road wildlife crossing, and to a lesser extent, the Bee Canyon access road and the three culverts associated with the ETC/FTC interchange near Siphon Reservoir. Maintenance/management of this area as a NCCP reserve unit, as a probable source population for the populations associated with the larger Limestone Canyon NCCP reserve unit, is likely essential to maintenance of gnatcatcher population in the Central Subregion over the long-term.

As discussed in the NCCP Conservation Guidelines, little is known about the coastal sage scrub ecosystem. The optimal size of a reserve unit to maintain coastal sage scrub ecosystem viability has not been studied. However, by applying a couple of the basic tenants of conservation biology, it is possible to reach some initial conclusions regarding the reserve design of the Lomas Ridge: 1. "Larger Reserves are Better" - Large blocks of habitat containing large populations of the target species are superior to small blocks of habitat containing small populations (CDFG 1993); and 2. "Link Reserves with Corridors" - Interconnected blocks of habitat serve conservation purposes better than do isolated blocks of habitat. The Lomas Ridge reserve unit is approximately 2,400 acres in size, and contains significant populations of gnatcatchers (and cactus wrens). This reserve unit is linked to a much larger NCCP reserve unit, the Limestone Canyon reserve unit, via the Haul Road wildlife crossing. The Limestone Canyon NCCP reserve unit consists of approximately 10,900 acres of contiguous habitat east of the East Leg of the ETC and north of the FTC (North). This area contains scattered populations of gnatcatchers and cactus wren.

While the Service has only recently obtained some of the digital data for the Central and Coastal Subregional NCCP (Stine, USFWS, Pers. Comm.), we conclude at this time that the Loma Ridge NCCP reserve unit as currently designed, in concert with the ETC-proposed wildlife crossing at Haul Road that will provide connectivity to the Limestone Canyon NCCP reserve unit, and with management provided through the NCCP plan, will likely provide for the long-term viability of the gnatcatcher, and likely other coastal sage scrub associated species in this area.

The County of Orange (County of Orange 1994b) has determined, in consultation with County's NCCP consultant, Dr. Rob Schonholtz, that the ETC would not

preclude or prevent the preparation of an affective subregional NCCP program.

In summary, the Service concludes that the proposed project will not jeopardize the overall survival and recovery of these species or the maintenance of viable populations of the species within the Northern Orange County Santa Ana Mountains and project "Action Area", primarily because of the habitat reserves proposed as part of the draft Central Subregional NCCP Reserve Design, and the substantial impact avoidance and compensation measures incorporated into the project description. Further, given these impact avoidance and compensation measures and the best scientific information, the Service concludes that the project-related bifurcation, the removal of coastal sage scrub habitat, and the indirect impacts likely will not impact the overall utility of the Northern Orange County Santa Ana Mountains as important, and probably essential, coastal cactus wren and gnatcatcher habitats and population centers. This conclusion is based upon the best available information, including the draft Subregional Reserve Design for the Central and Coastal NCCP Subregions, presented to the Service on April 22, 1994. If these conditions change or if subsequent information is received that determines that the NCCP reserve design is not valid, then this conclusion would also be invalidated.

Technical Assistance

Coastal Cactus Wren

The proposed project effects described above for the gnatcatcher are similar to those likely to affect the coastal cactus wren.

Consistency with NCCP Guidelines

In addition to reviewing the project for its impacts to the NCCP Planning Process ongoing in Orange County, the Service has reviewed the ETC project for consistency with the NCCP Process and Conservation Guidelines. The project applicant, TCA, has enrolled the ETC in the Central and Coastal NCCP Planning Effort, and is participating in the NCCP planning process. In general, the Service concludes that the ETC is generally consistent with the Guidelines and with the Central and Coastal Subregional NCCP. Specifically, the Service concludes that project-related impacts:

1) will not foreclose future conservation planning efforts until such time as an NCCP has been completed and long-term enhancement and management programs are formulated. The Central and Coastal Subregional NCCP is being prepared in concurrent with plans for the ETC. The NCCP plan is currently in the design phase, which includes the ETC alignment and associated mitigation measures. As discussed earlier, the ETC was shifted approximately 500 feet east, in order to reduce impacts to the Central Subregion NCCP reserve design, and to lessen impacts to significant populations of gnatcatchers and coastal cactus wrens. To address the issue of connectivity between reserve units that would be bifurcated by the ETC, an additional wildlife crossing was added to the project description. The project, including the proposed mitigation package, will provide funding necessary to assist in providing for the perpetual enhancement and management of conservation areas containing significant blocks

of coastal sage scrub habitat within the federal "Action Area" and the Central Subregion.

2) will not result in an interim loss equal to, or exceeding, 5% of the coastal sage scrub in any one subregion. The loss of coastal sage scrub by the ETC project would represent approximately 1.0 percent of the coastal sage scrub within the Central Subarea (FHA 1994b).

3) are, to the maximum extent practicable, limited to areas with smaller populations of target species. While the ETC has been in the planning process for a number of years, it is also being planned concurrent with the Central and Coastal Subregional NCCP. Areas of major biological importance, such as the Weir Wilderness Park and the Lomas Ridge/Siphon Ridge areas have been avoided to the maximum extent possible by project design and alignment changes. NCCP target species are generally present along the alignments of the North as well as the East Legs of the project. Out of an estimated eight populations of California gnatcatcher that are concentrated in the subregion (i.e. Weir/Santiago Regional Park, Peters Canyon, Irvine Park, Loma Ridge, Rattlesnake Reservoir, Siphon Reservoir, Aqua Chignon Wash and scattered locations in Limestone Regional Park), the project avoids all, except for a portion of the Siphon Reservoir population (P&D Technologies 1994, FHA 1994b). Throughout most of the coastal sage scrub adjacent to the project and within the grading limits, particularly on the north leg, the California gnatcatcher has been only sparsely reported (P&D Technologies 1994). The exception to that observation occurs at Siphon Reservoir. The TCA has recently moved the Corridor to address this concern and further reduced biological impacts. This shift of alignment further east of Siphon Ridge reduces coastal sage scrub impacts by an estimated 14 acres and reduces impacts to gnatcatcher pairs from eight to four. The ETC is located within the Santa Ana Foothills, which contains significant, but scattered, populations of the gnatcatcher and coastal cactus wren. Project design changes have minimized impacts to a large array of sensitive species.

4) do not, to the maximum extent practicable, disproportionately affect specific subunits of the environmental gradient in each subregion (as defined by vegetation subcommunity, latitude, elevation, distance from coast, slope, aspect or soil type. The ETC, as an essentially linear project, traverses a variety of vegetation communities, elevations, slopes, aspects and soil types (FHA 1994).

5) do not compromise the NCCP effort to protect, prior to completion of a subregional plan, areas of higher long-term conservation value as defined by the extent of coastal sage scrub habitat, proximity of that habitat to other habitat, the value of the habitat as landscape linkages or corridors, or the presence of sensitive species. While the Service only recently received some of the Central Subregional NCCP data from the County of Orange, and has not been able to determine the long-term conservation value of lands within the Central subregion, the Central Subregional draft reserve design has attempted to identify and include in the NCCP reserve, those areas that would appear to be of high value for long-term conservation (notable exceptions to this are the Tustin Ranch area and portions of the East Orange Planning Area). In addition, by incorporating the four wildlife crossings in strategic locations

along the ETC, the ETC project provides for the connectivity essential to maintaining the long-term health and viability of the NCCP reserves. In the Siphon Reservoir area, where an earlier alignment of the ETC had posed significant impacts to gnatcatcher and coastal cactus wren populations, the alignment was shifted 500 feet off the ridge to reduce these impacts, and to accommodate the NCCP reserve design. The revegetation and preservation measures which are proposed as a part of the project promote coastal sage scrub and biological values to help maintain and potentially enhance target species and their occupation of the southern foothills of the Santa Ana Mountains. The program will help facilitate gnatcatcher movement among Peters Canyon, Loma Ridge, Rattlesnake Canyon, Hicks Canyon and Siphon Ridge as well to the east at Aqua Chignon Wash. The revegetation and preservation area has been selected within and adjacent to open space areas which support substantive populations of California gnatcatcher and cactus wren populations.

6) do not compromise the NCCP effort to direct development pressure to areas that have lower conservation value. As discussed above, much of the coastal sage scrub habitat in the North Orange County Santa Ana Foothills is in committed open space or existing conservation areas, as augmented by the Central Subarea NCCP reserve design. The ETC will not necessarily direct development pressure towards (or away from) areas of higher long-term conservation value. Subregional planners have the task of identifying areas of long-term conservation value (the Reserve system) to steer development pressure into areas of lower conservation value within the North Orange County Santa Ana Foothills and federal "Action Area" through the continued NCCP effort.

7) do not compromise the NCCP effort to ensure that all interim habitat losses are adequately mitigated and that said mitigation contributes to the interim subregional mitigation program that will be subsumed in the long-term subregional NCCP. As is indicated above, the project, including the proposed compensation measures, will enhance the NCCP's goal to provide for the perpetual enhancement and management of coastal sage scrub, gnatcatcher and coastal cactus wren conservation areas within the Central subregion.

In addition, the Service concludes that the research, management and restoration measures that have been developed for this project constitute special mitigation measures, as required for the NCCP Program (CDFG 1993). The Conservation Guidelines emphasize the importance of management and restoration research to subregional NCCP planning and further state that such efforts are "essential to the adaptive management of coastal sage scrub habitat". It is further recognized that such efforts "undertaken as mitigation during the interim program will add to the overall ability of these conservation tools to be employed more successfully in the future" (CDFG 1993).

In summary, the Service concludes that the loss of the habitat within the project footprint and the overall direct and indirect effects of the project will not result in the extirpation of the Northern Orange County Santa Ana Mountains populations of the gnatcatcher or Brauntons' milkvetch. Given the commitment of the Federal Highway Administration and the applicant to provide the resources to conduct and fund the restoration, enhancement and management

activities for coastal sage scrub habitat in the Central Subregion, and the perpetual, intensive monitoring and management activities proposed, the Service concludes that project related impacts likely will not jeopardize the survival or recovery of the gnatcatcher.

Cumulative Impacts

Cumulative effects are those impacts of future State, local government, and private actions affecting endangered and threatened species that are reasonably certain to occur in the project "Action Area". Future federal actions will be subject to the consultation requirements established in Section 7 of the Endangered Species Act (Act) and, therefore, are not considered cumulative to the proposed action.

The majority of activities anticipated to affect these species within the foreseeable future are local projects with no direct Federal involvement. A large number of projects that lack a Federal nexus also have occurred or are proposed within the current range of the gnatcatcher and the coastal cactus wren. These projects could result, overtime, in significant cumulative effects to the gnatcatcher and to Brauntons' milkvetch. However, private projects with no Federal nexus are subject to certain other regulatory constraints of the Act. For example, Section 4 of the Act requires the Service to list species that are threatened or endangered, and section 9 of the Act prohibits the unlawful "take" [e.g., harm, harass] of listed species "by any 'person', including private individuals and entities."

Anticipated prohibitions against "take" and a desire to engage in proactive planning have prompted efforts by local governments and large land owners to develop Habitat Conservation Plans (HCPs), pursuant to authorization for incidental take under section 10 of the Act. In addition and as discussed within this document, The Resources Agency, the Department of Fish and Game, together with local governments, landowners and environmental groups and in cooperation with the Service, are together developing a Natural Communities Conservation Plans that would cover most of Orange County, including the project area. The efforts of all parties, working cooperatively with the agencies, and combined with current federal protection for the gnatcatcher that limits loss of coastal sage scrub habitat to no more than 5% during the planning stages are intended to provide mitigation for project-related impacts to the gnatcatcher, coastal cactus wren, orange-throated whiptail, and the entire suite of sensitive species resident in coastal sage scrub in the future. However, in the absence of NCCPs/HCPs incorporating substantive impact avoidance and compensation measures, the Service believes that habitat destruction, cowbird parasitism, and indirect impacts resulting from a variety of individual projects will effect the distribution and potential expansion of gnatcatchers and cactus wren throughout their historic range.

Nearly all of the land in the "Action Area" and in the Central Subregion that is not developed is within jurisdictions that have enrolled in the NCCP Program. As a result, all such lands are subject to the interim strategy outlined in the special rule, the Conservation Guidelines and other requirements of the NCCP process. This ensures that future land uses in this Subregion will be evaluated as to their impacts to the subregional planning

effort, and will be required to provide mitigation to ensure protection of the gnatcatcher and other target species in enrolled areas.

In the event that it is determined that any future proposed development in the "Action Area" would have adverse impacts on gnatcatchers, cactus wrens or other coastal sage scrub sensitive species covered in the NCCP plans, appropriate and adequate mitigation measures would be developed in concert with representatives from the Service and Department of Fish and Game to ensure the protection of those species. For any property in the "Action Area" that is not covered by a jurisdictional enrollment in the NCCP, that property would still be subject to the requirements of CEQA and the Endangered Species Act. The following quotation from the NCCP Process Guidelines addresses this specific issue:

CEQA has a mandatory finding of significance wherever:

> '(a) The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal,...'"(CEQA Guidelines, section 15065)

By that standard, most coastal sage scrub habitat in the NCCP Program area is sensitive and could trigger a CEQA finding of significance. Accordingly, the presence of coastal sage scrub would be disclosed and potential impacts to the gnatcatcher and coastal cactus wren would be revealed.

The EIS analyzes growth inducing impacts effects and land uses in the "Action Area" in detail. The EIS states that potential growth-inducing impacts generated by the ETC are most likely to affect nearby developed and undeveloped lands located in portions of north and central Orange County. These areas of potential impact include areas within the City of Anaheim's and Orange's Sphere of Influence. Siphon Ridge, Hick's Canyon, and Rattlesnake Canyon contain the majority of coastal sage scrub that is occupied by the gnatcatcher. The ETC would have no growth inducing impacts in these areas, as growth here is already planned as part of the City of Irvine General Plan (FHA 1994). Specifically, from north to south, Loma Ridge and the south-facing slopes in upper Rattlesnake Canyon are planned as open space, whereas further south in Hick's Canyon, the designation is residential estate and recreation. Siphon Ridge is designated agriculture, with a development reserve zoning designation. The ETC is not anticipated to change these designations to the east or west within this reach.

Aside from Siphon Ridge, Hick's Canyon and Rattlesnake Canyon, other significant biological resources are present in Blind, Fremont, and Gypsum watersheds. There are no current development plans in Blind and Fremont Canyons. However, the ETC does provide access to these areas, particularly to Blind Canyon. Consequently, the ETC does potentially have growth-inducing impacts in Blind and Fremont Canyon. However, these areas support little occupied habitat for the gnatcatcher. Growth-inducing impacts in these areas would not substantially affect habitat for the gnatcatcher, or other coastal sage scrub-associated species. Nevertheless, full environmental review of

future projects in areas along the ETC will be required prior to development. As described above, this entire area will be addressed in the Central and Coastal NCCP, which will address the anticipated impacts that would occur throughout the Subregion to coastal sage scrub habitat and the three target species.

In summary, the Service concludes, given all relevant information and analysis, that while the project could induce growth in portions of the project "Action Area", all future growth, whether planned or unplanned will be evaluated to determine its effects on the gnatcatcher under the Act, the NCCP Program and/or CEQA and will be constrained by the protective mandates of those statutes.

While little is known about where the Brauntons' milkvetch occurs, potential habitat occurs throughout the Gypsum Canyon and the northern end of Blind Canyon and the majority of Cypress Canyon. The growth-inducing impacts associated with the ETC in the Gypsum and Blind Canyon areas could be substantial.

Technical Assistance

Coastal Cactus Wren

Effects to the coastal cactus wren resulting from the above cumulative, growth inducing actions are similar to those described for the gnatcatcher.

Many-stemmed Dudleya and Chaparral Beargrass

Significant cumulative and growth-inducing impacts on the many-stemmed dudleya in the project area would result from development in the East Orange, Mountain Park and Cypress Canyon areas.

Chaparral Beargrass is already under consideration for listing on an emergency basis because of cumulative impacts to this species. Significant cumulative effects would occur as a result of ETC construction.

Incidental Take

Sections 4(d) and 9 of the Act prohibit taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. "Harm" is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering (50 CFR section 17.3). "Harass" is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering (50 CFR section 17.3). Under the terms of Section 7(b)(4) and 7(o)(2) of the Act, taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking, provided that such taking is in compliance with the

reasonable and prudent measures, and terms and conditions that implement them, as set forth below.

The Service hereby incorporates by reference the 17 mitigation measures from the Federal Highway Administration's "Description of Proposed Action" into this incidental take statement as part of these "Terms and Conditions". The "Terms and Conditions" reflect the mitigation measures as proposed, with modifications where necessary as determined by the Service. Where these "Terms and Conditions" vary from or contradict mitigation measures proposed under "Description of Proposed Action", specifications in these terms and conditions shall apply.

The Federal Highway Administration has a continuing duty to regulate the activity that is covered by this incidental take statement. If the Federal Highway Administration fails to require the applicant adhere to the "Terms and Conditions" of the incidental take statement the protective coverage of section 7(o)(2) of the Act may lapse. This incidental take authorization is null and void if the above project description changes, if any mitigation or conservation measure in the EIS, Technical Report, Biological Assessment, or supplemental documentation is not fully carried out or executed, or if any Terms and Conditions or Reasonable and Prudent Measures as defined or described below are not met by The Federal Highway Administration, Transportation Corridor Agencies or their designated agents or successors, if the draft NCCP Reserve Design presented to the Service on April 22, 1994 is significantly modified, or if subsequent information received by the Service determines that the April 22, 1994 draft NCCP Reserve Design, incorporating the ETC alignment does not represent a viable reserve system for maintenance of the coastal sage scrub ecosystem.

It is not possible to precisely predict the amount of incidental take that would be associated with ETC construction, for several reasons:

- The number and location of birds will vary from season to season.
- The precise effects on breeding territories near the edge of the grading area are not known.
- The precise effects of noise and other disturbance on breeding territories outside the area of direct effect, but within the area affected by noise from the Corridor, can only be estimated.

However, given the information in the Biological Assessment and data and information developed supplemental to the Biological Assessment(FHA 1994b and 1994c), the Service anticipates that the following take could occur as a result of the proposed action:

1. Fifty one (51) gnatcatchers may be accidentally injured or killed during project construction or operation activities.
2. An unknown number of gnatcatcher eggs may be destroyed during project activities.

3. An unknown number of gnatcatcher fledglings may be destroyed during project activities.

The incidental take statement provided in this opinion satisfies the requirements of the Endangered Species Act, as amended. This statement does not constitute an authorization for take of listed migratory birds under the more restrictive provisions of the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The Service is developing a program to address incidental take under the Migratory Bird Treaty Act.

If, during the course of the construction and operation of the project, gnatcatchers are injured or killed or if the take limit is reached, the Federal Highway Administration shall notify the Service at once in writing. If, during the course of the construction, implementation, or operation of the project, the amount or extent of the incidental take limit is exceeded, the Federal Highway Administration or its agents must cease the activity resulting in take and reinitiate consultation with the Service immediately to avoid further violation of Section 9 of the Act. Operations must be stopped in the interim period between the initiation and completion of the new consultation if it is determined that the impact of the additional taking will cause an irreversible and adverse impact on the species, as required by 50 CFR 402.14(i). The Federal Highway Administration and its agents should provide an explanation of the causes of the taking.

Reasonable and Prudent Measures

The Service believes that the following Reasonable and Prudent Measures are necessary and appropriate to minimize incidental take:

1. The Federal Highway Administration or its agents shall provide mitigation as described, implied, or suggested in the EIS, Technical Report, Biological Assessment and all other relevant letters and documents to minimize incidental take and to compensate for unavoidable impacts to the species.

2. The Federal Highway Administration and its agents shall minimize to the extent possible the harming or harassing of gnatcatchers and removal of coastal sage scrub habitat in conjunction with construction or other site development activities.

3. The Federal Highway Administration or its agents shall obtain all applicable state and Federal permits to take the gnatcatcher or coastal cactus wren and remove coastal sage scrub habitat. The incidental take authorization in this Biological Opinion is summarily revoked in the absence of such permits.

Terms and Conditions

In order to be exempt from the prohibitions of Section 9 of the Act, the Federal Highway Administration and its agents (e.g., CALTRANS, TCA, construction personnel, private parties) are responsible for compliance with the following terms and conditions, which implement the "Reasonable and

Prudent Measures" described above. To this end, the Federal Highway Administration or its agents shall, at a minimum, provide mitigation as described, implied, or suggested in the EIS, Technical Report, Biological Assessment and other relevant letters and documents to minimize incidental take (except as these measures are modified by the following Terms and Conditions). In part:

1. The Federal Highway Administration or its agents shall shift the ETC an estimated 500 feet further east away from Siphon Ridge. This shift effectively reduces coastal sage scrub impacts, gnatcatcher impacts and provide a larger block of contiguous open space around Siphon Reservoir.

2. The Federal Highway Administration or its agents shall implement the Siphon Reservoir/Ridge Preservation and Restoration Program as described in the biological assessment or in subsequent information developed in consultation with the Service. The general area for the 194-acre preservation/restoration program is described as follows: the McCollough water line marks the northern-most boundary; Bee Canyon boarders the area to west; Portola Parkway borders the area to the south; and the ETC itself forms the easternmost boundary. The preservation program shall include an estimated 48 acres near Siphon Ridge, and 34 acres to the southwest of Siphon Reservoir. This preservation acreage totals an estimated 82 acres. The restoration component of the Program includes creation of an estimated 112 acres of coastal sage scrub habitat located generally to the west and northwest of the reservoir, within the above defined parameters. It is anticipated that the restoration of the remaining acreage could begin implementation in the Fall of 1995. Coastal sage scrub habitat shall be deemed to be 'acceptable' if:

   a. the habitat is occupied by breeding pairs of gnatcatchers; or

   b. the Service and the Federal Highway Administration or it agents unanimously agree that the habitat has the structure and composition of naturally-occurring gnatcatcher habitat or fully functional coastal sage scrub; or

   c. the Federal Highway Administration or its agents can demonstrate, to the satisfaction of the Service, that the habitat is insignificantly different (statistically) from naturally-occurring gnatcatcher habitats or fully functional coastal sage scrub in the Lomas de Santiago.

3. The Federal Highway Administration or its agents shall conduct a one-half acre pilot coastal sage scrub restoration/revegetation project. The program could also serve as a demonstration project for the NCCP. Coastal sage scrub restoration/revegetation efforts on recently cleared agricultural areas has been limited and not clearly documented; therefore, the results of this pilot program are anticipated to provide valuable data for future projects of this kind, and will also be the basis for developing larger coastal sage scrub restoration/revegetation projects, including remaining available agricultural land surrounding

Siphon Reservoir. The site is one-half acre of recently cleared orange groves located on the east facing slopes just northwest of Siphon Reservoir within The Irvine Company Orange Orchard No. 300. The orange trees were cut six inches above the trunk and treated with an herbicide approximately six months ago, leaving the root system intact. The top of the trees were chipped into mulch piles with some still remaining on the site.

The ultimate goal is to restore native coastal sage scrub to the surrounding reservoir hills, historically in agricultural production providing increased forage and nesting, not only for the California gnatcatcher but many other coastal sage scrub-associated species.

The one-half acre pilot coastal sage scrub program started in January 1994 and is currently underway with native seed collection being the first activity conducted. The initial program is planned to be conducted in two phases over the first year including seed and cactus pad collection, staking the site, collecting soil samples, site preparation, planting and seeding, monitoring and watering and preparing monitoring reports.

4. The Federal Highway Administration or its agents shall contribute $1,515,000 to a conservation fund established by the Service. Payments to the fund shall be made to the Fish and Wildlife Foundation. The conservation fund is to be used to support the Natural Communities Conservation Planning effort, including but not limited to management, restoration and enhancement of lands preserved through the Central and Coastal Subregional Planning effort. Uses and disbursement of this Conservation Fund shall be determined by the Service. The Conservation Fund will be set up in a phased-installment program over a three-year period. Each installment will be for the amount of $505,000. The first installment will be paid by January 1996 or within 90 days after the bond sale (based on the bond sale occurring on or after October 1, 1995), the second installment will be paid by January 1, 1997 and the third installment will be paid by January 1, 1998. These payments and this compensation measure shall be undertaken above and beyond (and in addition to) all other compensation measures or impact avoidance measures identified herein.

5. The Federal Highway Administration or its agents shall restore 170 acres at designated areas along the Corridor graded slopes with coastal sage scrub plant species. The revegetation effort shall be considered acceptable if the total cover by native coastal sage scrub species is at least 70 percent and the vegetation is not being artificially sustained, or if the Federal Highway Administration or its agents can demonstrate, to the satisfaction of the Service, that the habitat is insignificantly different (statistically) from naturally-occurring gnatcatcher habitats or fully functional coastal sage scrub in the Lomas de Santiago. In addition, this roadside revegetation effort shall provide for a maintenance zone that should help to prevent fires adjacent to the ETC. This maintenance area shall include an unvegetated strip of four feet in

width adjacent to the paved shoulder, and an additional 10 foot strip of low fuel volume native plants that can be routinely mowed.

6. The Federal Highway Administration or its agents shall construct a minimum of four wildlife crossings at four locations as described in the FEIS (FHA et al 1994), the Biological Assessment (P&D Technologies 1994) and in subsequent documentation developed between the Service, the Federal Highway Administration and the TCA (FHA 1994c). In conjunction with construction at the four wildlife crossings, natural springs or seeps will be protected and/or gallinaceous guzzlers (catch basin/watering devices) or other water storage containers and salt licks shall be constructed and installed at both ends of each of the four wildlife crossings to encourage the use of the crossings. A final grading plan that includes a topsoil preservation program shall be approved by the Service prior to the construction of the wildlife crossing at Station 816 (Windy Ridge Crossing). In addition, fencing at least 10 feet in height shall be installed along the both sides of the ETC in the general vicinity of the Windy Ridge wildlife crossing, to prevent roadside mortality and to assist in funneling animals toward the Windy Ridge crossing. Placement of the fencing shall be approved by the Service prior to construction of the wildlife crossing.

7. The Federal Highway Administration or its agents shall provide 10 culverts at least 54" in diameter along the East Leg and 9 culverts at least 54" in diameter along the North Leg, and 3 culverts at least 54" in diameter for the Foothill Transportation Corridor Connection to enhance wildlife crossing. The locations and sizes of the culverts shall be as described in documentation developed subsequent to the Biological Assessment (FHA 1994c).

8. The Federal Highway Administration or its agents shall revegetate the area disturbed by construction of the wildlife crossings with native habitat indigenous to the area. A revegetation plan for each crossing shall be approved by the Service prior to the construction of the wildlife crossings. The revegetation effort shall be considered acceptable if the total cover by native species indigenous to the area, including coastal sage scrub, is at least 70 percent and the vegetation is not being artificially sustained, or, the Federal Highway Administration or its agents can demonstrate, to the satisfaction of the Service, that restored coastal sage scrub habitat is insignificantly different (statistically) from naturally-occurring gnatcatcher habitats or fully functional coastal sage scrub in the Lomas de Santiago.

9. The Federal Highway Administration or its agents shall conduct movement studies near each of the four wildlife crossing locations during the Spring and Fall. Reports shall be prepared annually, beginning one year after the opening of ETC and continuing for a total of five years. Alternatively, TCA may participate in or provide monetary contributions to radio tracking surveys of predators in the region, conducted by the Service or other parties approved by the Service.

If the studies indicate the measures are less than successful, as determined by the Service, then additional corrective measures shall be conducted, including the possibility of the construction of a new wildlife crossing, as necessary.

10. The Federal Highway Administration or its agents shall ensure the operation of twenty cowbird traps in the Siphon Reservoir area and along the East Leg of the ETC in perpetuity. Funds shall be provided sufficient to conduct trapping annually or to establish an endowment sufficient to provide trapping in perpetuity. Cowbird trapping shall begin during the spring of 1995 and shall continue for a minimum of five months each calendar year, unless the Service and the Federal Highway Administration or its agents unanimously agree that a lesser effort is justified during a given calendar year. The design, placement, and operation of the traps shall be directed and approved by the Service. A report detailing cowbird management activities shall be provided to the Service within two months of the conclusion of trapping efforts during each and every calendar year. Upon request of the Federal Highway Administration or its agents, the Service shall attempt to locate a suitable public or non-profit foundation or organization that is willing to provide, under contract, the services necessary to meet this mitigation requirement. In any case, The Federal Highway Administration or its agents shall be responsible for obtaining permission from The Irvine Company to operate traps on their property.

11. The Federal Highway Administration or its agents shall perform a series of monitoring studies until performance criteria are met, to provide additional information on gnatcatcher habitat utilization. The purposes of these studies shall be as follows:

    a. To determine the success of the revegetation efforts in providing nesting opportunities for the gnatcatcher with consideration of predation, nest parasitism and other factors, and in addition,

    b. A banding study will be conducted to determine extent of juvenile gnatcatcher dispersal at Siphon Reservoir. The banding study will be initiated in March of 1995.

    The Service shall approve the study methodologies and shall set performance standards for the above studies, prior to the initiation of the studies. In addition, the Service shall require that researchers involved in such studies obtain permits pursuant to Section 10(a)(1)(a) of the Endangered Species Act.

12. The Federal Highway Administration or its agents shall obtain wildlife conservation easements for all habitat mitigation areas, as identified in the FEIS and Biological Assessment, and movement corridors under the wildlife crossings related to the Corridor, as described in the Biological Assessment, and supplemental information provided to the Service (FHA 1994b and 1994c).

13. The Federal Highway Administration or its agents shall be responsible for immediately replacing or restoring all coastal sage scrub habitat outside of the approved construction footprint of the ETC, at a ratio of five acres replaced for each acre lost, that is destroyed or significantly modified as a result of the construction, implementation, or operation of the proposed project. The replacement or restoration of coastal sage scrub habitat shall be held to the same standards as the other revegetation efforts, and shall be considered acceptable if the total cover by native coastal sage scrub species is at least 70 percent and the vegetation is not being artificially sustained, or if the Federal Highway Administration or its agents can demonstrate, to the satisfaction of the Service, that the habitat is insignificantly different (statistically) from naturally-occurring gnatcatcher habitats or fully functional coastal sage scrub in the Lomas de Santiago.

14. The Federal Highway Administration or its agents shall implement all mitigation measures that are implied or identified in the Technical Studies or EIS, as referenced in the EIS pertaining to water quality or erosion to prevent the dissemination or the concentration of pollutants in the project area or "Action Area."

15. Light and glare shall be mitigated according to measures identified in the EIS.

16. The Federal Highway Administration or its agents shall provide a minimum of seven, and if feasible, 14 days prior notice to the Service before commencing grading activities. Grubbing or other land clearing activities shall not occur unless and until construction of the Corridor is ready to begin in earnest. The Federal Highway Administration shall, to the extent possible, minimize the take of gnatcatchers by employing whatever means or measures that are necessary to prevent the harm and death of individual birds during grubbing, clearing, and other construction activities.

    At a minimum, the following construction monitoring measures shall be implemented to minimize impacts to gnatcatchers, coastal cactus wrens, and coastal sage scrub habitat:

    a) Construction shall be monitored by a biologist to minimize construction impacts on natural resources outside the actual construction zone. The monitor will observe the contractor's work to ensure that work does not take place in high value natural areas outside the clearing limits as staked in the field.

    b) The contractor shall review the rough grading plans and staking to ensure that the grading is within the project footprint as described for the Biological Opinion.

    c) Construction monitoring activities shall include the prevention of harm, harassment, injury, or death of wildlife by means of the education of contractor and construction crews. In addition, the monitor shall work to prevent violation of existing laws, such as

the Migratory Bird Treaty, Clean Water Act, and Fish and Game Code. If any violations or potential violations of these and other laws are noted, the monitor will advise the TCA accordingly. If necessary, work will be stopped, and the monitor shall advise the Federal Highway Administration, TCA, Service, and the Department of Fish and Game and other appropriate resource agencies to resolve the situation.

d) Monitoring of coastal sage scrub habitat within or immediately adjacent to active or future project construction areas shall occur throughout the construction period, in order for the monitor to be aware of gnatcatcher and coastal cactus wren locations.

e) Continuous monitoring of gnatcatchers and coastal cactus wrens in active territories shall be conducted during any construction operations that occur within 100 feet of occupied habitat. The purpose of this monitoring will be either to verify that the construction does not significantly adversely affect the gnatcatcher activity or to determine whether "take" occurs, whichever the case may be. If this monitoring indicates that unauthorized take of gnatcatchers and coastal cactus wrens may occur, construction will cease pending coordination with the Service.

17. The Federal Highway Administration or its agents shall obtain necessary local, State and Federal permits to take, harm, or destroy the gnatcatcher and coastal sage scrub habitats. The authorizations granted herein, including the incidental take authorization, are null and void absent such permits. In particular, the Federal Highway Administration shall comply with all pertinent provisions of the Migratory Bird Treaty Act (16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended).

18. The Federal Highway Administration, as the Federal action agency, shall retain ultimate responsibility for the implementation of all preceding terms and conditions in the event of financial or institutional incapacity of TCA to perform them.

Technical Assistance

Coastal Cactus Wren

1. The above terms and conditions for gnatcatchers should also remove the adverse effects of project construction and operation on the coastal cactus wren.

Disposition of Sick, Injured, or Dead Individuals

The Service's Carlsbad Office must be notified within three working days should any listed species be found dead or injured in or adjacent to the project area. Notification must include the date, time, and location of the carcass, cause of death or injury, and any other pertinent information. If

necessary, the Service will provide a protocol for the handling of dead or injured, listed animals. In the event that the Federal Highway Administration or it agents suspect that a species has been taken in contravention of any federal, State, or local law, all relevant information shall be reported within 24 hours to the Service's Carlsbad Enhancement Office at (619) 431-9440 or to the Service Division of Law Enforcement, Torrance, California at (310) 297-0062.

Conservation Recommendations

Section 7(a)(1) of the Act directs federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. The term "conservation recommendations" has been defined as Service suggestions regarding discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information. The recommendations provided here relate only to the proposed action and do not necessarily represent complete fulfillment of the agency's 7(a)(1) responsibility for these species.

1. The Federal Highway Administration and Service should analyze and consider the goals and progress of the proposed NCCP and other conservation planning efforts to insure consistency with Biological Opinions issued in conjunction with Federal projects or projects that are Federally-funded or permitted. This analysis should be extended to a consideration of the success of proposed avoidance and mitigation measures associated with this project and other projects throughout the range of the gnatcatcher and coastal cactus wren.

2. The Service, in consultation with other Federal agencies and working group or recovery team members, should assess the efficacy of various measures for mitigating project-related direct or indirect impacts to gnatcatchers, and their habitat. Thus far, it is apparent that successful creation or restoration of coastal sage scrub habitat has been achieved by relatively few revegetation specialists. Because the creation or restoration of coastal sage scrub habitat is often an essential component of effective mitigation for impacts to said habitat, revegetation methodologies and related data bases warrant close scrutiny and constant refinements.

Conclusion

This concludes the biological opinion on the Federal Highway Administration/Eastern Transportation Corridor proposed project. As found at 50 CFR 402.16, reinitiation of formal consultation is required if the action is significantly modified from that described above or if new information becomes available on listed species or impacts to listed species. Specifically, if the draft Central and Coastal Subregional NCCP reserve design changes substantially (as determined by the Service), especially in the area of the Lomas de Santiago ridge, or if analysis of the forthcoming data from the County of Orange refutes the determinations made by the Service at this time, reinitiation of formal consultation will be required. Additionally,

should any of those species for which the Service provided technical assistance in this opinion, including the coastal cactus wren, the many-stemmed dudleya or the chaparral beargrass, be proposed for listing by the Service, formal consultation should be initiated immediately.

If you have any questions on this biological opinion, please call me at (619) 431-9440 or Tara Wood of my staff, at (916) 978-4613.

Sincerely,

for Peter A. Adams

Gail C. Kobetich
Field Supervisor

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WEST LEG
BIOLOGICAL OPINION

San Joaquin Hills Corridor Agency
Chairman: Peter Buffa Costa Mesa

Foothill/Eastern Corridor Agency
Chairman: Mike Ward Irvine

TRANSPORTATION CORRIDOR AGENCIES

William Woollett, Jr.
Chief Executive Officer

Walter D. Kreutzen
Chief Operating Officer

Colleen E. Clark
Chief Financial Officer

Jerry E. Bennett
Chief Engineer

January 21, 1999

Mr. Jim Bartell
Assistant Field Supervisor
2730 Loker Ave. West
Carlsbad, CA 92008

Subject: Eastern Transportation Corridor West Leg Biological Opinion (1-14-94-F-16)

Dear Mr. Bartell:

The Transportation Corridor Agencies (TCA) is pleased to have made our final payment to the Nature Reserve of Orange County (NROC) on January 4, 1999. This final payment of $500,000 is in accordance with the payment schedule identified in the U.S. Fish and Wildlife Service Biological Opinion (1-14-94-F-16) for the Eastern Transportation Corridor West Leg and the Central Coastal NCCP Implementation Agreement. This final payment brings TCA's contribution to the NROC to $6.6 million. We at the TCA remain committed to multi-species habitat planning as the best method of protecting Orange County's natural resources while providing for sustainable development. We look forward to seeing our funds being used to manage the 43,000acre reserve.

Should you have any questions or concerns regarding this information, please feel free to contact Laura Coley Eisenberg, Principal of Resource Management at (714) 513-3482.

Sincerely,

Steve Letterly, Director
Environmental Management

Attachment

cc: Terry Dickerson, CDFG (5-139-93)
Fari Tabatabai, ACOE (94-245-BH)
Ron Thronton, NGKE
Laura Coley Eisenberg

$1,262,750,597.70
FOOTHILL/EASTERN TRANSPORTATION CORRIDOR AGENCY
TOLL ROAD REVENUE BONDS SERIES 1995A (FIXED RATE)
AND
$245,600,000
FOOTHILL/EASTERN TRANSPORTATION CORRIDOR AGENCY
TOLL ROAD REVENUE BONDS

$93,400,000 Series 1995B	**(Variable Rate)**	**(MGT)**
$61,400,000 Series 1995C	**(Variable Rate)**	**(CS)**
$61,400,000 Series 1995D	**(Variable Rate)**	**(IBJ)**
$29,400,000 Series 1995E	**(Variable Rate)**	**(BNP)**

DISBURSEMENT REQUEST NO. 565

Bank of New York, Western Trust Company, a successor trustee (the "Trustee") under the Master Indenture of Trust and the First Supplemental Indenture of Trustee each dated as of May 15, 1995 and the Second Supplemental Indenture of Trust dated as of May 15, 1995 as amended by the First Amendment to the Second Supplemental Indenture, dated as of June 21, 1995 (collectively, the "Indenture"), each by and between the Trustee and the Foothill/Eastern Transportation Corridor Agency (the "Agency"), hereby is requested and instructed to pay to the parties set forth in Appendix 1 hereto, from the respective accounts in the **Construction Fund** established pursuant to the Indenture, the respective amounts specified.

The undersigned is an Authorized Agency Representative as defined in the Indenture and certifies that said amounts are now due and owing, are properly payable as a Cost of the Pledged Facilities, any Special Project, or any proposed addition to, or betterment, improvement, or enlargement of the Pledged Facilities or any portion of any of the foregoing (as defined in the Indenture) from the account specified and have not been previously the subjects of any Disbursement Request.

Dated: 12/16/98

FOOTHILL/EASTERN TRANSPORTATION CORRIDOR AGENCY

by: Marybeth Hudson
Authorized Agency Representative

by: Eileen J. Garcia
Authorized Agency Representative

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Disbursement Request #: 565
FETCA

APPENDIX I

NAME OF PAYEE	AMOUNT OF PAYMENT	NAME OF ACCOUNT	ADDRESS/WRITING INSTRUCTIONS	TYPE OF PAYMENT	DESCRIPTION
Nature Reserve of Orange County for the USFW Service	$500,000.00	FTE Variable Rate Construction General Acct # 419688	Nature Reserve of Orange County Bank of America South County RCBO ABA 121000 58 Acct 06944 1 7405	Wire	Biological opinion West Ley 1-14-94-F-16

Please transfer funds on 1/4/99.

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HISTORY OF TRANSACTIONS LIST AS OF 01/07/99 POSTINGS OF 01/01/99 - 01/08/99
ACCT 419688 F/E 95 VAR RATE CONST-GENERAL REPORT TYPE: A

POST-DTE	TYPE	RG	UNITS	INC CASH	PRIN CASH
[redacted]/04/99	SALE	51	593.20	.00	.00
BNY HAMILTON TRSY MONEY FD PREMIER # 74				593.20	
CUS # S99990560 SEC # 9999056					
ITC: 000 PTC: 800 CP: 0 B/C: ZERO DC: 18					
TRN#:990040010 TD/DOR:01/04/99 CSD:01/04/99					
01/04/99	SALE	01	318,430.34	.00	318,430.34
BNY HAMILTON TRSY MONEY FD PREMIER # 741					
CUS # S99990560 SEC # 9999056					
ITC: 000 PTC: 800 CP: 0 B/C: ZERO DC: 18					
TRN#:990040011 TD/DOR:01/04/99 CSD:01/04/99					
01/04/99		00	.00	.00DR	500,000.00DR
BANK OF AMERICA - SOUTH COUNTY RCBO					
ACCT # 0694417405					
A/C NAME NATURE RESERVE OF ORANGE CNTY					
ITC: 000 PTC: 720 CP: B/C: ZERO DC: 00					
TRN#:990040012					
01/04/99		00	.00	.00	7,061.12
EARNINGS TRNSFR FR 419703 TO 419688 /					
PER SEC 7.7 2ND SUPP INDENT					
ITC: 000 PTC: 730 CP: B/C: ZERO DC: 00					
TRN#:990040013					
[redacted]04/99		00	.00	.00	43,327.01
EARNINGS TRNSFR FR 419679 TO 419688 /					
PER SEC 7.7 2ND SUPP INDENT					
ITC: 000 PTC: 730 CP: B/C: ZERO DC: 00					
TRN#:990040014					
01/04/99		00	.00	.00	128,346.25
EARNINGS TRNSFR FR 419706 TO 419688 /					
PER SEC 7.7 2ND SUPP INDENT					
ITC: 000 PTC: 730 CP: B/C: ZERO DC: 00					
TRN#:990040015					
01/04/99		00	.00	.00	2,242.08
TRANSFER FR 419679 TO 419688					
ITC: 000 PTC: 730 CP: B/C: ZERO DC: 00					
TRN#:990040016					
01/05/99	PURCH	01	497,757.92	.00DR	497,757.92DR
BNY HAMILTON TRSY MONEY FD PREMIER # 741					
CUS # S99990560 SEC # 9999056					
ITC: 000 PTC: 960 CP: 0 B/C: ZERO DC: 18					
TRN#:990050010 TD/DOR:01/05/99 CSD:01/05/99					
01/05/99	DIV	01	.00	671.02	.00
BNY HAMILTON TRSY MONEY FD PREMIER # 741					
[redacted]					
CUS # S99990560 SEC # 9999056					
ITC: 050 PTC: 000 CP: B/C: ZERO DC: 18					
TRN#:990050011					

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Field Office
2730 Loker Avenue West
Carlsbad, California 92008

July 13, 1994

Colonel Michael R. Robinson, District Engineer
Los Angeles District, Corps of Engineers
P.O. Box 2711
Los Angeles, California 90053-2325

Attn: Mr. Bruce Henderson

Re: Biological Opinion on the Effects of the Eastern Transportation Corridor (ETC), West Leg, on the Coastal California Gnatcatcher; Orange County, California (1-14-94-F-16)

Dear Colonel Robinson:

This Biological Opinion responds to your January 14, 1994 request to the Fish and Wildlife Service (Service) for formal consultation, pursuant to Section 7(a)(2) of the Endangered Species Act of 1973, as amended (Act). In March, the Service determined that additional information was needed regarding the impact of the ETC project on Orange County's Natural Community Conservation Plan (NCCP) Program before the Service would be able to proceed with completion of the biological opinion. This information was received by the Service on June 7, 1994.

The Service listed the coastal California gnatcatcher (Polioptila californica californica), hereinafter referred to as "the gnatcatcher" as a threatened species, on March 25, 1993. On May 2, 1994, the listing was invalidated by the United States District Court of Columbia on the basis that the Secretary of the Interior failed to obtain and make available for public review and comment the data underlying a published scientific report on the specific taxonomy of the gnatcatcher. On June 16, 1994, Judge Sporkin granted a stay of his earlier decision to vacate the listing of the gnatcatcher, allowing the gnatcatcher to retain its threatened status while the Service made the data in question available to the public for review and comment. On June 2, 1994, the Service published a 60 day Notice of Availability (Notice) of the data in the Federal Register. In compliance with the Judge's order, the Secretary of the Interior must make a determination whether the listing should be revised or revoked in light of his review of the data and public comments received no later than 100 days following the published date of the Notice. This 100 day period concludes on September 10, 1994.

The referenced project may adversely affect the gnatcatcher, and its coastal sage scrub habitats in the project area and environs. The project may also adversely affect an avian species being considered for imminent listing by the Service, the coastal cactus wren (Campylorhynchus brunneicapillus couesi), which is also associated with coastal sage scrub; we have included technical assistance recommendations concerning the effects of the project on this species in the opinion. At issue herein, are impacts to the gnatcatcher that may result from direct, indirect, and interrelated or interdependent actions in association with the project that are enabled or regulated by the U.S. Army Corps of Engineers and implemented by one or more or its agents (e.g, California Department of

Transportation, [Caltrans], Transportation Corridor Agencies [TCA], private construction firms, private parties).

This Biological Opinion was prepared using the following information: 1) Eastern Transportation Corridor, Final Environmental Impact Report/Environmental Impact Statement; Foothill/Eastern Transportation Corridor Agency; May, 1992; 2) Biological Resources Analysis Technical Report, P&D Technologies; May 1992; 3) Supplemental Draft Environmental Impact Study; Foothill/Eastern Transportation Corridor Agency; January 1993; 4) Biological Assessment of the Eastern Transportation Corridor for the West Leg; Foothill/Eastern Transportation Corridor Agency; February 1994; 5) Natural Communities Conservation Planning (NCCP) Process Guidelines, including Attachment A: Conservation Guidelines and all attached and referenced documents, prepared by California Department of Fish and Game and California Resources Agency, November 1993 (hereinafter referred to as "Conservation Guidelines"); 6) County of Orange Coastal and Central NCCP/HCP Preliminary Reserve Design and Supporting Documentation; County of Orange; April 22, 1994; 7) biological opinion on the effects of the Eastern Transportation Corridor on the Coastal California gnatcatcher and Brauntons' milkvetch, (on file); 8) various communications, including additional data and information developed between March through June 1994 by the Corps of Engineers and/or their agents (on file); and 9) Other biological references (see below, "Literature Cited and References").

Biological Opinion

It is the opinion of the Service that the proposed project, including the mitigation and avoidance measures as required by the Final EIS/EIR, and Biological Assessment, and as modified by additional mitigation measures proposed by the U.S. Army Corps of Engineers and their agent, the Transportation Corridor Agencies (USACOE 1994), is not likely to jeopardize the continued existence of the coastal California gnatcatcher. Critical habitat for this species has not been proposed and, therefore, no critical habitat would be modified.

This Biological Opinion is based upon the best available information, including the draft Subregional Reserve Design for the Central and Coastal NCCP Subregions of the County of Orange, presented to the Service on April 22, 1994. If these conditions change substantially, reinitiation of formal consultation may be required, pursuant to 50 CFR 402.16.

Description of the Proposed Action

The Transportation Corridor Agencies (TCA) and Caltrans propose to authorize and have built a multiple lane tollway that would extend from State Route 91 to Interstate 5 in northeastern Orange County. The ETC facility would consist of three legs, the North, East and West Legs. The West Leg, which is the subject of this biological opinion, is a locally funded project with no connections to the Interstate 5 Freeway. The North and East Legs connect with Interstate freeways and are the subject of a separate formal consultation conducted with the Service by the Federal Highway Administration.

The West Leg would extend from its interchange with the North and East Legs at the East Orange Interchange south to its terminus south of I-5. The West Leg would traverse parts of Peters Canyon and the Tustin Plain and would have no interchange with I-5. The West Leg would include a total of four general purpose lanes and two high occupancy vehicle (HOV) lanes which may be either concurrent (one in each direction) or reversible. The West

Leg would be approximately 5.3 miles in length and have a grading width that varies from approximately 500 to 2,200 feet.

As part of the proposed project, the U.S. Army Corps of Engineers or its agents (specifically TCA) have agreed to implement the following mitigation measures (discussed in more detail in the EIS and Final Biological Assessment):

1. Preserve an estimated 20 acres of coastal sage scrub at Siphon Ridge;

2. Contribute $500,000 to a conservation fund. The conservation fund is to be used to support the Natural Communities Conservation Planning Efforts, including but not limited to management, restoration and enhancement of lands preserved through the Central and Coastal Subregional NCCP Planning effort. The West Leg installment will be paid after the three installments for the North and East Leg, (totaling $1,515,000), have been paid;

3. Ensure the operation of five cowbird traps near Peters Canyon Regional Park/Loma Ridge along the West Leg in perpetuity. Funds will be provided sufficient to conduct trapping annually or to establish an endowment sufficient to provide trapping in perpetuity;

4. Restore coastal sage scrub habitat adjacent to the corridor on appropriate graded slopes that are adjacent to permanent open space (Loma Ridge Open Space Unit, Peters Canyon Regional Park), outside proposed developed areas;

5. Provide 1 bridge structure and 4 culverts at least 54" in diameter along the West Leg, at the dimensions and locations specified in USACOE 1994, to enhance wildlife crossing;

6. Revegetate the area disturbed by construction of the bridge/wildlife crossing at Station 2701 with habitat indigenous to the area. The revegetation plan will be approved by the Service prior to the construction of the crossings. The revegetation effort will be considered acceptable if:

   a. the habitat is occupied by breeding pairs of gnatcatchers, or;

   b. the Service and the U.S. Army Corps of Engineers or its agents unanimously agree that the habitat has the structure and composition of naturally-occurring gnatcatcher habitat or fully functional coastal sage scrub, or;

   c. the U.S. Army Corps of Engineers or its agents can demonstrate, to the satisfaction of the Service, that the habitat is insignificantly different (statistically) from naturally-occurring gnatcatcher habitats or fully functional coastal sage scrub in the Lomas de Santiago.

7. Obtain wildlife conservation easements for all habitat mitigation areas and movement corridors under the wildlife crossings related to the ETC;

8. Replace or restore all coastal sage scrub habitat outside of the approved construction footprint, at a ratio of five acres replaced for each acre lost, that is destroyed or significantly modified as a result of the construction, implementation, or operation of the proposed project;

9. Implement all mitigation measures that are implied or identified in the Technical Studies or EIS, as referenced in the EIS pertaining to water quality or erosion to prevent the dissemination or the concentration of pollutants in the project area or environs;

10. Mitigate light and glare impacts as identified in the EIS;

11. Provide a minimum of seven, and if feasible, 14 days prior notice to the Service before commencing grading activities. Grubbing or other land clearing activities will not occur unless and until construction of the Corridor is ready to begin in earnest. The following construction monitoring measures will be implemented to minimize impacts to gnatcatchers and coastal sage scrub habitat:

    a) Construction will be monitored by a biologist to minimize construction impacts on natural resources outside the actual construction zone. The monitor will observe the contractor's work to ensure that work does not take place in high value natural areas outside the clearing limits as staked in the field;

    b) The contractor will review the rough grading plans and staking to ensure that the grading is within the project footprint as described for the Biological Opinion;

    c) Construction monitoring activities will include the prevention of harm, harassment, injury, or death of wildlife by means of the education of contractor and construction crews. In addition, the monitor shall work to prevent violation of existing laws, such as the Migratory Bird Treaty, Clean Water Act, and Fish and Game Code. If any violations or potential violations of these and other laws are noted, the monitor will advise the TCA accordingly. If necessary, work will be stopped, and the monitor shall advise the U.S. Army Corps of Engineers, TCA, Service, and the Department of Fish and Game and other appropriate resource agencies to resolve the situation;

    d) Monitoring of coastal sage scrub habitat within or immediately adjacent to active or future project construction areas will occur throughout the construction period, in order for the monitor to be aware of gnatcatcher and coastal cactus wren locations;

    e) Continuous monitoring of gnatcatchers and coastal cactus wrens in active territories will be conducted during any construction operations that occur within 100 feet of occupied habitat. The purpose of this monitoring will be either to verify that the construction does not significantly adversely affect the gnatcatcher activity or to determine whether "take" occurs, whichever the case may be. If this monitoring indicates that unauthorized take of gnatcatchers and coastal cactus wrens may occur, construction will cease pending coordination with the Service.

Effects of Proposed Action on Listed Species

Species Accounts

Coastal California Gnatcatcher

Primarily because of substantial, recent reductions in the habitat and range of the species and the inadequacy of existing regulations, the Service listed the gnatcatcher as threatened on March 30, 1993 (58 FR 16742). In recognition of the State's Natural Community Conservation Planning Program (NCCP Program), being implemented under the authority of the State of California's Natural Community Conservation Planning Act of 1991 (NCCP Act), and several local government on-going multi-species conservation planning efforts that intend to apply Federal Endangered Species Act standards to activities affecting the gnatcatcher, on December 10, 1993, the Service issued a special rule, pursuant to section 4(d) of the Act, defining the conditions under which take of the gnatcatcher would not be a violation of section 9 (58 FR 65088). Under the special rule, incidental take of the gnatcatcher by land-use activities addressed in an approved Natural Community Conservation Plan (NCCP) would not be considered a violation of section 9 of the Act, provided that the Service determined that the NCCP meets the issuance criteria for an "incidental take" permit, pursuant to section 10(a)(2)(B) of the Act and 50 CFR 17.32 (b)(2). A limited amount of incidental take of the gnatcatchers within subregions actively engaged in preparing a NCCP would also not be considered a violation of section 9 of the Act, provided that such take results from activities conducted consistent with the State's NCCP Conservation and Process Guidelines. The Conservation Guidelines limit this "interim take" to no more than 5% of existing coastal sage scrub habitat.

The coastal California gnatcatcher is a recognized subspecies of the California gnatcatcher (Polioptila californica [Brewster]) and is endemic to coastal southern California and northwestern Baja California, Mexico (American Ornithologists' Union 1983, 1989; Atwood 1980, 1988, 1990, 1991).

The gnatcatcher, a small, gray songbird, is an obligate resident of coastal sage scrub dominated plant communities from Los Angeles County generally south along the coast to El Rosario at about 30 degrees north latitude (American Ornithologists' Union 1957, Atwood 1990, Phillips 1991, Banks and Gardner 1992). The appropriate habitat or habitat type, occurs in a patchy or mosaic distribution. The distribution and size of these patches of suitable habitat varies throughout the range of the species from year to year due to the expressed effects of a variety of variables.

Typical coastal sage scrub habitat constituents are relatively low-growing, drought-deciduous, and succulent plant species. Representative plant taxa in this plant community include coastal sagebrush (Artemisia californica), several species of sage (Salvia spp.), California buckwheat (Eriogonum fasiculatum), California encelia (Encelia californica), various species of cactus and cholla (Opuntia spp.), and several species of Happlopappus (Munz 1974; Kirkpatrick and Hutchinson 1980). Of the 11 subassociations of coastal sage scrub identified by Kirkpatrick and Hutchinson (1977), the gnatcatcher apparently routinely occupies only three of these.

The gnatcatcher is primarily insectivorous and defends territories ranging in size from approximately 2 to 40 acres (Atwood 1990; John Konecny, personal communication). Atwood's comprehensive studies (1988, 1991) and status review (1990) further reveal that the breeding season of the species extends from February through July, and apparently peaks in April.

Juveniles associate with their parents for several weeks or even months after fledgling.

Although considered locally common fewer than 50 years ago (Grinnell and Miller 1944), Atwood (1990, 1992b) estimated that the approximately 1,811 to 2,291 pairs of gnatcatchers remain in the United States population. In the listing package, the Service estimated that there could be as many as 2,562 pairs gnatcatchers in Southern California (58 FR 16742). Although the documented decline of the gnatcatcher undoubtedly is the result of numerous factors, including nest depredation and brood parasitism by the essentially non-native brown-headed cowbird (Molothrus ater), habitat destruction, fragmentation or modification are the principal reasons for the gnatcatcher's current, precarious status (58 FR 16742). It has been estimated that as much as 90 percent of coastal sage scrub vegetation has been lost as a result of development and land conversion (Westman 1981a, 1981b; Barbour and Major 1977), leaving coastal sage scrub as one of the most depleted habitat types in the United States (Kirkpatrick and Hutchinson 1977; Axelrod 1978; Klopatek et al. 1979; Westman 1987; O'Leary 1990).

For references that contain thorough accounts of the gnatcatcher and its coastal sage scrub habitat, please see the section entitled "References and Literature Cited" at the conclusion of this document.

Species Accounts

Coastal Cactus Wren

The cactus wren (Campylorhynchus brunneicapillus) is a large (length 18-22 cm) member of the wren family (Troglodytidae). Its body plumage is brown above and whitish below. The crown is often a rust-colored brown bordered by a conspicuous whitish eyebrow. The underparts are heavily spotted with black especially on the upper breast. The back is streaked, and the wings and tail are conspicuously barred in black and white (Dunn 1987, Terrill 1988, Rea and Weaver 1990).

One recognized subspecies of cactus wren (C. b. couesi) occurs in the United States. Although Rea (1986) proposed a new subspecies of cactus wren, C. b. sandiegensis (San Diego cactus wren), the American Ornithologists' Union Committee on Classification and Nomenclature has not accepted this proposed change in taxonomy (Dr. Burt Monroe, American Ornithologists' Union, pers. comm.).

On September 21, 1990, the Service received two petitions to list the San Diego cactus wren, C. b. sandiegensis (Rea 1986), as an endangered species pursuant to Section 4 of the Act. Given the biological information contained therein pertaining to sandiegensis and the remainder of the coastal population of the cactus wren, the Service affirmed that the petitioned action may be warranted on January 24, 1991, pursuant to Section 4(b)(3)(A) of the Act. This finding was subsequently published in the Federal Register on March 22, 1991 (56 FR 12146).

Accordingly, it is the coastal population of C. b. couesi that is referred to herein as the coastal cactus wren. A discussion of the nomenclatural history of the coastal California population of the cactus wren is presented by Rea and Weaver (1990).

The coastal cactus wren occurs from southern Ventura County southeast to the Baldwin Hills and the Palos Verdes Peninsula in Los Angeles County, east along the southern flank of the San Gabriel and San Bernardino

Mountains from the northern San Fernando Valley in Los Angeles County to Mentone in San Bernardino County, and south along the coastal slopes and interior valleys west of the Peninsular ranges in western Riverside, Orange, and San Diego Counties to extreme northwestern Baja California, Mexico, in the vicinity of Tijuana and Valle de las Palmas. Maps depicting the distribution of the coastal population of the cactus wren are presented in Garrett and Dunn (1981) and Rea and Weaver (1990).

The geographic isolation of coastal and interior cactus wren populations has been enhanced by the urbanization of southern California and may be facilitating their genetic differentiation (e.g., see Rea and Weaver 1990). The hiatus of suitable habitat formed by the Transverse and Peninsular ranges also serves to maintain and define the disjunct distribution of coastal and interior populations of the cactus wren. In addition, Garrett (1992) concluded that "...the habitat occupied by coastal Los Angeles and Ventura County cactus wrens (never considered to be part of the sandiegensis subspecies) is strikingly different than that occupied by the nearest desert populations in the western Antelope Valley..." and that "...all of the coastal slope populations are now functionally isolated from the desert ones...".

The coastal cactus wren is an obligate, nonmigratory resident of the coastal sage scrub plant community. As its common name suggests, this species is found in association with various species of cacti which provide sites for nesting, roosting, and foraging. The coastal cactus wren occurs almost exclusively in thickets of tall prickly pear (Opuntia littoralis and O. oricola) and coastal cholla (O. prolifera) at elevations up to 450 m above sea level (Rea and Weaver 1990). Rea and Weaver (1990) reported that "The wrens are absent from areas where only low, sprawling cacti grow."

From the early 1880's to the early 1930's, the coastal cactus wren was considered a locally common resident of cactus-dominated habitat from San Diego northwest to Santa Paula in Ventura County (Grinnell 1915; Willett 1912, 1933). However, even during this period, a decline in its status was noted. Dawson (1923) reported that "All proper desert areas west of San Gorgonio Pass are being threatened sharply by the human invasion ... The cactus wren has receded from many parts of the San Diego-Ventura section already, and is in danger of being altogether cut off."

Willett (1933) noted that this species had declined significantly in Ventura County (including its apparent extirpation from Simi Valley) as a result of land clearing activities for agricultural purposes. Grinnell and Miller (1944) characterized the range of the cactus wren on the coastal slope of southern California as "now much restricted as compared with conditions in the 1880's and 1890's, owing to great reduction of requisite habitat..."

The coastal cactus wren has been extirpated from at least 57 sites known to be occupied between 1976 and 1990 (Salata 1992). Many of the sites currently occupied by the coastal cactus wren contain very few pairs and are threatened by urban development, fire, agriculture, and a variety of other factors (Salata 1992). Rea and Weaver (1990) reported that only 10 of 52 sites currently occupied by the coastal cactus wren in San Diego County support five or more pairs. Overall, it is estimated that fewer than 2,400 pairs of coastal cactus wrens remain throughout its entire range (Salata 1992).

Considering the small overall population size of the coastal cactus wren, the precarious status of the coastal sage scrub plant community upon which it depends (O'Leary 1990), and the high degree of wren habitat

fragmentation (Rea and Weaver 1990), further losses of habitat can be expected to have a significant adverse effect on the viability of extant subpopulations. Indeed, the status of the coastal cactus wren is symptomatic of the status of the coastal sage scrub plant community upon which it depends for its continued existence. As was indicated above, this plant community is one of the most depleted habitat types in the United States (Kirkpatrick and Hutchinson 1977; Axelrod 1978; Klopatek et al. 1979; Westman 1981a,b, 1987; O'Leary 1990).

Analysis of Impacts

Pursuant to the regulations at 50 CFR 402, the following constitutes an analysis of impacts to the gnatcatcher and coastal cactus wren, in and around the project Action Area, which includes all of the land that would be directly impacted by project construction, and indirectly affected by project construction and operation (e.g. noise effects), or affected because of potential induced growth.

As described above, there may be as many as 2,562 gnatcatchers remaining in the U.S. Of this total, about 757 pairs of gnatcatchers were estimated to occur in Orange County (58 FR 16743), prior to the wildfires that burned a significant amount of Orange County, primarily the coastal areas, in October 1993. Over 7,700 acres of coastal sage scrub burned as a result of the 1993 wildfires in Orange County. An estimated 144 pairs of gnatcatchers were assumed lost (USFWS 1993). The most significant fire damage to the Orange County coastal sage scrub ecosystem occurred in the coastal areas, especially in the San Joaquin Hills area. Impacts to the gnatcatcher and coastal cactus wren resulting from this fire were analyzed in the Biological Opinion for the San Joaquin Hills Transportation Corridor (USFWS 1994). While the Orange County wildfires resulted in significant impacts to the coastal populations of gnatcatchers and cactus wrens, it is expected that these populations will eventually increase as the habitat recovers from the fire (USFWS 1994).

The existing information on the abundance and distribution of the gnatcatcher in Orange County was supplemented by field surveys conducted as part of the NCCP planning effort. Intensive field surveys for the NCCP target species (gnatcatcher, coastal cactus wren and orange-throated whiptail lizard) were conducted in various locations within the coastal sage scrub habitat in the Santa Ana Mountains/Lomas de Santiago Ridge that comprises the reserve planning area for the Central subarea. Field surveys were conducted in 1991 through 1992 and again in the spring of 1994. Field survey locations included lands owned by the Irvine Company (which includes a substantial portion of the Central Subarea) and County regional parks. In 1994, additional survey locations were selected, the basis of selection being those areas determined to have the greatest potential presence of gnatcatchers and cactus wrens. The purpose of these surveys were merely to note the presence or absence of NCCP target species, including the gnatcatcher. No attempt was made to determine the status of individuals sighted; NCCP survey results are reported as sightings. During the 1991-1992 field surveys in the Central subarea, approximately 163 gnatcatchers and 476 cactus wren were sighted. In the 1994 spring surveys, 174 gnatcatchers and 190 coastal cactus wren were sighted (R.J. Meade, Pers. Comm).

As stated above, the gnatcatcher is an obligate species of the coastal sage scrub habitat. Gnatcatchers are found more consistently and in higher densities in subassociations of coastal sage scrub generally found near the coast and lower in elevation (NCCP Scientific Review Committee: J. Atwood, J. Rotenberry and D. Murphy, Pers. Comm.). This is particularly noticeable

in Orange County, where there is a relatively quick transition between the flatter, coastal areas, and the steeper, more mountainous portions of the county in the Santa Ana Mountains. Coastal sage scrub habitat on the northern poriton of El Toro Marine Corps Air Base, in the foothills and adjacent lowland areas of the Loma Ridge, the Peters Canyon Regional Park and adjacent habitat, and the Tustin Ranch area provide an example of this observation. These low elevation, generally flatter contain patches of coastal sage scrub which support significant populations of the gnatcatcher and coastal cactus wren (P&D Technologies 1994, R.J. Meade Pers. Com.), which are likely source populations for the steeper, more mountainous areas to the north and east.

Direct and Indirect Effects

As described in the Biological Assessment, the project will result in the permanent, direct loss of 44 acres of coastal sage scrub habitat. In addition it is estimated that indirect effects of construction and operation may extend up to 1,000 feet from the centerline of the ETC. It is estimated that the construction will directly affect approximately one California gnatcatcher. There are no expected indirect effects to gnatcatchers (P&D Technologies 1994).

Technical Assistance

Coastal Cactus Wren

As described in the Biological Assessment, the project will directly affect one coastal cactus wren. There are no expected indirect effects to coastal cactus wrens (P&D Technologies).

Habitat Fragmentation

While the direct and indirect impacts associated with the West Leg ETC do not pose a significant threat to gnatcatcher populations in the Central Subarea, a serious threat to gnatcatcher populations in the Project Area and environs is habitat fragmentation by the ETC, an effect which tends to disrupt various ecosystem processes.

As discussed previously, habitat destruction and fragmentation are the most significant threats to gnatcatchers (and coastal cactus wrens). As noted by Noss (1992) and Soule et al. (1992), "In the coastal sage of Southern California, a classic sequence of habitat destruction and fragmentation has occurred, involving a reduction in total habitat area and apportionment of the remaining area into small isolated pieces. These pieces, mostly canyons, then continue to lose native vegetation as human activities fragment them internally and nibble at their edges." The NCCP Conservation Guidelines notes that "...threats to coastal sage scrub habitat are more than losses of total habitat area alone. Threats also include losses of distinct subtypes of sage scrub and losses of the special conditions needed to maintain the broad suite of coastal sage scrub-resident species" (CDFG 1993). Habitat fragments have little long-term value for conservation, as smaller habitat areas contain fewer species. Also, smaller habitat patches with proportionally larger perimeters are more vulnerable to deleterious edge effects, although such effects have not yet been documented in coastal sage scrub (Atwood 1990). Fragementation of coastal sage scrub habitat would affect gnatcatchers and other obligate species by isolating populations and preventing dispersal.

In the County of Orange, relatively large, contiguous patches of coastal sage scrub still exist. This is due to a combination of a unique and

proactive approach to land-use planning, which requires dedication of open space in return for development rights, and geography. In the Central subarea, open space dedication has been concentrated in the higher elevation areas adjacent to the Cleveland National Forest, such as the Limestone Regional Park, and large canyon areas, such as Weir Canyon Wilderness Area. These dedicated open space lands contain a significant amount of coastal sage scrub. Development has tended to be more focused in the flatter, lower elevation areas, such as the coast and the inland valley area. The more steep foothill and mountain areas have been traditionally less attractive for development.

The alignment of the West Leg, from its terminus south of Interstate 5 to its interchange and merging with the North Leg ETC, primarily affects existing agricultural land, except as the West Leg approaches the North/East Leg interchange, in the general vicinity east of Peters Canyon Regional Park. Jamboree Road occurs adjacent to and just west of the West Leg ETC and runs parallel to it along its entire length. Jamboree Road presents somewhat of an existing barrier between coastal sage scrub patches in the Peters Canyon/Tustin Ranch area and the Loma Ridge. In addition, the coastal sage scrub habitat matrix in the Peters Canyon and Tustin Ranch areas are almost completely surrounded by disturbed or developed lands in the urban plains of Tustin and Irvine, except along the very western edge of the Loma Ridge, where there is an existing corridor of habitat from Peters Canyon Regional Park to Loma Ridge. The West Leg would bisect this existing corridor of habitat, and would effectively broaden the existing barrier posed by Jamboree Road and existing and future development. As described above, these lower elevation, flatter areas contain significant populations of gnatcatchers (and cactus wren). The West Leg ETC would further isolate the existing coastal sage scrub patches currently found in the Peters Canyon Reservoir Regional Park extending south to the Tustin Ranch area, away from the generally contiguous coastal sage scrub patches along the Loma Ridge and adjacent lowland areas.

Fragmentation of coastal sage scrub would impact gnatcatchers, and other obligate species, by isolating populations and preventing dispersal. The Peters Canyon population of gnatcatchers is connected via an existing corridor with the Loma Ridge populations to the east, and with the Santiago Hills, Irvine and Santiago Oaks Regional Parks populations via an existing corridor to the north. Fragmentation of habitat by the West Leg ETC is expected to inhibit, to some degree, juvenile dispersal of gnatcatchers and thus affect immigration between these subpopulations.

Little is known about juvenile gnatcatcher dispersal, or to what extent large roadways act as barriers to the gnatcatchers. Recent information suggests that 96% of juvenile gnatcatchers disperse within 1.5 miles of their natal territory; 80% disperse within 1.25 miles of their natal territory (G. Braden, USFWS, Pers. Comm). The maximum dispersal distance has been estimated from between 6.3 miles and 13 miles (P.J. Mock, as reported by Noss 1992). Gnatcatchers have been observed flying high over roadways; it may be that they fly high to get a view of where they want to go, and if they see coastal sage scrub, they may move there (Bontrager, Pers. Comm). Since gnatcatchers probably prefer to utilize natural habitats to disperse (Noss 1992), the ETC may act as a barrier, especially in those areas where coastal sage scrub or other native habitat cannot be seen across the corridor. The ETC would be a significant barrier to terrestrial wildlife species, such as the coyote and other large predators and their prey, which would ultimately affect the coastal sage scrub ecosystem, and therefore the gnatcatcher and cactus wren.

In summary, the Service finds that fragmentation of coastal sage scrub habitat by the West Leg ETC poses a threat to the long-term viability of the gnatcatcher and likely other coastal sage scrub-associated species. The habitat patches remaining on the west side of the ETC, including the Peters Canyon Regional Park and the Tustin Ranch areas, would be isolated to some degree from habitat to the east of the corridor.

As noted earlier, another negative result of fragmentation is edge effects. The 5.3-mile long West Leg of the ETC will create artificial edges along its length where it bifurcates natural, undisturbed habitat. The remaining habitat adjoining the ETC will have deteriorated value for wildlife to some distance away from the road due to the adverse affects of noise, air pollution and other factors. The ETC will also be a cause of mortality to a variety of species that move across the landscape.

The artificial edge created by the construction of the ETC could result in increased habitat disruption in areas that were previously inaccessible, and in increased rate of weedy plants (Noss 1992). This effect should be minimized by the revegetation of appropriate graded slopes along the corridor in the vicinity of the Loma Ridge and the Peter's Canyon Regional Park with coastal sage scrub plant species, as proposed as part of the project's mitigation package (USACOE 1994). Coastal sage scrub habitat patches to the west of and isolated by the corridor will also be exposed to the edge effects of future urban development spreading eastward from the Tustin and Irvine urban plains.

Brood parasitism by the brown-headed cowbird (Molothrus ater), could be exacerbated by increased edge effect, likely affecting the reproductive potential of the gnatcatcher. Cowbird parasitism and the direct and indirect impacts of a variety of projects currently limit the distribution and potential expansion of gnatcatchers in Orange County, and in California as a whole. A composite of the best scientific information available suggests that cowbird abatement program proposed as part of the project should alleviate or offset the depression of gnatcatcher productivity that might otherwise result from the direct or indirect effects of the project. Specifically, management programs including cowbird abatement and predator surveillance have been extraordinarily successful in bringing about rapid and statistically significant increases in southern California populations of the least Bell's vireo (Vireo bellii pusillus), a Federally-listed endangered species (Salata 1987; Hays 1989; The Nature Conservancy 1993). More importantly, the available data reveal that 40% of the 10 gnatcatcher nests monitored in the Coyote Hills in Fullerton, California were parasitized by cowbirds (UNOCAL 1993) as were 31% (54) of 176 gnatcatcher nests monitored in Riverside County study sites during the 1992-1993 breeding seasons (G. Braden, Pers. Comm.). It is critical that the reproductive capability of the gnatcatcher and coastal cactus wren be maximized to the extent possible in the short-term and in perpetuity to conserve and recover the local populations of these species. The cowbird management measures proposed as part of the Project (USACOE 1994), will contribute to the elimination of a significant threat to gnatcatcher reproductive capability.

Impacts to Central and Coastal NCCP Reserve Design

The impact of fragmentation of coastal sage scrub and its resident species, including the gnatcatcher, must be analyzed with respect to the County of Orange's NCCP planning efforts in the Central Subregion. As discussed earlier, the listing of the gnatcatcher as threatened was followed by the issuance of a special rule, which, in general, would allow land-use activities associated with a NCCP plan to not be considered a violation of

section 9 of the Act. Orange County is enrolled in the NCCP Program and is currently preparing a NCCP for the Central and Coastal Subregions (as well as for the Southern Subregion); a draft reserve design for the Central and Coastal Subregional NCCP plan has been prepared (County of Orange 1994a).

The NCCP program is intended to establish and manage a viable, permanent system of coastal sage scrub reserves complete with its matrix of other habitats, as well as identify areas that would be appropriate for development within the Central Subregion. The potential for establishment of a viable reserve system in the Central Subregion is the critical element in determining the impact of the ETC on the gnatcatcher; the ETC is a critical factor affecting/influencing reserve design and viability in this area. If it can be found that a viable coastal sage scrub reserve system can be established in the Central Subregion that includes the ETC project and its accompanying mitigation measures, the ETC, (assuming these are adequate means to minimize and mitigate impacts) would likely not impair the overall utility of the habitat in the Central Subregion as essential gnatcatcher population centers.

Central Subregional NCCP Reserve Design

In general, the Central Subregional Reserve Design incorporates already committed open space and areas of open space contemplated in conjunction with the approval of certain development projects in other areas. This open space system would also be augmented by adding reserve areas known to contain significant populations of gnatcatchers and cactus wren, and to provide linkages of natural habitat. The Central Subregion draft Reserve Design incorporates over 21,000 acres of coastal sage scrub and its matrix of other associated habitats, including lands necessary for connectivity (R.J. Meade, Pers. Comm.). Existing, planned and/or proposed regional open space lands in the Central Subregion, as identified in the Biological Assessment, includes a total of 8,379 acres of coastal sage scrub in Weir Canyon Wilderness Park, Santiago Oaks Regional Park, Irvine Regional Park, Open Space Area 31 in Gypsum Canyon, Peter's Canyon Regional Park, the Loma Ridge Open Space system, miscellaneous open space associated with the East Orange General Plan, Limestone Canyon Regional Park, and Whiting Ranch Wilderness Park. Significant areas which were added as reserve unit areas as part of the NCCP planning process include: a significant expansion to incorporate coastal sage scrub and significant gnatcatcher and coastal cactus wren populations south of the existing Loma Ridge Open Space system, including Upper Rattlesnake Canyon, Hicks Canyon, lower Foothills of Bee/Round Canyons - a NCCP reserve unit totalling 2,441 acres in size, with connections to the Limestone Canyon Regional Park NCCP reserve unit, totaling 10,934 acres; and a major expansion of natural habitat around the Weir Canyon Wilderness Area - a NCCP reserve unit totalling 3,923 acres, which would connect with a significant amount of coastal sage scrub habitat in a habitat matrix in the Weir, Gypsum and Coal Canyon areas across the ETC - a NCCP reserve unit totaling about 2,579 acres (R.J. Meade Pers. Comm.). The NCCP Reserve Design also includes a NCCP Reserve Unit that expands the existing Peters Canyon Regional Park to include 490 acres; the Tustin Ranch area, approximately 200 acres in size, is not included in the draft Reserve Design.

Connectivity

Connectivity between habitat reserve areas is essential for maintenance of the viability of the wide range of species inhabiting coastal sage scrub, including the gnatcatcher, over the long-term. As discussed above, while it is not clear to what extent major highways act as barriers to gnatcatcher movement, the ETC would be a significant barrier to terrestrial species, such as the coyote, mountain lion and other large predators and

their prey. The presence of a full compliment of resident species is important to the health and viability of a naturally functioning ecosystem. Since coastal sage scrub habitat patches will be bifurcated by the West Leg of the ETC, connectivity between NCCP reserve units must be provided through wildlife crossings and culverts.

The West Leg of the ETC includes one bridge that would act as a wildlife crossing, along with four large culverts that will enhance wildlife crossing of the corridor. The bridge/wildlife crossing is located at West Leg ETC Station Number 2701, and is approximately 17 feet high, 100 feet wide at the bottom and 240 feet wide at the top, with a traverse of 200 feet. In addition, the West Leg would include 3 culverts at least 54" in diameter and one culvert at least 96" in diameter. The exact locations and specifications of these crossings are described in USACOE 1994. The undercrossing would be located just south of the Loma Ridge NCCP Reserve Unit. The land in the general vicinity of this crossing is mostly agricultural, with patches of coastal sage scrub on the western side. While the undercrossing would not directly connect reserve units, the crossing and the four culverts would all generally connect the west slope of the Loma Ridge NCCP Reserve Unit with the Peters Canyon Reservoir Regional Park area, as enlarged by the NCCP Reserve Unit. While deer or mountain lions will likely not utilize the crossing in the future because of the proximity of anticipated future development, coyotes and other small mammals would be expected to utilize this crossing. The four culverts could also be used by small mammals and provide additional potential for wildlife to traverse the West Leg of the corridor. Coyotes have been known to use culverts with a diameter of 54 inches or greater. However, how effective this bridge undercrossing and culverts will be for wildlife crossing will depend largely upon the extent of development that could occur in the vicinity of the crossing along both sides of the ETC and between the West Leg ETC and the Peters Canyon Reserve Unit. The NCCP Reserve Design Map shows that this area is already mostly disturbed or developed. If this area is not intensely urbanized, coyotes and other small mammals would probably still utilize the bridge/undercrossing to access Peters Canyon or the Loma Ridge NCCP Reserve Units. The revegetation of the crossing area should help to attract wildlife to utilize the crossing. From the Loma Ridge NCCP Reserve Unit, animals would be able to cross the East Leg of the ETC through another wildlife crossing, The Haul Road crossing, into the Limestone Canyon Regional Park, as expanded, NCCP Reserve Unit.

In the short-term, connectivity to coastal sage scrub patches in the Santiago Hills area north of Peters Canyon Regional Park would remain, however, this area is not included as part of the NCCP Reserve Design; therefore long-term connectivity to habitat north of Peters Canyon Regional Park is not assured.

Impacts to Central Subregional NCCP Draft Reserve Design

The West Leg of the ETC bifurcates the Draft NCCP Reserve Design along the west slope of the Loma Ridge. The only NCCP reserve unit included west of the West Leg is the Peters Canyon Regional Park, as expanded by the NCCP Draft Reserve Design. This Reserve Unit totals about 490 acres (R.J. Meade Pers. Com). This reserve unit is already somewhat isolated by Jamborree Road and existing disturbed and/or developed lands. The Tustin Ranch area (about 200 acres), which supports a significant population of gnatcatchers but is totally surrounded by disturbed and/or developed lands, is not included in the Draft Reserve Design. The Peters Canyon Reserve Unit would be further isolated by the West Leg from the rest of the NCCP reserve units, except for the bridge undercrossing that will be constructed, as

described above. If the bridge is utilized by wildlife, especially small mammals and coyotes, the ecosystem functions in this small reserve unit could be maintained, at least in the short-term. As stated above, the degree of use of this crossing will depend upon the degree to which the area between the Peters Canyon reserve unit and the West Leg, a narrow strip of land, would be developed.

Not enough is known about the coastal sage scrub ecosystem to determine what the optimal size of a reserve system should be to ensure long-term viability of this habitat (CDFG 1993). Therefore the long-term viability of the Peters Canyon NCCP reserve unit is unknown. This reserve unit is already almost surrounded by disturbed and or developed lands, which reduces its long-term value for ecosystem function. Given the substantial acreage included in the Central Subregional Reserve Design, which includes almost 22,000 acres in mostly large blocks of habitat, especially in the Loma Ridge (about 2,400 acres) and Limestone Canyon Reserve Units (about 10,934 acres), as well as Weir Canyon Wilderness (about 3,923 acres) and the Windy Ridge Reserve Units (about 2,579 acres), and assuming that the current version of the Draft Reserve Design will not change substantially in these areas, and will be approved and implemented, along with the necessary management activities, the Peters Canyon Regional Park Reserve Unit (about 490 acres) is probably not essential to the long-term maintenance of the coastal sage scrub ecosystem in the Central Subarea.

However, the Peters Canyon NCCP Reserve Unit will be of critical importance as a peripheral reserve. Peripheral reserves that are partially isolated are valuable because they serve to isolate portions of the reserve system from catastrophic events, such as wildfires, that may devastate the larger, contiguous reserve area; residual populations of species that are somewhat isolated from the larger core population are also isolated from a catastrophic event. Therefore, these populations act as residua to repopulate areas affected by catastrophes. The importance of this was illustrated recently in the San Joaquin Hill wildfires in the fall of 1993. As described in the Biological Opinion for the San Joaquin Hills Transportation Corridor, unburned portions of the San Joaquin Hills and adjacent areas are expected to act as residua for the gnatcatcher and cactus to repopulate the burned areas as they begin to recover (USFWS 1994). If the Tustin Ranch area is developed, and not incorporated into the NCCP reserve design, the Peters Canyon Reserve Unit could become an important refugia for the existing gnatcatcher population at Tustin Ranch.

As discussed in the Biological Opinion for the Eastern Transportation Corridor (North and East Legs), the Draft Central Subregional Reserve Design provides substantial acreage both east and west of the North and East Legs of the ETC, and utilizes four wildlife crossings to maintain connectivity between significant reserve units. The Draft Reserve Design, together with these crossings, is intended to allow for the movement of small and large mammals, including predators and their prey base among the Cleveland National Forest, and Reserve Units on both sides of the ETC. In the Biological Opinion for the North and East Legs of the ETC, the Service found that the maintenance/management of the Loma Ridge/Limestone Canyon NCCP reserve units is likely essential to maintenance of gnatcatcher population in the Central Subregion over the long-term (USFWS 1994).

The County of Orange has determined, in consultation with County's NCCP consultant, Dr. Rob Schonholtz, that the ETC would not preclude or prevent the preparation of an effective subregional NCCP program (County of Orange 1994b).

In summary, the Service concludes that the proposed project will not jeopardize the overall survival and recovery of the gnatcatcher or the maintenance of viable populations of the species within the Northern Orange County Santa Ana Mountains and project "Action Area", primarily because of the habitat reserves proposed as part of the draft Central Subregional NCCP Reserve Design, and the substantial impact avoidance and compensation measures incorporated into the project description. Further, given these impact avoidance and compensation measures and the best scientific information, the Service concludes that the project-related bifurcation, fragmentation and the removal of coastal sage scrub habitat, likely will not impact the overall utility of the Northern Orange County Santa Ana Mountains as important, and probably essential, coastal cactus wren and gnatcatcher habitats and population centers. This conclusion is based upon the best available information, including the draft Subregional Reserve Design for the Central and Coastal NCCP Subregions, presented to the Service on April 22, 1994. If these conditions change or if subsequent information is received that determines that the NCCP reserve design is not valid, then this conclusion would also be invalidated.

Technical Assistance

Coastal Cactus Wren

The proposed project effects described above for the gnatcatcher are similar to those likely to affect the coastal cactus wren.

Consistency with NCCP Guidelines

In addition to reviewing the project for its impacts to the NCCP Planning Process ongoing in Orange County, the Service has reviewed the ETC project for consistency with the NCCP Process and Conservation Guidelines. The project applicant, TCA, has enrolled the ETC in the Central and Coastal NCCP Planning Effort, and is participating in the NCCP planning process. In general, the Service concludes that the ETC is generally consistent with the Guidelines and with the Central and Coastal Subregional NCCP. Specifically, the Service concludes that project-related impacts:

1) will not foreclose future conservation planning efforts until such time as an NCCP has been completed and long-term enhancement and management programs are formulated. The Central and Coastal Subregional NCCP is being prepared concurrent with plans for the ETC. The NCCP plan is currently in the design phase, which includes the ETC alignment and associated mitigation measures. As discussed in the biological opinion for the East and North Legs of the ETC, the alignment was shifted approximately 500 feet east, in order to reduce impacts to the Central Subregion NCCP reserve design, and to lessen impacts to significant populations of gnatcatchers and coastal cactus wrens. The wildlife crossings provided on all three legs of the ETC will maintain connectivity between NCCP Reserve Units. The project, including the proposed mitigation package, will provide funding necessary to assist in providing for the perpetual enhancement and management of coastal sage scrub habitat within the Central Subregion.

2) will not result in an interim loss equal to, or exceeding, 5% of the coastal sage scrub in any one subregion. The loss of coastal sage scrub by the West Leg ETC project would represent approximately 0.2 percent of the coastal sage scrub within the Central Subarea (P&D Technologies 1994).

3) are, to the maximum extent practicable, limited to areas with smaller populations of target species. While the ETC has been in the planning process for a number of years, it is also being planned concurrent with the

Central and Coastal Subregional NCCP. Areas of major biological importance, such as the Weir Wilderness Park and the Lomas Ridge/Siphon Ridge areas have been avoided to the maximum extent possible by project design and alignment changes. NCCP target species are generally present along the alignments of the West, North, and East Legs of the project. However, out of an estimated eight populations of California gnatcatcher that are concentrated in the subregion (i.e. Weir/Santiago Regional Park, Peters Canyon, Irvine Park, Loma Ridge, Rattlesnake Reservoir, Siphon Reservoir, Aqua Chignon Wash and scattered locations in Limestone Regional Park), the project avoids all, except for a portion of the Siphon Reservoir population. The West Leg directly impacts only one gnatcatcher, and one cactus wren.

4) do not, to the maximum extent practicable, disproportionately affect specific subunits of the environmental gradient in each subregion (as defined by vegetation subcommunity, latitude, elevation, distance from coast, slope, aspect or soil type. The ETC, as an essentially linear project, traverses a variety of vegetation communities, elevations, slopes, aspects and soil types (P&D Technologies 1992).

5) do not compromise the NCCP effort to protect, prior to completion of a subregional plan, areas of higher long-term conservation value as defined by the extent of coastal sage scrub habitat, proximity of that habitat to other habitat, the value of the habitat as landscape linkages or corridors, or the presence of sensitive species. While the Service only recently received some of the Central Subregional NCCP data from the County of Orange, and has not been able to determine the long-term conservation value of lands within the Central subregion, the Central Subregional draft reserve design has attempted to identify and include in the NCCP reserve, those areas that would appear to be of high value for long-term conservation (notable exceptions to this are the Tustin Ranch area and portions of the East Orange Planning Area). In addition, by incorporating wildlife crossings in strategic locations along the three legs of the ETC, the ETC project provides for the connectivity essential to maintaining the long-term health and viability of the NCCP reserves. The revegetation and preservation measures which are proposed as a part of the project promote coastal sage scrub and biological values to help maintain and potentially enhance target species and their occupation of the southern foothills of the Santa Ana Mountains. The program will help facilitate gnatcatcher movement among Peters Canyon, Loma Ridge, Rattlesnake Canyon, Hicks Canyon and Siphon Ridge as well to the east at Aqua Chignon Wash.

6) do not compromise the NCCP effort to direct development pressure to areas that have lower conservation value. Much of the coastal sage scrub habitat in the North Orange County Santa Ana Foothills is in committed open space or existing conservation areas, as augmented by the Central Subarea NCCP reserve design. The ETC will not necessarily direct development pressure towards (or away from) areas of higher long-term conservation value. Subregional planners have the task of identifying areas of long-term conservation value (the Reserve system) to steer development pressure into areas of lower conservation value within the North Orange County Santa Ana Foothills and federal "Action Area" through the continued NCCP effort.

7) do not compromise the NCCP effort to ensure that all interim habitat losses are adequately mitigated and that said mitigation contributes to the interim subregional mitigation program that will be subsumed in the long-term subregional NCCP. As is indicated above, the project, including the proposed compensation measures, will enhance the NCCP's goal to provide for the perpetual enhancement and management of coastal sage scrub, gnatcatcher and coastal cactus wren conservation areas within the Central subregion.

In addition, the Service concludes that the management and restoration measures that have been developed for this project constitute special mitigation measures, as required for the NCCP Program (CDFG 1993). The Conservation Guidelines emphasize the importance of management and restoration research to subregional NCCP planning and further state that such efforts are "essential to the adaptive management of coastal sage scrub habitat". It is further recognized that such efforts "undertaken as mitigation during the interim program will add to the overall ability of these conservation tools to be employed more successfully in the future" (CDFG 1993).

In summary, the Service concludes that the loss of the habitat within the project footprint and the overall direct and indirect effects of the project will not result in the extirpation of the Northern Orange County Santa Ana Mountains populations of the gnatcatcher. Given the commitment of the U.S. Army Corps of Engineers and the applicant to provide the resources to conduct and fund the restoration, enhancement and management activities for coastal sage scrub habitat in the Central Subregion, and the perpetual management activities proposed, the Service concludes that project related impacts likely will not jeopardize the survival or recovery of the gnatcatcher.

Cumulative Impacts

Cumulative effects are those impacts of future State, local government, and private actions affecting endangered and threatened species that are reasonably certain to occur in the project "Action Area". Future federal actions will be subject to the consultation requirements established in Section 7 of the Endangered Species Act (Act) and, therefore, are not considered cumulative to the proposed action.

The majority of activities anticipated to affect this species within the foreseeable future are local projects with no direct Federal involvement. A large number of projects that lack a Federal nexus also have occurred or are proposed within the current range of the gnatcatcher. These projects could result, overtime, in significant cumulative effects to the gnatcatcher. However, private projects with no Federal nexus are subject to certain other regulatory constraints of the Act. For example, Section 4 of the Act requires the Service to list species that are threatened or endangered, and section 9 of the Act prohibits the unlawful "take" [e.g., harm, harass] of listed species "by any 'person', including private individuals and entities."

Anticipated prohibitions against "take" and a desire to engage in proactive planning have prompted efforts by local governments and large land owners to develop Habitat Conservation Plans (HCPs), pursuant to authorization for incidental take under section 10 of the Act. In addition and as discussed within this document, The Resources Agency, the Department of Fish and Game, together with local governments, landowners and environmental groups and in cooperation with the Service, are together developing a Natural Communities Conservation Plans that would cover most of Orange County, including the project area. The efforts of all parties, working cooperatively with the agencies, and combined with current federal protection for the gnatcatcher that limits loss of coastal sage scrub habitat to no more than 5% during the planning stages are intended to provide mitigation for project-related impacts to the gnatcatcher, coastal cactus wren, orange-throated whiptail, and the entire suite of sensitive species resident in coastal sage scrub in the future. However, in the absence of NCCPs/HCPs incorporating substantive impact avoidance and compensation measures, the Service believes that habitat destruction,

cowbird parasitism, and indirect impacts resulting from a variety of individual projects will effect the distribution and potential expansion of gnatcatchers throughout their historic range.

Nearly all of the land in the "Action Area" and in the Central Subregion that is not developed is within jurisdictions that have enrolled in the NCCP Program. As a result, all such lands are subject to the requirements of the the special rule, the Conservation Guidelines and other requirements of the NCCP process. This ensures that future land uses in this Subregion will be evaluated as to their impacts to the subregional planning effort, and will be required to provide mitigation to ensure protection of the gnatcatcher and other target species in enrolled areas.

In the event that it is determined that any future proposed development in the "Action Area" would have adverse impacts on gnatcatchers, cactus wrens or other coastal sage scrub sensitive species covered in the NCCP plans, appropriate and adequate mitigation measures would be developed in concert with representatives from the Service and Department of Fish and Game to ensure the protection of those species. For any property in the "Action Area" that is not covered by a jurisdictional enrollment in the NCCP, that property would still be subject to the requirements of CEQA and the Endangered Species Act. The following quotation from the NCCP Process Guidelines addresses this specific issue:

CEQA has a mandatory finding of significance wherever:

> '(a) The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal,...'"(CEQA Guidelines, section 15065)

By that standard, most coastal sage scrub habitat in the NCCP Program area is sensitive and could trigger a CEQA finding of significance. Accordingly, the presence of coastal sage scrub would be disclosed and potential impacts to the gnatcatcher would be revealed.

The EIS for the East and North Legs of the ETC states that potential growth inducing impacts generated by the North and East Legs of the ETC are most likely to affect nearby developed and undeveloped lands located in portions of north and central Orange County. These areas of potential impact include areas within the City of Anaheim's and Orange's sphere of influence (i.e. Blind and Fremont Canyons). The ETC would have no growth inducing impacts along the West Leg, as growth here is already planned as part of the City of Irvine General Plan.

As stated earlier, the NCCP Draft Reserve Design incorporates the Peters Canyon Regional Park and the entire frontal slope area of the Loma Ridge and adjacent lowlands into NCCP reserve units. The NCCP plans for both the Central and Coastal Subregions will address impacts to coastal sage scrub habitat and the three target species. In addition, all future development in the Central and Coastal Subregions will be required to proceed through full environmental review prior to development, consistent with the NCCP Process Guidelines (CDFG 1993).

The Service concludes, given all relevant information and analysis, that the West Leg ETC, together with other proposed and future projects would have cumulatively significant impacts to the gnatcatcher; the West Leg ETC is not anticipated to induce growth in the project "Action Area". However,

all future development and growth in the Central and Coastal Subregions, whether planned or unplanned, will be evaluated to determine its effects on the gnatcatcher, will be required to mitigate these impacts, and will be constrained by the protective mandates of the Act, the NCCP Program, and/or CEQA.

Technical Assistance

Coastal Cactus Wren

Effects to the coastal cactus wren resulting from the above cumulative, growth inducing actions are similar to those described for the gnatcatcher.

Incidental Take

Sections 4(d) and 9 of the Act prohibit taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. "Harm" is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering (50 CFR section 17.3). "Harass" is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering (50 CFR section 17.3). Under the terms of Section 7(b)(4) and 7(o)(2) of the Act, taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking, provided that such taking is in compliance with the reasonable and prudent measures, and terms and conditions that implement them, as set forth below.

The Service hereby incorporates by reference the mitigation measures from the U.S. Army Corps of Engineers "Description of Proposed Action" into this incidental take statement as part of these "Terms and Conditions". The "Terms and Conditions" reflect the mitigation measures as proposed, with modifications where necessary as determined by the Service. Where these "Terms and Conditions" vary from or contradict mitigation measures proposed under "Description of Proposed Action", specifications in these terms and conditions shall apply.

The U.S. Army Corps of Engineers has a continuing duty to regulate the activity that is covered by this incidental take statement. If the U.S. Army Corps of Engineers fails to require the applicant adhere to the "Terms and Conditions" of the incidental take statement through enforceable terms that are added to the permits, the protective coverage of section 7(o)(2) of the Act may lapse. This incidental take authorization is null and void if the above project description changes, if any mitigation or conservation measure in the EIS, Technical Report, Biological Assessment, or supplemental documentation is not fully carried out or executed, or if any Terms and Conditions or Reasonable and Prudent Measures as defined or described below are not met by the U.S. Army Corps of Engineers, Transportation Corridor Agencies or their designated agents or successors, if the draft NCCP Reserve Design presented to the Service on April 22, 1994 is significantly modified, or if subsequent information received by the Service determines that the April 22, 1994 draft NCCP Reserve Design, incorporating the ETC alignment does not represent a viable reserve system for maintenance of the coastal sage scrub ecosystem.

It is not possible to precisely predict the amount of incidental take that would be associated with ETC construction, for several reasons:

- The number and location of birds will vary from season to season;
- The precise effects on breeding territories near the edge of the grading area are not known; and
- The precise effects of noise and other disturbance on breeding territories outside the area of direct effect, but within the area affected by noise from the Corridor, can only be estimated.

However, given the information in the Biological Assessment, the Service anticipates that the following take could occur as a result of the proposed action:

1. One (1) gnatcatcher may be accidentally injured or killed during project construction or operation activities.

2. An unknown number of gnatcatcher eggs may be destroyed during project construction or operation activities.

3. An unknown number of gnatcatcher fledglings may be destroyed during project activities.

The incidental take statement provided in this opinion satisfies the requirements of the Endangered Species Act, as amended. This statement does not constitute an authorization for take of listed migratory birds under the more restrictive provisions of the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The Service is developing a program to address incidental take under the Migratory Bird Treaty Act.

If, during the course of the action, the amount or extent of the incidental take limit is reached, the U.S. Army Corps of Engineers shall immediately notify the Service in writing. If the incidental take limit is exceeded, the U.S. Army Corps of Engineers or its agents must cease the activity resulting in take and reinitiate consultation with the Service immediately to avoid further violation of Section 9 of the Act. Operations must be stopped in the interim period between the initiation and completion of the new consultation if it is determined that the impact of the additional taking will cause an irreversible and adverse impact on the species, as required by 50 CFR 402.14(i). The U.S. Army Corps of Engineers and its agents should provide an explanation of the causes of the taking.

Reasonable and Prudent Measures

The Service believes that the following Reasonable and Prudent Measures are necessary and appropriate to minimize incidental take:

1. The U.S. Army Corps of Engineers or its agents shall provide mitigation as described, implied, or suggested in the EIR, Technical Report, Biological Assessment and all other relevant letters and documents to minimize incidental take and to compensate for unavoidable impacts to the species.

2. The U.S. Army Corps of Engineers and its agents shall minimize to the extent possible the killing, harming or harassing of gnatcatchers and removal of coastal sage scrub habitat in conjunction with construction or other site development activities.

3. The U.S. Army Corps of Engineers or its agents shall obtain all applicable state and Federal permits to take the gnatcatcher and

remove coastal sage scrub habitat. The incidental take authorization in this Biological Opinion is summarily revoked in the absence of such permits.

Terms and Conditions

In order to be exempt from the prohibitions of Section 9 of the Act and to meet the conditions of the conservation plan and conservation agreement, the U.S. Army Corps of Engineers and its agents (e.g., Caltrans, the Transportation Corridor Agencies) are responsible for compliance with the following terms and conditions, which implement the reasonable and prudent measures described above. To this end, the U.S. Army Corps of Engineers or its agents shall, at a minimum, provide mitigation as described, implied, or suggested in the EIR, Technical Report, Biological Assessment and other relevant letters and documents to minimize incidental take. In part:

FWS-21

1. The U.S. Army Corps of Engineers or its agents shall preserve an estimated 20 acres of coastal sage scrub at Siphon Ridge. This preservation program shall be coordinated with the Preservation/Restoration Program associated with the North and East Leg ETC biological opinion;

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2. The U.S. Army Corps of Engineers or its agents shall contribute $500,000 to a conservation fund established by the Service. Payment shall be made to the Fish and Wildlife Foundation. The conservation fund is to be used to support the Natural Communities Conservation Planning Efforts, including but not limited to management, restoration and enhancement of lands preserved through the Central and Coastal Subregional NCCP Planning effort. The West Leg installment shall be paid after the three installments for the North and East Leg, (totaling $1,515,000), have been paid;

23

3. The U.S. Army Corps of Engineers or its agents shall ensure the operation of five cowbird traps near the Peters Canyon Regional Park/Loma Ridge along the West Leg in perpetuity. Funds shall be provided sufficient to conduct trapping annually or to establish an endowment sufficient to provide trapping in perpetuity. Cowbird trapping shall begin during the spring of 1995 and shall continue for a minimum of five months each calendar year, unless the Service and the U.S. Army Corps of Engineers or its agents unanimously agree that a lesser effort is justified during a given calendar year. The design, placement and operation of the traps shall be directed and approved by the Service. A report detailing cowbird management activities shall be provided to the Service within two months of the conclusion of trapping efforts during each and every calendar year. Upon request of the U.S. Army Corps of Engineers or its agents, the Service shall attempt to locate a suitable public or nonprofit foundation or organization that is willing to provide, under contract, the services necessary to meet this mitigation requirement. In any case the U.S. Army Corps of Engineers or its agents shall be responsible for obtaining permission from the Landowner to operate traps on their property;

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4. The U.S. Army Corps of Engineers or its agents shall restore/revegetate coastal sage scrub habitat adjacent to the corridor on appropriate graded slopes that are adjacent to permanent open space (Loma Ridge Open Space Unit, Peters Canyon Regional Park), outside proposed developed areas. The revegetation effort will be considered acceptable if:

*3

T&C

a. the habitat is occupied by breeding pairs of gnatcatchers, or;

b. the Service and the U.S. Army Corps of Engineers or its agents unanimously agree that the habitat has the structure and composition of naturally-occurring gnatcatcher habitat or fully functional coastal sage scrub, or;

c. the U.S. Army Corps of Engineers or its agents can demonstrate, to the satisfaction of the Service, that the habitat is insignificantly different (statistically) from naturally-occurring gnatcatcher habitats or fully functional coastal sage scrub in the Lomas de Santiago;

5. The U.S. Army Corps of Engineers or its agents shall provide 1 bridge structure at Station 2701 and 4 culverts at least 54" in diameter along the West Leg, at the dimensions and locations specified in USACOE 1994 to enhance wildlife crossing;

6. The U.S. Army Corps of Engineers or its agents shall revegetate the area disturbed by construction of the bridge/wildlife crossing at Station 2701 with habitat indigenous to the area. The revegetation plan will be approved by the Service prior to the construction of the crossings. The revegetation effort will be considered acceptable if:

a. the habitat is occupied by breeding pairs of gnatcatchers, or;

b. the Service and the U.S. Army Corps of Engineers or its agents unanimously agree that the habitat has the structure and composition of naturally-occurring habitat or fully functional coastal sage scrub, or;

c. the U.S. Army Corps of Engineers or its agents can demonstrate, to the satisfaction of the Service, that the habitat is insignificantly different (statistically) from naturally-occurring gnatcatcher habitats or fully functional coastal sage scrub in the Lomas de Santiago.

7. The U.S. Army Corps of Engineers or its agents shall obtain a wildlife conservation easements for the movement corridor under the wildlife crossing at Station 2701;

8. The U.S. Army Corps of Engineers or its agents shall replace or restore all coastal sage scrub habitat outside of the approved construction footprint, at a ratio of five acres replaced for each acre lost, that is destroyed or significantly modified as a result of the construction, implementation, or operation of the proposed project. The revegetation effort will be considered acceptable if:

a. the habitat is occupied by breeding pairs of gnatcatchers, or;

b. the Service and the U.S. Army Corps of Engineers or its agents unanimously agree that the habitat has the structure and composition of naturally-occurring gnatcatcher habitat or fully functional coastal sage scrub, or;

c. the U.S. Army Corps of Engineers or its agents can demonstrate, to the satisfaction of the Service, that the habitat is insignificantly different (statistically) from naturally-occurring gnatcatcher habitats or fully functional coastal sage scrub in the Lomas de Santiago;

9. The U.S. Army Corps of Engineers or its agents shall implement all mitigation measures that are implied or identified in the Technical Studies, Biological Assessment or EIR pertaining to water quality or erosion to prevent the dissemination or the concentration of pollutants in the project area or environs;

10. The U.S. Army Corps of Engineers or its agents shall mitigate light and glare impacts as identified in the EIR or Biological Assessment;

11. The U.S. Army Corps of Engineers or its agents shall provide a minimum of seven, and if feasible, 14 days prior notice to the Service before commencing grading activities. Grubbing or other land clearing activities shall not occur unless and until construction of the West Leg ETC is ready to begin in earnest. The U.S. Army Corps of Engineers shall, to the extent possible, minimize the take of gnatcatchers by employing whatever means or measures that are necessary to prevent to the harm and death of individual birds during grubbing, clearing, and other construction activities. At a minimum, the following construction monitoring measures shall be implemented to minimize impacts to gnatcatchers and coastal sage scrub habitat:

a) Construction shall be monitored by a biologist to minimize construction impacts on natural resources outside the actual construction zone. The monitor shall observe the contractor's work to ensure that work does not take place in high value natural areas outside the clearing limits as staked in the field;

b) The contractor shall review the rough grading plans and staking to ensure that the grading is within the project footprint as described for the Biological Opinion;

c) Construction monitoring activities shall include the prevention of harm, harassment, injury, or death of wildlife by means of the education of contractor and construction crews. In addition, the monitor shall work to prevent violation of existing laws, such as the Migratory Bird Treaty, Clean Water Act, and Fish and Game Code. If any violations or potential violations of these and other laws are noted, the monitor will advise the TCA accordingly. If necessary, work will be stopped, and the monitor shall advise the U.S. Army Corps of Engineers, TCA, Service, and the Department of Fish and Game and other appropriate resource agencies to resolve the situation;

d) Monitoring of coastal sage scrub habitat within or immediately adjacent to active or future project construction areas shall occur throughout the construction period, in order for the monitor to be aware of gnatcatcher and coastal cactus wren locations;

e) Continuous monitoring of gnatcatchers and coastal cactus wrens in active territories shall be conducted during any construction operations that occur within 100 feet of occupied habitat. The purpose of this monitoring will be either to verify that the construction does not significantly adversely affect the gnatcatcher activity or to determine whether "take" occurs, whichever the case may be. If this monitoring indicates that unauthorized take of gnatcatchers and coastal

cactus wrens may occur, construction will cease pending coordination with the Service.

30 12. The U.S. Army Corps of Engineers or its agents shall obtain necessary local, State and Federal permits to take, harm, or destroy the gnatcatcher and coastal sage scrub habitats. The authorizations granted herein, including the incidental take authorization, are null and void absent such permits. In particular, the U.S. Army Corps of Engineers shall comply with all pertinent provisions of the Migratory Bird Treaty Act, as determined by the Service (16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended).

31 13. The U.S. Army Corps of Engineers, as the Federal action agency, shall retain ultimate responsibility for the implementation of all preceding terms and conditions in the event of financial or institutional incapacity of TCA to perform them.

Disposition of Sick, Injured, or Dead Individuals

The Service's Carlsbad Office must be notified within three working days should any listed species be found dead or injured in or adjacent to the project area. Notification must include the date, time, and location of the carcass, cause of death or injury, and any other pertinent information. If necessary, the Service will provide a protocol for the handling of dead or injured, listed animals. In the event that the U.S. Army Corps of Engineers or it agents suspect that a species has been taken in contravention of any federal, State, or local law, all relevant information shall be reported within 24 hours to the Service's Carlsbad Enhancement Office at (619) 431-9440 or to the Service Division of Law Enforcement, Torrance, California at (310) 297-0062.

Conservation Recommendations

Section 7(a)(1) of the Act directs federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. The term "conservation recommendations" has been defined as Service suggestions regarding discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information. The recommendations provided here relate only to the proposed action and do not necessarily represent complete fulfillment of the agency's 7(a)(1) responsibility for these species.

1. The U.S. Army Corps of Engineers and Service should analyze and consider the goals and progress of the proposed NCCP and other conservation planning efforts to insure consistency with Biological Opinions issued in conjunction with Federal projects or projects that are Federally-funded or permitted. This analysis should be extended to a consideration of the success of proposed avoidance and mitigation measures associated with this project and other projects throughout the range of the gnatcatcher.

2. The Service, in consultation with other Federal agencies and working group or recovery team members, should assess the efficacy of various measures for mitigating project-related direct or indirect impacts to gnatcatchers and their habitat. Thus far, it is apparent that successful creation or restoration of coastal sage scrub habitat has been achieved by relatively few revegetation specialists. Because the creation or restoration of coastal sage scrub habitat is often an

essential component of effective mitigation for impacts to said habitat, revegetation methodologies and related data bases warrant close scrutiny and constant refinements.

Conclusion

This concludes the conference on the U.S. Army Corps of Engineers/Eastern Transportation Corridor West Leg Project. As found at 50 CFR 402.16, reinitiation of formal consultation is required if the action is significantly modified from that described above or if new information becomes available on listed species or impacts to listed species. Specifically, if the draft Central and Coastal Subregional NCCP reserve design changes substantially (as determined by the Service), or if analysis of the forthcoming data from the County of Orange refutes the determinations made by the Service at this time, reinitiation of formal consultation will be required. Additionally, should the coastal cactus wren, for which the Service provided technical assistance in this opinion, be proposed for listing by the Service, formal consultation should be initiated immediately.

If you have any questions on this biological opinion, please call me at (619) 431-9440 or Tara Wood of my staff, at (916) 978-4613.

Sincerely,

Gail C. Kobetich

Gail C. Kobetich
Field Supervisor

cc: Steve Letterly, TCA

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United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

In Reply Refer To:
FWS-OR-14B0086-17F1420

April 17, 2019
Sent electronically

Mr. Charles Baker
Branch Chief – Environmental Planning
Department of Transportation
1750 East 4th Street, Suite 100
Santa Ana, California 92705

Attention: Ms. Kedest Ketsela, Associate Environmental Planner

Subject: Formal Section 7 Consultation for the State Route-241/State Route-91 Express Lane Connector Project, Orange County, California

Dear Mr. Baker:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion based on our review of the State Route-241 (SR-241)/State Route-91 (SR-91) Express Lane Connector Project (project) and its effects on the federally threatened coastal California gnatcatcher (*Polioptila californica californica*; gnatcatcher) and its designated critical habitat in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq*.). The project is receiving Federal funding through the Federal Highway Administration (FHWA). The California Department of Transportation (Caltrans) has assumed FHWA's responsibilities under the Act for this consultation in accordance with Renewed 23 U.S.C. 326 and 23 U.S.C. 327 and as described in the National Environmental Policy Act (NEPA) assignment Memorandum of Understanding between FHWA and Caltrans (effective October 1, 2012). We initiated consultation on August 29, 2017, the day we received the response to our comments on the Supplemental Draft Environmental Impact Statement (SDEIS) for the project, which we requested upon receipt of your December 21, 2016, request for consultation. Additional project information was provided December 5, 2018.

Based on conservation measures committed to by Caltrans, we concur with your determination that the proposed project is not likely to adversely affect the federally endangered least Bell's vireo (*Vireo bellii pusillus*; vireo), southwestern willow flycatcher (*Empidonax traillii extimus*; flycatcher), and Braunton's milk-vetch (*Astragalus brauntonii*; milk-vetch); the federally threatened Santa Ana sucker (*Catostomus santaanae*; sucker) and thread-leaved Brodiaea (*Brodiaea filifolia*; brodiaea); and designated critical habitat for the sucker and milk-vetch (Appendix).

This biological opinion is based on information provided in: (1) *Biological Assessment SR-241/SR-91 Express Lanes Connector Project, Orange and Riverside Counties, California* (BA; Caltrans 2016); (2) Memorandum, USFWS Comments on the Draft Supplemental EIR/EIS for the SR-241/SR-91 Tolled Express Lanes Connector and Preparation of Biological Opinion (SDEIS; LSA Associates

Inc. 2017); (3) Follow up Information on Section 7 Consultation for the State Route 241/State Route 91 Express Lanes Connector Project Impacts and Proposed Biological Opinion Conditions for Coastal Sage Scrub and Designated Critical Habitat Outside the 1994 Biological Opinion Area (Caltrans 2018); and (4) other sources of information including survey reports and email correspondence. A complete project file of this consultation is maintained at the Carlsbad Fish and Wildlife Office (CFWO).

CONSULTATION HISTORY

Early coordination between Caltrans, the Transportation Corridor Agencies (TCA), and the CFWO occurred on the project. The following chronology reflects a summary of significant events.

July 6, 1994	The CFWO issued biological opinion 1-6-94-F-17 to the FHWA, consulting on gnatcatcher and conferencing on milk-vetch, for the Eastern Transportation Corridor (ETC) project, which included a direct connector between SR-241 and the tolled lanes in the median of SR-91, but did not extend as far to the east along SR-91 as the proposed project.
May 24, 1996	The CFWO issued a biological opinion for the Central Coastal Natural Community Conservation Plan/Habitat Conservation Plan, which addressed gnatcatcher and included the take of 272 acres of coastal sage scrub habitat in association with the ETC project as described in the July 6, 1994 biological opinion.
July 17, 1996	The CFWO issued permits for the Central Coastal Natural Community Conservation Plan/Habitat Conservation Plan, which addressed gnatcatcher and included the take of 272 acres of coastal sage scrub habitat in association with the ETC project, as described in the July 6, 1994 biological opinion.
Feb 9, 2011	The CFWO provided a letter (FWS-OR-11B0165-11TA0284), conceptually approving the Strawberry Farms restoration site to offset impacts of future TCA projects (FWS-OR-11B0165-11TA0284).
Jan 22, 2014	The Service's Information, Planning, and Conservation System provided a list of federally threatened and endangered species and their critical habitats expected to be present in or near the proposed action area to Caltrans.
Feb 2, 2015	The Service's Information, Planning, and Conservation System provided a list of federally threatened and endangered species and their critical habitats expected to be present in or near the proposed action area to Caltrans.
Sept 9, 2015	Caltrans, TCA, and CFWO staff participated in a conference call to discuss the Service's trust resources in the vicinity of the project, including gnatcatchers, milk-vetch, and suckers, vireos, flycatchers and designated critical habitat for the gnatcatcher, sucker, and milk-vetch.

Feb 11, 2016	The Service's Information, Planning, and Conservation System provided a list of federally threatened and endangered species and their critical habitats expected to be present in or near the proposed action area to Caltrans.
Mar 10, 2016	Caltrans, TCA, and CFWO staff participated in a conference call to discuss proposed project modifications that have the potential to result in effects to the Service's trust resources. Due to numerous changes, including extension of the project farther east along SR-91, several species listings and critical habitat designations, and the extended period of time that has elapsed since the 1994 biological opinion was issued, all parties agreed that the approach that would provide the most clarity while addressing consultation needs would be initiation of a new section 7 consultation.
Dec 21, 2016	Caltrans provided a letter requesting initiation of formal consultation on the proposed action, together with the BA.
Jan 1, 2017	Consultation on the project could not be initiated because the delegation of NEPA responsibilities from FHWA to Caltrans, including consultation under the Act, was suspended due to a lapse in the waiver of sovereign immunity addressing the State's assumption of Federal liability for assigned projects.
Jan 25, 2017	The Department of the Interior provided written comments, including specific comments provided by the CFWO, on the Supplemental Draft Environmental Impact Statement (SDEIS) for the project.
Mar 30, 2017	State legislation reinstated the waiver of sovereign immunity addressing the State's assumption of Federal liability for assigned projects, and Caltrans resumed NEPA responsibilities, including consultation under the Act.
July 11, 2017	Caltrans, TCA, and CFWO staff participated in a meeting to discuss the response to the CFWO's comments on the SDEIS for the project.
July 31, 2017	The CFWO provided not likely to adversely affect concurrence for geotechnical work for the project (FWS-OR-14B0086-17I1053).
Aug 29, 2017	Caltrans provided written responses to CFWO's comments on the SDEIS for the project.
Dec 21, 2017	The CFWO provided the *Description of the Proposed Action* section of the draft biological opinion to Caltrans for review. Within this section, Conservation Measures, which Caltrans has committed to implement to avoid and minimize impacts to listed species, are described.
Dec 5, 2018	Caltrans provided Follow up Information on Section 7 Consultation for the State Route 241/State Route 91 Express Lanes Connector Project Impacts and Proposed Biological Opinion Conditions for Coastal Sage Scrub and Designated Critical Habitat Outside the 1994 Biological Opinion Area.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

Using Federal funds provided through the FHWA, TCA proposes to construct a tolled direct connector between SR-241 and the tolled lanes in the median of SR-91, in cooperation with Caltrans. TCA and Caltrans are hereafter jointly referred to in this document as the project proponents. The project is about 8.7 miles long, extending from just south of the Windy Ridge Wildlife Undercrossing on SR-241, to just east of Green River Road on SR-91, and is bounded on the north by the Santa Ana River, in the cities of Anaheim, Yorba Linda, and Corona, and the Counties of Orange and Riverside (Figures 1-13).

Improvements for the connector are limited to 5.9 miles in the cities of Anaheim and Yorba Linda from south of the Windy Ridge Wildlife Undercrossing on SR-241 to the Coal Canyon Undercrossing on SR-91. The remaining 2.8 miles of the project is limited to FasTrak signage improvements in the cities of Anaheim, Yorba Linda, and Corona. Project improvements will provide a two-lane connector with one lane in each direction.

The project will use the existing two ramps (SR-91 eastbound and westbound) and paved road at the SR-91 Undercrossing as a construction vehicle turnaround, and for access to the SR-91 median. An existing fence separates paved Coal Canyon Road from the dirt wildlife movement area to the east at Coal Canyon Undercrossing. Temporary shoring and grading will occur within the freeway median west of Coal Canyon Road to allow construction vehicles to drive from Coal Canyon Road up the slope to the freeway median. The median turnaround for emergency vehicles that is located west of Coal Canyon Undercrossing is too small to allow for access by construction vehicles. The project will also access the median at the intersection of SR-241 and SR-91 from the Gypsum Canyon Undercrossing. Temporary shoring and grading will occur to allow a drivable access route. To allow an opening for construction access, part of the existing bridge deck will be removed.

There are two design options for the project, the Graded Slope Design Option will result in permanent impacts to 5 acres of land located within the Gypsum Canyon Nature Preserve that is protected by a conservation easement[1] held by The Nature Conservancy. Portions of this area fall within the Irvine Ranch National Natural Landmark. This area would be used for the construction of a maintenance access road and slope grading to accommodate the realigned eastbound SR-91 lanes. The feasibility of the Soil Nail Wall Design Option is still being examined, but if implemented, this design option would minimize impacts in this area through the construction of a soil nail wall.

The project will impact gnatcatcher occupied coastal sage scrub habitat (including some native plant restoration areas consisting of coastal sage scrub species), individual gnatcatchers, and designated gnatcatcher critical habitat,[2] as summarized in Tables 1, 2 and 3, respectively. Tables 4 and 5 describe the proposed approach to offset impacts gnatcatcher occupied habitat and designated gnatcatcher critical habitat for each of the design options.

[1] The proposed project is a permitted use under the conservation easement.

[2] For the purpose of this consultation, gnatcatcher occupied habitat includes coastal sage scrub and native plant restoration that is likely used by gnatcatchers for nesting, foraging, and dispersal. Gnatcatcher critical habitat includes those areas designated as critical habitat in 2007 (Service 2007). Gnatcatcher occupied habitat and gnatcatcher critical habitat partially overlap with each other (i.e., a portion of gnatcatcher occupied habitat is gnatcatcher critical habitat, and a portion of gnatcatcher critical habitat is gnatcatcher occupied habitat).

Table 1. Impacts to Coastal California Gnatcatcher Habitat

Coastal California Gnatcatcher Habitat		Graded Slope Design Option		Soil Nail Wall Design Option	
		Temporary (Acres)	Permanent (Acres)	Temporary (Acres)	Permanent (Acres)
Within 1994 Biological Opinion Impact Area[1]	Coastal Sage Scrub	26.63	3.81	26.63	3.81
	Total Within 1994 BO	**26.63**	**3.81**	**26.63**	**3.81**
Outside 1994 Biological Opinion Impact Area[2]	Coastal Sage Scrub	4.65	9.85	3.61	2.21
	Native Plant Restoration	2.19	0.04	2.31	0.04
	Total Outside 1994 BO	**6.84**	**9.89**	**5.92**	**2.25**
Grand Total		**33.47**	**13.70**	**32.55**	**6.06**

[1] Portions of this habitat were occupied by gnatcatchers during 2011 focused surveys for the project. Project impacts in this area have been offset in accordance with the requirements of Biological Opinion 1-6-94-F-17.
[2] This habitat was not occupied by gnatcatchers during 2011 focused surveys for the project, but four pairs of gnatcatchers were observed in this area in 2017.

Table 2. Impacts to Gnatcatcher

Gnatcatcher	Project Impacts	
	Pairs	Individuals
2011 project surveys	1	1
2017 observations	5[1]	0

[1] One pair was observed in the direct impact area at the SR-241/SR-91 median, and four pairs were observed adjacent to the project footprint at the Coal Canyon Undercrossing that may be subject to disturbance by project work.

Table 3. Impacts to Designated Coastal California Gnatcatcher Critical Habitat

Designated Critical Habitat for the Coastal California Gnatcatcher		Graded Slope Design Option		Soil Nail Wall Design Option	
		Temporary (Acres)	Permanent (Acres)	Temporary (Acres)	Permanent (Acres)
Outside 1994 Biological Opinion Impact Area	Coastal Sage Scrub[1]	2.64	1.73	2.75	0.67
	Chaparral	0.25	0.29	0.31	0.00
	Nonnative Grassland	4.85	0.96	4.85	0.96
	Native Plant Restoration[1]	2.19	0.04	2.31	0.04
	Oak Woodland	0.05	0.00	0.00	0.00
	Ruderal	2.16	3.01	2.16	3.01
	Total Designated Critical Habitat With Physical and Biological Features	**12.14**	**6.03**	**12.38**	**4.68**
	Developed	8.61	14.88	8.61	14.88
	Total Designated Critical Habitat Without Physical and Biological Features	**8.61**	**14.88**	**8.61**	**14.88**
Total Designated Critical Habitat		**20.75**	**20.91**	**20.99**	**19.58**

[1] Coastal sage scrub and native plant restoration acres are also reported in Table 1 above.

Table 4. Offsetting Conservation for Graded Slope Design Option

		Graded Slope Design Option			
		Temp Impact (Acres)	**Offset for Temporary Impact**	**Perm Impact** (Acres)	**Offset for Permanent Impact**
Within 1994 Biological Opinion Impact Area	coastal sage scrub Within 1994 BO	**26.63**	Restore 26.63 acres with coastal sage scrub (with some mitigation slopes as identified in NewFields 2012)	**3.81**	Has been offset in accordance with 1994 BO
Outside 1994 Biological Opinion Impact Area	coastal sage scrub and Native Plant Restoration [NPR] (including Critical Habitat) Outside 1994 BO	**6.84**	Restore 6.84 acres with coastal sage scrub (not as mitigation slopes, coastal sage scrub will be the baseline condition for future consultations)	**9.89**	Restore 8.73 acres including: 6.98 acres with coastal sage scrub, 1.75 acres with native fuel mod zone species (not mitigation slopes); Offsite mitigation of 19.63 acres including: Advance restoration of 13.3 acres at Strawberry Farms (9.75 acres of coastal sage scrub restoration, 1.86 acres of coastal sage scrub and prickly pear cactus restoration, 0.39 acre of native perennial grassland restoration, and 1.3 acre of coastal sage scrub enhancement), 6.33 acres at Saddle Club (2.63 acres coastal sage scrub and 3.7 acres coastal sage scrub/chaparral mix)
	Critical Habitat (Chaparral, Oak Woodland, Nonnative Grassland, and Ruderal)	**7.31** (12.14-2.64 coastal sage scrub and 2.19 NPR offset as described above)	Restore 7.31 acres with native fuel mod zone species (not mitigation slopes)	**4.26** (6.03-1.73 coastal sage scrub and 0.04 NPR offset as described above)	Restore 0.28 acre with native fuel mod zone species, with maintenance activities within 14 feet from edge of pavement (not mitigation slopes); Offsite mitigation of 4.24 acres at Saddle Club with coast live oak woodland
Total Offsite	Total Offsite mitigation of 23.87 acres including: Advance restoration of 13.3 acres at Strawberry Farms (9.75 acres of coastal sage scrub restoration, 1.86 acres of coastal sage scrub and prickly pear cactus restoration, 0.39 acre of native perennial grassland restoration, and 1.3 acre of coastal sage scrub enhancement); 10.57 acres of conservation and management at Saddle Club property (2.63 acres coastal sage scrub and 3.7 acres coastal sage scrub/Chaparral mix, 4.24 coast live oak woodland)				

Table 5. Offsetting Conservation for Soil Nail Wall Design Option

		Soil Nail Wall Design Option			
		Temp Impact (Acres)	**Offset for Temporary Impact**	**Perm Impact** (Acres)	**Offset for Permanent Impact**
Within 1994 Biological Opinion Impact Area	Coastal Sage Scrub Within 1994 BO	**26.63**	Restore 26.63 acres with coastal sage scrub (with some mitigation slopes as identified in NewFields 2012)	**3.81**	Has been offset in accordance with 1994 BO
Outside 1994 Biological Opinion Impact Area	Coastal Sage Scrub and Native Plant Restoration (NPR; including Critical Habitat) Outside 1994 BO	**5.92**	Restore 5.92 acres with coastal sage scrub (not as mitigation slopes, coastal sage scrub will be the baseline condition for future consultations)	**2.25**	Offsite mitigation of 6.76 acres Advance restoration of coastal sage scrub at Strawberry Farms
	Critical Habitat (Chaparral, Oak Woodland, Nonnative Grassland, and Ruderal)	**7.32** (12.38-2.75 coastal sage scrub and 2.31 NPR offset as described above)	Restore 7.32 acres with native fuel mod zone species (not mitigation slopes)	**3.97** (4.68-0.67 coastal sage scrub and 0.04 NPR offset as described above)	Offsite mitigation of 8.86 acres including: Advance restoration of 3.13 acres coastal sage scrub at Strawberry Farms; 5.73 acres at Saddle Club (2.63 acres coastal sage scrub and 3.1 acres coastal sage scrub/chaparral mix)
Total Offsite	Total Offsite mitigation of 15.62 acres including: Advance restoration of 9.89 acres at Strawberry Farms (9.75 acres of coastal sage scrub restoration, 0.14 acre of coastal sage scrub and prickly pear cactus restoration); 5.73 acres of conservation and management at Saddle Club property (2.63 acres coastal sage scrub and 3.1 acres coastal sage scrub /Chaparral mix)				

Conservation Measures

The project proponents have agreed to implement the following conservation measures (CM) as part of the proposed action to avoid and minimize impacts to gnatcatchers:

Avoidance and Minimization through Project Design

CM 1. If feasible, the Soil Nail Wall Design Option will be selected to minimize permanent impacts to approximately 5 acres of land located within the Gypsum Canyon Nature Preserve. The final engineering design for this area will be reported to the CFWO at least 15 working days prior to initiating project impacts.

CM 2. Permanent project lighting will be of the lowest illumination necessary for safety and will be directed toward the roadway and away from sensitive habitats and wildlife crossing areas. Light glare shields will be used to reduce the extent of illumination into sensitive habitats. The Caltrans Project Biologist[3] will review the permanent lighting plans and then submit them to the CFWO for review and approval at least 15 working days prior to initiating project impacts.

CM 3. A wildlife connectivity plan will be developed and implemented to ensure that ecosystem functions[4] are maintained by the project for the benefit of listed species. The plan will be provided to the CFWO for review and approval at least 60 days prior to initiating project impacts. The plan will include the following requirements:

a. Animals may not be able to navigate steep vertical bends and they may not utilize culverts or crossing structures that have horizontal bends that limit visibility. The culvert at drainage feature 4 will be lengthened by the project but no vertical or horizontal bends will be constructed in the culvert extension;

b. To the maximum extent feasible, rock slope protection will be avoided at culvert and wildlife crossing openings. If rock slope protection is required, modifications (e.g., small pebble, dirt, or grouted movement pathways) will be made such that animals of all sizes can access culverts and wildlife crossings;

c. If stream bank reinforcements are required at wildlife crossing and culvert areas, project proponents will design them in the manner most conducive to wildlife movement. If stream bank reinforcements of ungrouted riprap gabions or other material are required, they will be constructed at the shallowest possible slope (2:1 or less), and will be covered with soil and revegetated with native riparian plant species in a manner that will allow for the movement of wildlife of all sizes. Project proponents will ensure that soil placement on top of

[3] The Caltrans Project Biologist will be a Caltrans biologist familiar with the federally listed species potentially affected by the project and with the habitats that support these species; he/she will be the primary contact for the CFWO during project implementation.

[4] For example, dispersal of top predators to control meso-predators that prey on avifauna, such as gnatcatchers (e.g., Crooks and Soule 1999)

stream bank reinforcements will occur in a manner that does not result in erosion holes in the soil surface over time;

d. Restoration of temporary impact areas at wildlife crossings will be planned in a manner that will encourage wildlife use and movement. Project proponents will ensure that plantings will not obscure culvert or wildlife crossing openings. Native vegetation may be used to funnel wildlife toward the crossings and create a visual barrier between the roadway and habitat in a manner that will encourage wildlife movement;

e. Culvert openings will be flush with the road slope and ground to allow animals to easily find and access the culverts. Culvert openings that provide for wildlife movement under the roadway will not be blocked with grates, with the exception of openings from culverts to those portions of the roadway median that are not intended for wildlife access or movement;

f. Where the project will result in new roadside fencing, project proponents will ensure that fencing ties into culvert and wildlife crossing openings such that animals following the fencing can easily find and access culverts and crossings. Any new roadside fencing will be 10 to 12-foot high chain link fence with an 18-inch "outrigger" (three strands of barbed wire) angled away from the road, located within the Caltrans right-of-way, subject to the Biological Monitor's[5] recommendations, and will be buried 24 inches into the ground to discourage wildlife from digging under the fence. In areas where new fencing is installed, old fencing that blocks access to culverts and crossings will be removed. Any new fencing constructed by the project at the SR-241/SR-91 interchange will incorporate recommendations on page 194 of USGS 2013;

g. Project proponents will coordinate with the Orange County Transportation Authority (OCTA) to ensure that the project will not negatively affect the camera study and native plantings planned by OCTA at the Coal Canyon Undercrossing;

h. Equipment maintenance, lighting, and staging for the project will be in designated areas, away from the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing. Construction in the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing will be limited to daylight hours. These areas will be kept clear of all equipment or structures that could potentially serve as barriers to wildlife passage. Structures required for bridgework at the Windy Ridge Wildlife Undercrossing will be erected so as not to block the main underpass, and scaffolding and false work will be restricted to the side of the underpass to maintain the functionality of the crossing for wildlife movement. Construction access to the SR-91 median at Coal Canyon will be provided within the fenced access area at Coal Canyon

[5] See CM 14 for a description of the Biological Monitor.

Road, and no project work or access will take place beyond the fencing within the existing dirt wildlife crossing area at Coal Canyon;

i. Freeway signage with lighting, including changeable message signs, will be located in areas away from the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing;

j. Construction noise at the Coal Canyon Undercrossing will be limited to no more than 5 dBA hourly Leq above ambient levels beyond 100 feet from the edge of the roadway to avoid noise disturbance to wildlife within the crossing;

k. A new turnaround has been constructed in the SR-91 median west of Coal Canyon that benefits both wildlife connectivity and human safety by providing a more accessible and rapid turnaround location that is outside of the wildlife undercrossing. This turnaround is not large enough to accommodate construction vehicles and will continue to be accessible to emergency vehicles during project work, maintaining the recent benefits to wildlife movement that the turnaround provides; and

l. Subject to approval by California Highway Patrol (CHP) and Orange County Fire Authority (OCFA), install a permanent access control gate near the top of the eastbound off-ramp at Coal Canyon, leaving enough room in front of the gate for personnel in authorized vehicles to exit SR-91 and open the gate, but encouraging unauthorized vehicles to use the new median turnaround. Signage will be posted and maintained at the gate to inform the public about adjacent sensitive habitats and species as well as access restrictions (e.g., wildlife crossing, no unauthorized access, no night access). The gate and signage will be installed prior to completion of project construction. If installation of the gate is not approved, Caltrans and TCA will coordinate with the CFWO to identify an alternative measure to enhance connectivity or improve safety for dispersing wildlife to offset temporal impacts resulting from the substantially degraded functioning of Coal Canyon as a wildlife undercrossing during the 2-year construction period. If enhancing connectivity at Coal Canyon itself isn't practicable, then improvements may occur at a different location identified in coordination with the CFWO.

Avoidance and Minimization during Vegetation Clearing/Project Construction

CM 4. The clearing and grubbing of native upland habitats for the project will occur between September 1 and February 14, to avoid the gnatcatcher breeding season (or sooner than September 1, if a biologist knowledgeable of gnatcatcher biology and ecology approved by the CFWO demonstrates to the satisfaction of the CFWO that all gnatcatcher nesting is complete). The project proponents will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO at least 15 working days prior to initiating project impacts.

CM 5. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will be restricted to designated staging areas that are a minimum of 100 feet from sensitive habitats and drainages.

CM 6. All lighting used at night for project construction will be selectively placed and directed at the immediate work area and away from adjacent sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats.

CM 7. Erosion and sediment control devices used for the project, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.

CM 8. The project site will be kept as clear of debris as possible. All food-related trash items will be enclosed in sealed containers and regularly removed from the site. All spoils and material disposal will be disposed of properly.

CM 9. If fill must be borrowed from or disposed of offsite, the construction contractor will identify any necessary borrow and disposal sites and provide this information to Caltrans for review. Caltrans will review borrow and disposal site information and if borrow or disposal activities may affect a listed species or critical habitat, Caltrans will reinitiate section 7 consultation.

CM 10. Impacts from fugitive dust will be avoided and minimized through watering and other appropriate measures.

CM 11. Project personnel will be prohibited from bringing domestic pets to construction sites to avoid disturbance and depredation of wildlife by domestic pets in adjacent habitats.

CM 12. During project construction all invasive species included on the National Invasive Species Management Plan, the State of California Noxious Weed List, and the California Invasive Plant Council's Invasive Plant Inventory list (Cal-IPC 2006) found growing within the project impact area will be removed. Special care will be taken during transport, use, and disposal of soils containing invasive weed seeds and all weedy vegetation removed during construction will be properly disposed of to prevent spread into areas outside of the construction area.

CM 13. All native or sensitive habitats outside and adjacent to the construction limits will be designated as Environmentally Sensitive Areas (ESAs) on project maps. ESAs will be temporarily fenced during construction with orange plastic snow fence, orange silt fencing, or in areas of flowing water, with stakes and flagging. No personnel, equipment, or debris will be allowed within the ESAs. Temporary ESA fencing and flagging will be installed in a manner that does not impact habitats to be avoided and such that it is clearly visible to personnel on foot and operating heavy equipment. The project proponents will submit to the CFWO, at least 5 days prior to initiating project impacts (except for impacts resulting from clearing to install temporary fencing), the final plans for initial clearing and grubbing of habitat and project construction. These

final plans will include photographs that show the fenced and flagged limits of impact and all areas to be impacted or avoided. Field maps indicating the location of temporary ESA fencing and/or staking will also be provided. If work occurs within gnatcatcher habitat beyond the fenced or demarcated limits of impact, all work will cease until the problem has been remedied to the satisfaction of the CFWO. Temporary ESA fencing and markers will be maintained in good repair until the completion of project work adjacent to each ESA and removed upon completion of project work adjacent to each ESA.

CM 14. A CFWO-approved biologist (Biological Monitor)[6] will be on site during all initial vegetation clearing/grubbing and weekly during project construction within 500 feet of gnatcatcher habitat to monitor compliance with all conservation measures. The project proponents will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO at least 15 working days prior to initiating project impacts. The contract of the Biological Monitor will allow direct communication with the CFWO at any time regarding the proposed project. The Biological Monitor will be provided with a copy of this consultation. The Biological Monitor will be available during pre-construction and construction phases to address protection of sensitive biological resources, monitor ongoing work, and maintain communications with construction personnel to facilitate the appropriate and lawful management of issues relating to biological resources. The Biological Monitor will perform the following duties:

a. Perform a minimum of three focused preconstruction surveys, on separate days, to determine the presence of gnatcatchers in the upland project impact footprint. Surveys will begin a maximum of 30 days prior to performing vegetation clearing/grubbing, and one survey will be conducted the day immediately prior to the initiation of vegetation clearing. If any gnatcatchers are found in the upland project impact footprint, the Biological Monitor will direct construction personnel to begin vegetation clearing/grubbing in an area away from the gnatcatchers. It will be the responsibility of the Biological Monitor to implement measures (e.g., direct vegetation clearing away from gnatcatchers, flush gnatcatchers out of the active work area) to avoid death and injury of gnatcatchers by vegetation clearing/grubbing. The Biological Monitor will also record the number and location of gnatcatchers disturbed by vegetation clearing/grubbing. Caltrans will notify the CFWO at least 7 days prior to vegetation clearing/grubbing to allow the CFWO to coordinate with the Caltrans Project Biologist on potential bird flushing activities;

b. Perform a minimum of three focused surveys, on separate days, to determine the presence of gnatcatcher nest building activities, egg incubation activities, or brood rearing activities within 500 feet of project construction that is initiated during the February 15 to August 31 breeding season for the gnatcatcher. Surveys will begin a maximum of 7 days prior to performing construction

[6] The Biological Monitor will be familiar with the federally listed species potentially affected by the project (i.e., gnatcatcher) and with the habitats that support this species.

within 500 feet of gnatcatcher habitat during the breeding season, and one survey will be conducted the day immediately prior to the initiation of construction within 500 feet of gnatcatcher habitat during the breeding season. Additional surveys will be done once a week during project construction within 500 feet of gnatcatcher habitat during the breeding season. These additional surveys may be suspended as approved by the CFWO;

c. If active gnatcatcher nests are identified within 500 feet of noise generating construction activities and noise is in excess of 60 dBA hourly Leq or if noise is in excess of ambient noise levels if ambient noise levels exceed 60 dBA hourly Leq, noise attenuation structures will be installed at the noise source to reduce noise levels to 60 dBA hourly Leq or to ambient noise levels if ambient noise levels exceed 60 dBA hourly Leq at the nest location. Noise monitoring will occur during the breeding season and be reported monthly to the CFWO. If the Biological Monitor suspects that avoidance and minimization measures are ineffective, and project activities may be adversely affecting the gnatcatcher, culpable activities will be suspended within 500 feet of active nests until nesting activity is completed and fledglings are no longer in the area or until effective avoidance and minimization measures can be identified, implemented, and demonstrated to be effective. If the specified noise targets cannot be met or the Biological Monitor observes potential adverse effects to gnatcatchers from project-related noise, activities that are resulting in potential adverse effects will be halted, and the CFWO will be contacted to determine if reinitiation of consultation is necessary;

d. Oversee installation of and inspect erosion control measures a minimum of once per week to document and bring to the attention of the contractor any breaks in erosion control measures such that they are repaired immediately;

e. Oversee installation of and inspect ESA fencing a minimum of once per week to document and bring to the attention of the contractor any breaks in the fence such that they are repaired immediately;

f. Train contractors and construction personnel expected to be in the project impact area on the biological resources associated with the project and document that training is implemented by construction personnel. At a minimum, training will include:

    i. The purpose for resource protection;

    ii. A description of the gnatcatcher and its habitats;

    iii. The CMs that should be implemented during project construction to conserve the gnatcatcher, including strictly limiting activities, vehicles, equipment, and construction materials to the project footprint to avoid adjacent sensitive resource areas;

iv. Environmentally responsible construction practices;

v. the protocol to resolve conflicts that may arise at any time during the construction process; and

vi. The general provisions of the Act, the need to adhere to the provisions of the Act, and the penalties associated with violating the Act;

g. Monitor the project site immediately prior to and during construction to identify the presence of invasive weeds and recommend measures to avoid their inadvertent spread in association with the project. Such measures may include inspection and cleaning of construction equipment and use of eradication strategies;

h. Periodically monitor the work area to document that work activities do not generate excessive amounts of dust;

i. Submit monthly email reports (including photographs of impact areas) to the CFWO during clearing of, and construction within, 500 feet of gnatcatcher habitat. The monthly reports will document that authorized impacts were not exceeded and general compliance with all conditions. The reports will also outline the location of construction activities, the type of construction that occurred, and equipment used. These reports will specify numbers and locations of gnatcatchers (if observed), their observed behavior (especially in relation to construction activities), and remedial measures employed to avoid and minimize impacts to these species. Raw field notes should be available upon request by the CFWO; and

j. Submit a final report to the CFWO within 120 days of the completion of construction for the project that includes: photographs of habitat areas that were to be avoided and other relevant summary information documenting that authorized impacts were not exceeded and that general compliance with all conservation measures was achieved.

Measures to Offset Impacts to Gnatcatcher and its Habitat

CM 15. Areas of temporary impact, as quantified in Tables 1 and 3 above, will be revegetated and restored with native species as specified in Tables 4 and 5. These areas will be returned to original grade, as feasible. Prior to initiating project impacts, a restoration plan will be developed for the temporary impact areas. The plan will be submitted to the CFWO for review and approval at least 15 working days prior to initiating project impacts. This plan will include a detailed description of restoration methods, slope stabilization, and erosion control, criteria for restoration to be considered successful, and monitoring protocol(s). Following the completion of construction activities within each area of impact, the restoration plan will be implemented for a minimum of 5 years, unless success criteria are met earlier and all artificial water has been off for at least 2 years. Temporary impact areas will be planted as soon as possible, with

consideration of seasonal timing, following re-grading after completion of construction to prevent encroachment by nonnative plants.

CM 16. Some permanent impact cut and fill slopes for the project will be revegetated with native species as specified in Table 4. Duff and rare plants may be salvaged from the project impact footprint to aid in revegetating slopes with native habitats. The revegetated areas will have temporary irrigation and will be planted with native container plants and seeds. At least 3 years of plant establishment/ maintenance on these slopes will be conducted to control nonnative plants. These areas will be planted as soon as possible, with consideration of seasonal timing, following the completion of construction to prevent encroachment by nonnative plants.

CM 17. If maintenance of a coastal sage scrub restoration area is necessary between February 15 and August 31, a CFWO-approved biologist[7] will survey for gnatcatchers within the restoration area, access paths to it, and other areas susceptible to disturbances by site maintenance. Surveys will consist of three visits separated by 2 weeks starting March 1 of each maintenance/monitoring year. Work will be allowed to continue on the site during the survey period. However, if gnatcatchers are found during any of the visits, the applicant will notify and coordinate with the CFWO to identify measures to avoid and/or minimize effects to the gnatcatcher (e.g., nests and an appropriate buffer will be flagged by the biologist and avoided by the maintenance work).

CM 18. Permanent and temporary impacts to the gnatcatcher and its habitat[8] (as summarized in Tables 1, 2, and 3 above) will be offset as specified in Tables 4 and 5 above.

CM 19. Portions of the Saddle Club property used to offset project-related impacts will be conserved and managed in perpetuity. Each of the sub-measures below will be implemented prior to initiating project-related impacts:

a. A CFWO-approved conservation easement will be recorded over conserved land in favor of a CFWO-approved entity (e.g., a non-profit environmental organization or government agency). The conservation easement will prohibit all activities that significantly disturb wildlife or detrimentally impact habitat for the gnatcatcher. Potential recreation uses that do not impact habitat or result in significant disturbance to gnatcatchers (e.g., hiking along existing trails) may be proposed in a CFWO-approved habitat management plan for the property provided that the management plan includes sufficient measures and funding to ensure that these activities are appropriately monitored and managed;

b. A CFWO-approved habitat management plan will be prepared that addresses potential threats to the conserved habitat, such as unauthorized human access,

[7] The biologist for this measure will be a trained ornithologist with at least 40 hours of observing gnatcatchers in the field and documented experience locating and monitoring nests of the target species.

[8] Permanent and temporary impacts to 3.81 acres and 26.63 acres of habitat, respectively, have already been offset in accordance with the requirements of Biological Opinion 1-6-94-F-17.

monitoring and management of any authorized recreational activities, control of non-native invasive plant species, and habitat degradation from fire;

c. A CFWO-approved land manager will be identified to implement the habitat management plan; and

d. A CFWO-approved non-wasting endowment or endowments will be established with sufficient funds to implement the habitat management plan and to monitor and enforce the conservation easement. The funding for the endowment(s) will be determined through a Property Analysis Record (PAR) or equivalent analysis.

Action Area

According to 50 CFR § 402.02 pursuant to section 7 of the Act, the "action area" means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. Subsequent analyses of the environmental baseline, effects of the action, and levels of incidental take are based upon the action area. For this project, we have defined the action area to be the 8.7 mile project site (Figures 1-13). The action area also includes the surrounding habitat within about 500 feet, which may be exposed to project-related effects such as increased light and dust levels and human activity during project construction and operation of the facilities. In addition, the action area includes the 15-acre Strawberry Farms restoration site (Figure 14) and the Saddle Club mitigation property (Figure 15). Subsequent analyses of the environmental baseline, effects of the action, and levels of incidental take are based upon the action area.

STATUS OF THE SPECIES/CRITICAL HABITAT

Information on the status of the species can be found in the 5-year review for the gnatcatcher (Service 2010a). Please refer to this document for detailed information on the life history requirements of the species, threats to the species, and conservation needs of the species.

Updated information on species' numbers and distribution, critical habitat, threats and conservation needs is summarized below to provide context to this biological opinion and is generally taken from the 5-year review for the gnatcatcher (Service 2010a).

The gnatcatcher occurs in coastal sage scrub and associated habitats from southern Ventura County to Baja California, Mexico. In 1993, the Service estimated that about 2,562 gnatcatcher pairs remained in the United States, with the highest densities occurring in Orange and San Diego counties (Service 1993). In a recent study using more rigorous sampling techniques, Winchell and Doherty (2008) estimated there were 1,324 (95 percent confidence interval: 976–1,673) gnatcatcher pairs over an 111,006-acre area on public and quasi-public lands in Orange and San Diego counties. Their sampling frame covered only a portion of the U.S. range, focusing on the coast, and was limited to 1 year. Although it is not valid to extrapolate beyond the sampling frame, especially in light of known differences in population densities across the range of the gnatcatcher (Atwood 1992), it is likely there are more gnatcatchers in the U.S. portion of the range than was suggested by earlier estimates; Winchell and Doherty (2008) estimated nearly as many gnatcatchers in the portion of the

U.S. range sampled in their study as was originally estimated for the entire U.S. range. We are not aware of any recent estimates of gnatcatcher populations in Baja California.

Although declines in numbers and distribution of the gnatcatcher have resulted from numerous factors, the current significant threats of the gnatcatcher include habitat fragmentation and degradation, which can lead to type conversion (Service 2010a). Several stressors, including livestock grazing, anthropogenic atmospheric pollutants, and wildland fire, can lead to type conversion of gnatcatcher habitat. As regional Habitat Conservation Plans (HCPs) permitted under section 10(a)(1)(B) of the Act and under the State of California's Natural Community Conservation Planning (NCCP) Act are implemented over time, an increasing amount of habitat will receive beneficial management that will address these threats. Although implementation of NCCP/HCPs is in the process of reducing the threats identified above, habitat type conversion is an increasing threat that is only beginning to be addressed through the implementation of the NCCP/HCP habitat management process. Therefore, the gnatcatcher continues to meet the definition of threatened, and no change in listing status was made following our 5-year review (Service 2010a).

Critical habitat for the gnatcatcher was designated on December 19, 2007 (Service 2007). There are 11 designated critical habitat units for the gnatcatcher that include 197,303 acres of Federal, State, local, and private land in Ventura, Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties. Designated critical habitat includes habitat throughout the species' range in a variety of climatic zones and vegetation types to preserve the genetic and behavioral diversity that currently exists within the species. The individual units contain essential habitat for the gnatcatcher and help to identify special management considerations for the species. The project is located within and adjacent to Unit 9 of designated gnatcatcher critical habitat, and offsetting conservation is located in Unit 6 (Saddle Club mitigation property) and adjacent to Unit 7 (Strawberry Farms restoration site) of designated gnatcatcher critical habitat.

Unit 9 (East Los Angeles County-Matrix NCCP Subregion of Orange County) includes 17,552 acres and contains core populations of gnatcatchers within the Montebello Hills, Puente-Chino Hills, and West Coyote Hills areas. The unit also provides the primary connectivity between significant coastal California gnatcatcher populations and sage scrub habitat within the Orange County Central-Coastal NCCP (Unit 6), the Western Riverside County MSHCP (Unit 10) and the Bonelli Regional Park population within East Los Angeles (Unit 12). This unit may require special management considerations or protection to minimize impacts associated with habitat type conversion and degradation occurring in conjunction with urban and agricultural development.

Unit 6 (Orange County Southern Subregion HCP plan area) includes 6,515 acres and contains core populations in Chiquita Ridge, Prima Deshecha Canada, and Talega Canyon, and linkages in Cristianitos Canyon, Arroyo Trabuco, and Saddle Creek/Live Oak Canyon. The area provides for connectivity and genetic interchange among core populations and contains large blocks of high-quality habitat capable of supporting persistent populations of gnatcatchers. The unit also provides the primary linkage for significant populations in North San Diego MHCP (Unit 3) and the Fallbrook Naval Weapons Station to those further north in Orange County (Unit 7). This unit may require special management considerations or protection to minimize impacts associated with habitat type conversion and degradation occurring in conjunction with urban and agricultural development.

Unit 7 (Central-Coastal NCCP Subregions of Orange County) includes 4,309 acres and contains core populations of gnatcatchers and sage scrub within NCCP/HCP Existing Use Areas, the designated reserve of the El Toro Reuse Area, lands owned by the Boy Scouts of America, and the most southern portion of Chino Hills State Park in Orange County. These areas contain high quality habitat and dense populations of gnatcatchers and serve to link populations located in southern Orange County (Unit 6) with those in northern Orange and Riverside counties. This unit may require special management considerations or protection to minimize impacts associated with habitat type conversion and degradation occurring in conjunction with urban and agricultural development. Specific information for each of the remaining critical habitat units can be found within the final rule designating critical habitat for the gnatcatcher (Service 2007).

Physical and biological features (PBFs)[9] for the gnatcatcher are those habitat components that are essential for the primary biological needs of foraging, nesting, rearing of young, intra-specific communication, roosting, dispersal, genetic exchange, or sheltering. These include: (1) sage scrub habitats that provide space for individual and population growth, normal behavior, breeding, reproduction, nesting, dispersal, and foraging; and (2) non-sage scrub habitats such as chaparral, grassland, and riparian areas, in proximity to sage scrub habitats that provide space for dispersal, foraging, and nesting.

ENVIRONMENTAL BASELINE

Regulations implementing the Act (50 CFR §402.02) define the environmental baseline as the past and present impacts of all Federal, State, or private actions and other human activities in the action area. Also included in the environmental baseline are the anticipated impacts of all proposed Federal projects in the action area that have undergone section 7 consultation and the impacts of State and private actions that are contemporaneous with the consultation in progress.

Project Site Characteristics and Surrounding Land Uses

The Biological Study Area (BSA)[10] for the project totals approximately 287.54 acres and includes the footprint of the proposed project along SR-241 from south of the Windy Ridge Wildlife Undercrossing north to the junction with SR-91, and east along SR-91 to just east of Green River Road, a distance of approximately 8.7 total linear miles. The Santa Ana River is located north of SR-91 in the project area. Elevations in the BSA range from 370 to 1,570 feet above mean sea level, and topography includes moderately rolling hills within the Santa Ana Mountains along SR-241, and

[9] The designations of critical habitat for species addressed by this consultation use the term "primary constituent element" (PCE) to refer to the physical and biological features within critical habitat that are essential to the conservation of the species. The new critical habitat regulations (81 FR 7214) replace this term with physical or biological features (PBFs). The shift in terminology does not change the approach used in conducting this effects analysis, which is the same regardless of whether the original designation identified PCE, PBF, or essential features. In this consultation, we use the term PBF to mean PCE.

[10] The BSA includes the area of potential direct impact and was extended beyond the area of potential direct impact as needed to identify sensitive biological resources adjacent to the project limits. The BSA is coincident or within Caltrans right-of-way adjacent to proposed improvements along SR-241 and SR-91, except where it includes the slope south of SR-91, approximately 3,600 feet west of Coal Canyon Undercrossing, which would be directly impacted. Along southbound SR-241 and westbound SR-91, the BSA is along edge of pavement, because no improvements are planned in these areas.

steep hillsides, canyons, and tributary washes south of SR-91 that provide connectivity for wildlife movement between the Santa Ana Mountains to the south and the Santa Ana River and Chino Hills to the north. Vegetation communities within the BSA include coastal sage scrub, chaparral, coast live oak woodland, ruderal vegetation, nonnative grassland, and developed areas. Much of the gnatcatcher habitat south of SR-91 in the project area burned during the Canyon 2 Fire in October of 2017.

Relationship to Regional Preserves

The project is located in the planning area for the Orange County Central and Coastal Subregions Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP). The NCCP/HCP constitutes a subregional plan under the State of California's Natural Community Conservation Planning Act of 1991. The California Department of Fish and Wildlife's NCCP program (CDFW 2007) is a cooperative effort between public and private entities to protect habitats and species. The program's primary objective is to conserve local and regional biological diversity while accommodating compatible land use. The NCCP program attempts to prevent/resolve issues related to species' listings by concentrating on the long-term stability of wildlife and plant communities, and including key interests in the process.

The NCCP/HCP also serves as a multiple species habitat conservation plan (HCP) pursuant to Section 10(a)(2)(A) of the Act. The planning area for the NCCP/HCP covers 208,713 acres in the central portion of Orange County from the coastline inland to the boundary with Riverside County and establishes a 37,378-acre Reserve System that is supported by additional habitat areas including Special Linkage Areas comprising 1,906 acres and Existing Use Areas comprising 3,796 acres.

The NCCP/HCP acknowledged that the TCA would implement the ETC project, which was addressed in the Service's 1994 biological opinion. The ETC project as described in the Service's 1994 biological opinion included a direct connector between SR-241 and the tolled lanes in the median of SR-91, but did not extend as far to the east along SR-91 as the proposed project. While the proposed project will not result in direct impacts to the NCCP/HCP Reserve System, a small portion of an Existing Use Area intersects the eastern end of the project area along SR-91 and the Coal Canyon Undercrossing (Figures 9 and 10). The project will result in temporary impacts to 0.03 acre of coastal sage scrub within the Existing Use Area. Within the project area, SR-241 passes between two parts of the Reserve System at the Windy Ridge Wildlife Undercrossing (Figure 1). While the undercrossing is designed to functionally link these two parts of the Reserve System, it is not a Special Linkage Area under the NCCP/HCP. Considering that the proposed project will not impact the Reserve System or Special Linkage Areas and will result in only minor, temporary impacts to an Existing Use Area, it does not conflict with the NCCP/HCP.

Status of the Gnatcatcher and its Designated Critical Habitat within the Action Area

Gnatcatchers were detected in the BSA during protocol surveys conducted in 2011 (LSA Associates, Inc. 2011). A pair of gnatcatchers hatched 6 young from two nests within restored habitat in the median at the junction of SR-241 and SR-91, and a male gnatcatcher was observed along the west side of SR-241, approximately 2,000 feet south of the connector on-ramps to SR-91.

In 2017, biologists with LSA Associates, Inc. again observed an active gnatcatcher nest in the median at the junction of SR-241 and SR-91 (Homrighausen 2017, pers. comm.). Surveys conducted for the Santa Ana River Mainstem Project in November and December of 2017, following the Canyon Fire, documented four pairs of gnatcatchers in the remnant sage scrub at the Coal Canyon Undercrossing. One pair was seen foraging south of SR-91 and east of the undercrossing in a small amount of remnant coastal sage scrub (Kietzer 2017, pers. comm.). Two pairs were observed foraging in the strip of habitat north of SR-91 and south of the abandoned off ramp east of the crossing, and one pair was observed in habitat a short distance northwest of SR-91 and the crossing (Ackley 2017, pers. comm.).

In summary, in 2017 a total of ten gnatcatchers (five pairs) were observed within the action area for the project. Two individual gnatcatchers (one pair) were observed within the permanent and temporary impact areas for the project in the median at the junction of SR-241 and SR-91. Eight more gnatcatchers (four pairs) were observed at Coal Canyon outside of the temporary and permanent impact area for the project, but within 500 feet, where they may be subject to disturbance from construction noise and lighting.

A total of about 41.66 acres for Graded Slope Design Option, and 40.57 acres for the Soil Nail Wall Design Option, of the project site is within Unit 9 of designated gnatcatcher critical habitat. For the Graded Slope Design Option, 18.17 acres of impact within critical habitat include PBFs of critical habitat, and the remaining 23.49 acres do not. For the Soil Nail Wall Design Option, 17.06 acres of impact within critical habitat include PBFs of critical habitat, and 23.49 acres do not. The Strawberry Farms restoration site is located within Unit 7 of designated gnatcatcher critical habitat. The Saddle Club mitigation site is located within Unit 6 of designated gnatcatcher critical habitat.

EFFECTS OF THE ACTION

Effects of the action refer to the direct and indirect effects of an action on the species, together with the effects of other activities that are interrelated and interdependent with that action, which will be added to the environmental baseline. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action, are later in time, and still reasonably certain to occur.

Construction of the project will impact the gnatcatcher and its habitat (Tables 1, 2, and 3). This analysis also considers project effects on habitat surrounding the direct impact area, within about 500 feet, which may be exposed to increased noise, light, and dust levels and human activity during project construction.

The Graded Slope Design Option for the project will permanently and temporarily impact 13.70 acres and 33.47 acres of gnatcatcher habitat, respectively, and the Soil Nail Wall Design Option will permanently and temporarily impact 6.06 and 32.55 acres of gnatcatcher habitat, respectively, throughout the 8.7-mile-long project area, (Table 1). Of this total, 3.81 acres and 26.63 acres of permanent and temporary impacts, respectively, to coastal sage scrub were addressed previously in the 1994 Biological Opinion. The remaining impacts, including 9.89 acres and 6.84 acres of permanent and temporary impacts, respectively, for the Graded Slope Design Option, and 2.25 and 5.92 acres of permanent and temporary impacts, respectively, for the Soil Nail Wall

Design Option, are located outside of the area addressed in the 1994 Biological Opinion. These new permanent impacts consist of 9.85 acres of coastal sage scrub and 0.04 acre of native plant restoration for the Graded Slope Design Option, and 2.21 acres of coastal sage scrub and 0.04 acre of native plant restoration for the Soil Nail Wall Design Option. New temporary impacts consist of 4.65 acres of coastal sage scrub and 2.19 acres of native plant restoration for the Graded Slope Design Option, and 3.61 acres of coastal sage scrub and 2.31 acres of native plant restoration for the Soil Nail Wall Design Option.

A single gnatcatcher territory is located entirely within the direct impact area for the proposed project in the median at the junction of SR-241 and SR-91 (Figures 4-6; Caltrans 2016; Homrighausen 2017, pers. comm.). The project will completely remove the habitat occupied this pair of gnatcatchers. The clearing and grubbing of native upland habitats will be conducted between September 16 and February 14 to avoid the gnatcatcher breeding season. A CFWO-approved gnatcatcher biologist will be present to ensure that gnatcatchers are not directly killed or injured during vegetation removal activities. Although habitat removal will be conducted outside the gnatcatcher breeding season, gnatcatchers are non-migratory territorial birds, and removal of all of a gnatcatcher pair's breeding territory displace the pair from the project footprint and force them to attempt to establish a new territory. Habitat in the project area has recently been affected by the Canyon 2 Fire, and gnatcatchers may have established territories within the remaining suitable habitat adjacent to the project area. Therefore, it is likely that the gnatcatchers affected by habitat loss within their primary use areas will be forced to compete with resident gnatcatchers when attempting to establish a new territory. Because these displaced birds likely will be less able to find suitable habitat to forage and shelter in, we anticipate they will be more vulnerable to predation and otherwise may die or be injured.

Four gnatcatcher territories are located outside of the direct impact area for the project but within 500 feet of project activities at Coal Canyon and may be exposed to increased light, noise, and dust levels and human activity during project construction (Figure 9; Ackley 2017, pers. comm.), for up to two breeding seasons.

Some project work will be conducted at night and will use construction lighting that will impact the adjacent gnatcatcher habitat. Light that alters natural light patterns in ecosystems can lead to increased predation, disorientation, and disruption of inter-specific interactions (Longcore and Rich 2004). We anticipate that construction lighting could disturb nesting gnatcatchers within 500 feet of project construction. The project has incorporated measures to avoid and minimize impacts to gnatcatchers from light. Night lighting for construction will be of the lowest illumination necessary for human safety, directed at the immediate work area, and away from adjacent sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats. In addition, construction in the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing will be limited to daylight hours. With implementation of these measures we anticipate that the effects of construction lighting on gnatcatchers will be minimized to the point where such effects are insignificant. For the purposes of section 7 consultation, an insignificant effect is one that is sufficiently small that a person would not be able to meaningfully measure, detect, or evaluate it.

Ambient noise levels in the action area have been measured between 47 and 77 dBA Leq, with ambient noise measured about half a mile from Coal Canyon and about 500 feet north of SR-91 at 61.3 dBA Leq (LSA Associates Inc. 2017). At Coal Canyon, construction will take place primarily within the median, where ambient noise levels will be much higher. Project construction is

anticipated to generate noise levels between 70 and 90 dBA Leq at 50 feet (LSA Associates Inc. 2017). Noise and vibrations associated with the use of heavy equipment during project construction have the potential to disrupt gnatcatcher behaviors in adjacent habitat by masking intraspecific communication and startling birds (e.g., see Dooling and Popper 2007 for a discussion of observed effects of highway noise on birds). We anticipate that construction noise could disturb nesting gnatcatchers within 500 feet of project construction. To avoid and minimize impacts from noise, surveys and noise monitoring will be conducted to ensure that construction noise will not exceed ambient levels, or 60 dBA Leq hourly, whichever is higher, at active nest locations. With implementation of these measures we anticipate that the effects of construction noise on gnatcatchers will be minimized to the point where such effects are insignificant. Once construction is complete, project operations are anticipated to result in a minimal increase in existing noise levels of 1dBA or less (LSA Associates Inc. 2017). This minimal increase in operational noise is anticipated to have an insignificant effect on survival and reproduction of gnatcatchers in the action area.

Implementation of the project has the potential to increase fugitive dust in the adjacent habitat. Increased dust has the potential to temporarily degrade gnatcatcher habitat. To minimize the potential for impacts, the Biological Monitor will periodically monitor the work area to document that work activities do not generate excessive amounts of dust, and impacts from fugitive dust will be avoided and minimized through watering and other appropriate measures. With implementation of these measures we anticipate that the effects of construction dust on gnatcatchers will be minimized to the point where such effects are insignificant.

To avoid and minimize impacts from increased human activity and encroachment during construction, the project limits will be fenced, and construction personnel will be trained in the importance of strictly limiting activities, vehicles, equipment, and construction materials to the project footprint to avoid adjacent sensitive resource areas. These measures are anticipated to minimize the impact of construction disturbance from human activity on gnatcatcher behavior in adjacent habitat to the point where such effects are insignificant.

Gnatcatchers may also be disturbed by the Biological Monitor broadcasting recorded calls during surveys. Surveys are intended to ensure that take limits are not exceeded and to determine the location of gnatcatchers in the project impact footprint such that measures can be implemented (e.g., direct vegetation clearing away from gnatcatchers, flush gnatcatchers out of the active work area) to avoid death and injury of gnatcatchers from vegetation clearing/grubbing and construction work. Survey activities may result in minor disturbance to gnatcatchers from the recorded calls and increased human presence, but we do not anticipate significant impacts to gnatcatcher survival or reproduction from project-related surveys.

Implementation of the project could result in an increase in the cover and number of invasive nonnative plant species in habitats adjacent to the project area. Nonnative species often out-compete and exclude native species, potentially altering the structure of the vegetation, degrading or eliminating coastal sage scrub habitat used by the gnatcatcher, and providing food and cover for undesirable nonnative animals (Bossard *et al*. 2000). The project has incorporated measures to prevent the spread of nonnative species. The Biological Monitor will monitor the project site immediately prior to and during construction to identify the presence of invasive weeds and recommend measures to avoid their inadvertent spread in association with the project. Implementation of these measures is anticipated to minimize the impact of invasive species

introduction resulting from project implementation on gnatcatcher habitat to the point where such effects are insignificant.

In summary, the Graded Slope Design Option will directly impact 47.17 acres (13.70 acres permanent and 33.47 acres temporary), and the Soil Nail Wall Design Option will directly impact 38.61 acres (6.06 acres permanent and 32.55 acres temporary) of habitat that is suitable for gnatcatcher breeding, foraging, and movement; and a single pair of gnatcatchers was documented within this direct impact area. Of this area, for the Graded Slope Design Option, only 16.73 acres (9.89 acres permanent and 6.84 acres temporary), and for the Soil Nail Wall Design Option, only 8.17 acres (2.25 acres permanent and 5.92 acres temporary) of gnatcatcher habitat comprise impacts that were not analyzed and offset as described in the 1994 Biological Opinion. A reduction in the number of gnatcatchers (up to 1 pair) supported in the action area is likely due to the direct loss of habitat, and displacement that could lead to increased predation, death, and injury. The gnatcatcher pair to be impacted represents less than 0.05 percent of the rangewide estimate of gnatcatcher pairs (roughly 2,562 pairs). During construction we expect gnatcatchers will continue to occupy the general project area, and construction disturbance in the project area will be temporary. With temporary impact restoration of 33.47 acres for the Graded Slope Design Option, and 32.55 acres for the Soil Nail Wall Design Option (as detailed in Tables 4 and 5), the permanent impacts to a relatively small amount (13.70 acres or 6.06 acres) of coastal sage scrub and native plant restoration habitat is not anticipated to increase the local risk of gnatcatcher extirpation. Thus, the project is not expected to result in an appreciable reduction in the numbers, reproduction, or distribution of the species rangewide.

Critical Habitat

The Graded Slope Design Option for the project will affect a total of 41.66 acres of gnatcatcher critical habitat, including permanent impacts to 6.03 acres containing PBFs and an additional 14.88 acres lacking PBFs. Temporary impacts will occur to 12.14 acres of gnatcatcher critical habitat with PBFs and 8.61 acres of critical habitat lacking PBFs.

The Soil Nail Wall Design Option for the project will affect a total of 40.57 acres of gnatcatcher critical habitat, including permanent impacts to 4.68 acres with PBFs and an additional 14.88 acres lacking PBFs. Temporary impacts will occur to 12.38 acres of gnatcatcher critical habitat with PBFs and 8.61 acres of critical habitat lacking PBFs.

Both design options would affect a small percentage (about 0.2 percent) of the 17,552 acres of designated critical habitat within Unit 9, and an even smaller percentage of all critical habitat designated for this species. Permanent impacts would impact about 0.1 percent of designated critical habitat within Unit 9. Of the critical habitat in the project area, most (about 90 percent) consists of vegetation communities other than coastal sage scrub, which provide fewer resources to support gnatcatchers. The loss of this amount of critical habitat and associated PBFs (sage scrub and non-sage scrub vegetation that provide space and resources for nesting, foraging, and dispersal) will not substantially impact the function of Unit 9 to support core gnatcatcher populations and provide connectivity between populations in Orange, Riverside, and Los Angeles counties.

Proposed conservation to offset impacts of the Graded Slope Design Option for the project will include the restoration/enhancement of 13.3 acres of gnatcatcher critical habitat within Unit 7 and the

conservation of 10.57 acres within Unit 6, as detailed in Table 4. Proposed conservation to offset impacts of the Soil Nail Wall Design Option for the project will include the restoration/enhancement of 9.89 acres of gnatcatcher critical habitat within Unit 7 and the conservation of 5.73 acres within Unit 6, as detailed in Table 5. Further, Caltrans has agreed to restore temporary impact areas, and some cut and fill slopes within the project's permanent impact area with native species, including some coastal sage scrub, as detailed in Tables 4 and 5. This will include extensive areas that are currently vegetated with nonnative species (as detailed in Table 3). The proposed restoration will help maintain the functions of Unit 9 to support core gnatcatcher populations and provide connectivity between populations in Orange, Riverside, and Los Angeles counties.

Effect on Recovery

There is no recovery plan for the gnatcatcher, but the project is consistent with the general recovery goals of maintaining core populations of gnatcatchers and maintaining connectivity between these populations. As described above, the permanent loss of 13.70 acres (Graded Slope Design Option) or 6.06 acres (Soil Nail Wall Design Option) of gnatcatcher occupied habitat and loss of 1 gnatcatcher pair is a relatively small impact relative to the thousands of acres of habitat and gnatcatcher territories (roughly 2,562 pairs) rangewide. Furthermore, the presence of substantial areas of occupied habitat adjacent to the impact area and restoration of temporary impact areas and cut/fill slopes initiated immediately following project construction will help maintain and support local gnatcatcher populations in the project area.

The project proponents will offset the impacts to gnatcatcher habitat through restoration at the Strawberry Farms restoration site and conservation at the Saddle Club mitigation site, as summarized in Tables 4 and 5. The conservation properties are located in Orange County, within designated critical habitat, and are occupied by gnatcatchers. Thus, over the long-term, the project is expected to contribute to the conservation and recovery of the species by maintaining gnatcatcher breeding habitat and connectivity between core gnatcatcher populations in Orange County.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. We are unaware of any future non-Federal actions that are reasonably certain to occur within the action area and may affect gnatcatchers.

CONCLUSION

After reviewing the current status of the gnatcatcher; the environmental baseline for the action area; effects of the proposed action; and the cumulative effects, it is our biological opinion that the proposed action is not likely to jeopardize the continued existence of the gnatcatcher or adversely modify its designated critical habitat. We reached this conclusion by considering the following:

Coastal California Gnatcatcher

1. Adverse effects to the gnatcatcher will be reduced by implementation of the avoidance and minimization measures identified in the "Project Description" of this biological opinion;

2. The project will displace up to 1 pair of gnatcatchers supported in the action area due to the direct loss of a portion of their habitat; this pair represents less than 0.05 percent of the roughly 2,562 pairs rangewide;

3. The project will permanently impact 13.70 acres (Graded Slope Design Option) or 6.06 acres (Soil Nail Wall Design Option) of gnatcatcher occupied habitat out of thousands of acres of gnatcatcher habitat rangewide;

4. The project will temporarily impact 33.47 acres (Graded Slope Design Option) or 32.55 acres (Soil Nail Wall Design Option) of gnatcatcher occupied habitat; this habitat will be restored as detailed in Tables 4 and 5 and will again be suitable habitat for gnatcatcher breeding and foraging within 5 years;

5. The project will permanently impact 20.91 acres (Graded Slope Design Option) or 19.58 acres (Soil Nail Wall Design Option) of gnatcatcher designated critical habitat out of the 17,552 acres of designated critical habitat within Unit 9, which represents about 0.1 percent of the Unit and an even smaller percentage of designated gnatcatcher critical habitat;

6. With the conservation benefits that will be implemented as detailed in the Conservation Measures and Tables 4 and 5, the small amount of impacts proposed to designated critical habitat for the gnatcatcher will not appreciably diminish the function of the critical habitat for the gnatcatcher; and

7. Impacts to occupied gnatcatcher habitat will be offset as detailed in Tables 4 and 5.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Harass is defined as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of Section 7(b)(4) and 7(o)(2) of the Act, taking that is incidental to and not intended as part of the proposed action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary, and must be undertaken by Caltrans for the exemption in section 7(o)(2) to apply. Caltrans has the continuing duty to regulate the activity that is covered by this incidental take statement. If Caltrans fails to (1) adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

To monitor the impact of the incidental take, Caltrans must report the progress of the action and its impact on the species to the CFWO as specified in the incidental take statement [50 CFR § 402.14(i)(3)].

AMOUNT OR EXTENT OF TAKE

Coastal California Gnatcatcher

We anticipate that up to one gnatcatcher pair will be taken as a result of construction of the proposed project.

Incidental take is expected to be in the form of harm as defined in 50 CFR § 17.3, due to the direct loss of a portion of the scrub habitat occupied by up to two individuals.

The take exemption will be exceeded if:

1. More than one pair of gnatcatchers is documented in or within the project footprint; or

2. More than 13.70 acres of gnatcatcher-occupied habitat are permanently altered and 33.47 acres of gnatcatcher-occupied habitat are temporarily removed for the Graded Slope Design Option, or 6.06 acres of gnatcatcher-occupied habitat are permanently altered and 32.55 acres of gnatcatcher-occupied habitat are temporarily removed for the Soil Nail Wall Design Option, or if such removal is not consistent with Table 1.

EFFECT OF TAKE

In the accompanying biological opinion, we determined that this level of anticipated take is not likely to result in jeopardy to the gnatcatcher.

REASONABLE AND PRUDENT MEASURES

The Applicant will implement significant conservation measures as part of the proposed action to minimize the incidental take of gnatcatchers. In addition to these conservation measures, the following reasonable and prudent measures are necessary to monitor and report the effects of the incidental take on gnatcatchers:

1. Caltrans will monitor and report on compliance with the established take exemptions for gnatcatchers associated with the proposed action.

TERMS AND CONDITIONS

To be exempt from the prohibitions of section 9 of the Act Caltrans must comply with the following terms and conditions which implement the reasonable and prudent measures described above.

Coastal California Gnatcatcher

1.1 Prior to initiating project work, three preconstruction surveys will be conducted within all suitable gnatcatcher habitat within the project footprint, within 30 days prior to initiation of vegetation removal activities, to verify that no more than 1 pair of gnatcatchers will be harmed as a result of the project.

1.2 Prior to initiating project work, Caltrans will provide to the CFWO a map showing the distribution of gnatcatchers relative to the project footprint and an estimate of the number of gnatcatcher territories that will be impacted by the project, or confirm in writing that maps, distribution information, and the number of territories that will be impacted by the project remain correct.

1.3 Prior to project construction, the project proponent will submit to the CFWO Geographic Information System (GIS) shapefiles in UTM, Zone 11N (meters), NAD 83 coordinate system that show the following: anticipated permanent impacts, temporary impacts, habitat restoration sites, and habitat conservation sites. Please note that these polygons may overlap. For example, one location could be temporarily impacted and subsequently restored and conserved. Include the following metadata for each shapefile: summary/description of the data, attribute definitions, coordinate system/projection information or any other pertinent information. If there are any changes to the boundaries anticipated impacts, restoration, or conservation sites, such changes must be addressed consistent with the Reinitiation Notice below. In addition, updated GIS shapefiles will be submitted to the CFWO.

1.4 Caltrans will notify the CFWO within 30 days of completing removal of gnatcatcher occupied habitat. The purpose of this notification is to ensure that impacts to gnatcatcher-occupied habitat from the proposed project do not exceed the take thresholds.

DISPOSITION OF SICK, INJURED, OR DEAD SPECIMENS

Upon locating dead, injured, or sick individuals of threatened or endangered species, initial notification must be made to our Division of Law Enforcement in either San Diego, California, at 619-557-5063 or in Torrance, California, at 310-328-6307 within 3 working days. Notification should also be sent by telephone and writing to this office in Carlsbad, California, at 2177 Salk Avenue, Suite 250 Carlsbad, California 92008, 760-431-9440. Written notification must be made within 5 calendar days and include the collection date and time, the location of the animal, and any other pertinent information. Care must be taken in handling sick or injured animals to ensure effective treatment and care, and in handling dead specimens to preserve biological material in the best possible state. The remains of intact specimens shall be placed with educational or research institutions holding the appropriate State and Federal permits. Remains shall be placed with the San Diego Natural History Museum, San Diego. Arrangements regarding proper disposition of potential

museum specimens shall be made with the institution by the authorized biologist prior to implementation of the action.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. We recommend that all upland temporary impact areas and cut and fill slopes for the project be restored with coastal sage scrub species.

REINITIATION NOTICE

This concludes formal consultation regarding the SR-241/SR-91 Express Lane Connector Project as outlined in materials submitted to us. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; and (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If you have any questions regarding this biological opinion, please contact Sally Brown of this office at 760-431-9440, extension 278.

Sincerely,

Scott A. Sobiech
Acting Field Supervisor

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APPENDIX

Section 7 Consultation
SR-241/SR-91 Express Lane Connector Project
Orange and Riverside Counties, California
FWS-OR-14B0086-17F1420

The following information supports the Service's concurrence with Caltrans' not likely to adversely affect determination for the federally endangered vireo, flycatcher, and milk-vetch; federally threatened sucker and brodiaea; and designated critical habitat for the sucker, and milk-vetch, in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq*.), for the SR-241/SR-91 Express Lane Connector Project, Orange County, California.

Vireo and Flycatcher

Vireo and flycatcher were not observed during surveys conducted in the BSA for the project, and no suitable nesting habitat is present within the BSA (Caltrans 2016). Vireo and flycatcher have been observed in riparian habitat in the Santa Ana River, directly north of the BSA. The project will result in the loss of a small amount (about 1 acre) of suitable foraging habitat (chaparral within and adjacent to a riparian drainage) for the vireo and flycatcher (LSA Associates Inc. 2017). Vegetation clearing within suitable foraging habitat for these species will occur outside of the vireo and flycatcher breeding season when these migratory species are not expected to be present in the project area.

Project construction may also indirectly impact vireos and flycatchers in the adjacent habitat within 500 feet in the Santa Ana River (e.g., effects associated with light, noise, invasive species, human encroachment, and construction dust, erosion, sedimentation, and contaminant run-off). Light that alters natural light patterns in ecosystems can lead to increased predation, disorientation, and disruption of inter-specific interactions (Longcore and Rich 2004). Noise and vibrations associated with the use of heavy equipment during project construction have the potential to disrupt vireo and flycatcher behaviors in adjacent habitat by masking intraspecific communication and startling birds (e.g., see Dooling and Popper 2007 for a discussion of observed effects of highway noise on birds). Nonnative species often out-compete and exclude native species, potentially altering the structure of the vegetation, degrading or eliminating habitat used by the vireo and flycatcher, and providing food and cover for undesirable nonnative animals (Bossard *et al*. 2000). Construction dust, erosion, sedimentation, and contaminant run-off can degrade adjacent habitat.

The project has incorporated measures to avoid and minimize impacts to vireos and flycatchers from noise, light, invasive species, human encroachment, and construction dust, erosion, sedimentation, and contaminant run-off. Night lighting for construction will be of the lowest illumination necessary for human safety, directed at the immediate work area, and away from adjacent sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats. Construction along SR-91 in the vicinity of the Santa Ana River will occur primarily in the median of the existing facility where noise levels are high (Caltrans 2016). Once construction is complete, project operations are anticipated to result in a minimal increase in existing noise levels of 1 dBA or less (LSA Associates Inc. 2017). This minimal increase in operational noise is anticipated to have an insignificant effect on survival and reproduction of vireo and flycatcher that may be present in nearby habitat. The Biological Monitor will monitor the project site immediately prior to and during

construction to identify the presence of invasive weeds and recommend measures to avoid their inadvertent spread in association with the project. To avoid and minimize impacts from increased human activity and encroachment during construction, the project limits will be fenced, and construction personnel will be trained in the importance of strictly limiting activities, vehicles, equipment, and construction materials to the project footprint to avoid adjacent sensitive resource areas. The Biological Monitor will periodically monitor the work area to document that work activities do not generate excessive amounts of dust, and impacts from fugitive dust will be avoided and minimized through watering and other appropriate measures. To avoid and minimize impacts from erosion, sedimentation, and contaminant run-off, the project will install appropriate erosion control measures, and all equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will be restricted to designated staging areas that are a minimum of 100 feet from sensitive habitats and drainages. These measures are anticipated to minimize these potential impacts on vireo and flycatcher behavior in adjacent habitat to the point where such effects are insignificant.

Milk-Vetch and Critical Habitat

Milk-vetch was not observed during surveys conducted in the BSA for the project but has been observed in Coal Canyon directly south of the BSA (Caltrans 2016). Project construction may indirectly impact milk-vetch in the adjacent habitat within 500 feet (e.g., effects associated with light, invasive species, human encroachment, and construction dust, erosion, sedimentation, and contaminant run-off). Construction and operational lighting installed for the project could increase light spill into the adjacent habitat. Light can affect a broad range of plant physiological responses, including seed germination, seedling development, induction of flowering, and rapid, membrane-based activities (Hopkins 1995). Nonnative species often out-compete and exclude native species, potentially altering the structure of the vegetation, degrading or eliminating habitat used by the vireo and flycatcher, and providing food and cover for undesirable nonnative animals (Bossard *et al*. 2000). Construction dust, erosion, sedimentation, and contaminant run-off can degrade adjacent habitat.

The project has incorporated measures to avoid and minimize impacts to milk-vetch from light, invasive species, human encroachment, and construction dust, erosion, sedimentation, and contaminant run-off. Permanent project lighting and night lighting for construction will be of the lowest illumination necessary for human safety, directed at the roadway and immediate work area, and away from adjacent sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats. The Biological Monitor will monitor the project site immediately prior to and during construction to identify the presence of invasive weeds and recommend measures to avoid their inadvertent spread in association with the project. To avoid and minimize impacts from increased human activity and encroachment during construction, the project limits will be fenced and construction personnel will be trained in the importance of strictly limiting activities, vehicles, equipment, and construction materials to the project footprint to avoid adjacent sensitive resource areas. The Biological Monitor will periodically monitor the work area to document that work activities do not generate excessive amounts of dust, and impacts from fugitive dust will be avoided and minimized through watering and other appropriate measures. To avoid and minimize impacts from erosion, sedimentation, and contaminant run-off, the project will install appropriate erosion control measures, and all equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will be restricted to designated staging areas that are a minimum of 100 feet from sensitive habitats and drainages. These measures are anticipated to minimize these potential impacts on milk-vetch in adjacent habitat to the point where such effects are insignificant.

Critical habitat for milk-vetch was designated on November 14, 2006 (Service 2006). There are six designated critical habitat units for milk-vetch that include 3,300 acres of Federal, State, local, and private land in Ventura, Los Angeles, and Orange counties. Designated critical habitat includes habitat throughout the species' range to preserve the genetic diversity that currently exists within the species. The individual units contain physical and biological features that are essential to the conservation of the species and help to identify special management considerations for the species. The project is located adjacent to Unit 6 of designated milk-vetch critical habitat.

Unit 6 (Coal Canyon Unit) includes 832 acres and contains milk-vetch plants in several locations that are part of a large population complex on Chino Hills State Park, the California Department of Fish and Wildlife Coal Canyon Ecological Reserve, and adjacent private lands. This unit may require special management considerations or protection to minimize impacts associated with maintenance of fire roads and the growth of shrubs and nonnative plants, which could crowd out milk-vetch.

PBFs for milk-vetch critical habitat are those habitat components that are essential to sustain the life history functions of the species. These include: (1) Calcium carbonate soils derived from marine sediment; (2) Low proportion (<10%) of shrub cover directly around the plant; and (3) Chaparral and coastal sage scrub communities characterized by periodic disturbances that stimulate seed germination (e.g., fire, flooding, erosion) and reduce vegetative cover.

Designated critical habitat for milk-vetch is in the project's BSA but outside of the disturbance limits for the project. The project has incorporated measures to avoid and minimize impacts to milk-vetch critical habitat. To avoid and minimize impacts from increased human activity and encroachment during construction, the project limits will be fenced and construction personnel will be trained in the importance of strictly limiting activities, vehicles, equipment, and construction materials to the project footprint to avoid adjacent sensitive resource areas.

Sucker and Critical Habitat

Sucker is not present in the BSA for the project, and no suitable habitat is present within the BSA (Caltrans 2016). Suckers have been observed in the Santa Ana River, directly north of the BSA. Project construction may indirectly impact suckers in the adjacent habitat in the Santa Ana River (e.g., effects associated with erosion, sedimentation, and contaminant run-off). The project has incorporated measures to avoid and minimize impacts to suckers from erosion, sedimentation, and contaminant run-off. The project will install appropriate erosion control measures, and all equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will be restricted to designated staging areas that are a minimum of 100 feet from sensitive habitats and drainages. These measures are anticipated to minimize these potential impacts on sucker behavior in adjacent habitat to the point where such effects are insignificant.

Critical habitat for sucker was designated on December 14, 2010 (Service 2010b). There are three designated critical habitat units for sucker that include 9,331 acres of Federal, State, local, and private land in San Bernardino, Riverside, Orange and Los Angeles counties. Designated critical habitat includes habitat throughout the species' range to preserve the genetic diversity that currently exists within the species. The individual units contain physical and biological features that are essential to the conservation of the species and help to identify special management considerations for the species. The project is located adjacent to Unit 1, Subunit 1C of designated sucker critical habitat.

Unit 1 (Santa Ana River) includes 5,535 acres, and of this Subunit 1C (Lower Santa Ana River) comprises 767 acres and contains habitat suitable for the sucker along approximately 10.7 miles of the Santa Ana River mainstem from below the Prado Dam in Riverside and Orange counties. This subunit may require special management considerations or protection to minimize impacts associated with water diversion, dams, water quality impacts from non-point source and point source pollution, and altered hydrology.

PBFs for sucker critical habitat are those habitat components that are essential to sustain the life history functions of the species. These include: (1) A functioning hydrological system within the historical geographic range of Santa Ana sucker that experiences peaks and ebbs in the water volume (either naturally or regulated) that encompasses areas that provide or contain sources of water and coarse sediment necessary to maintain all life stages of the species, including adults, juveniles, larvae, and eggs, in the riverine environment; (2) Stream channel substrate consisting of a mosaic of loose sand, gravel, cobble, and boulder substrates in a series of riffles, runs, pools, and shallow sandy stream margins necessary to maintain various life stages of the species, including adults, juveniles, larvae, and eggs, in the riverine environment; (3) Water depths greater than 1.2 inches and bottom water velocities greater than 0.01 feet per second; (4) Clear or only occasionally turbid water; (5) Water temperatures less than 86 degrees Fahrenheit; (6) Instream habitat that includes food sources (such as zooplankton, phytoplankton, and aquatic invertebrates), and associated vegetation such as aquatic emergent vegetation and adjacent riparian vegetation to provide: (a) Shading to reduce water temperature when ambient temperatures are high, (b) shelter during periods of high water velocity, and (c) protective cover from predators; and (7) Areas within perennial stream courses that may be periodically dewatered, but that serve as connective corridors between occupied or seasonally occupied habitat and through which the species may move when the habitat is wetted.

Designated critical habitat for the sucker is present outside of the disturbance limits for the project along the Santa Ana River north of the project. The project has incorporated measures to avoid and minimize impacts to sucker critical habitat (e.g., effects associated with erosion, sedimentation, and contaminant run-off). To avoid and minimize impacts from erosion, sedimentation, and contaminant run-off, the project will install appropriate erosion control measures, and all equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will be restricted to designated staging areas that are a minimum of 100 feet from sensitive habitats and drainages.

Brodiaea

Brodiaea was not observed during surveys conducted in the BSA for the project in April to June of 2011, August of 2013, and May of 2014 (Caltrans 2016). The recently added 3.6 acre slope grading area outside of the BSA for the project was surveyed for special status plants in 2001 and 2003 with negative results (BonTerra 2005). The project has incorporated measures to avoid and minimize impacts to brodiaea. Preconstruction surveys will be conducted for thread-leaved brodiaea within 1 year prior to the commencement of vegetation clearing and construction activities for the project, in habitat suitable for the species within the project impact area, during the March to June blooming period. If brodiaea is observed within the project impact area, Caltrans will reinitiate consultation with the CFWO to address unanticipated impacts to this species.

Conservation Measures

The following CMs will be incorporated into the project to avoid and minimize impacts to the vireo, flycatcher, milk-vetch, sucker, brodiaea, and designated critical habitat for the sucker and milk-vetch. For ease of reference, the numbering below is a continuation of the numbering of the CMs in the associated biological opinion.

CM 20. The clearing and grubbing of native chaparral habitat that is suitable for vireo and flycatcher foraging for the project will occur between September 16 and March 14, to avoid the vireo and flycatcher breeding season (or sooner than September 16, if a biologist knowledgeable of vireo and flycatcher biology and ecology approved by the CFWO demonstrates to the satisfaction of the CFWO that all vireo and flycatcher nesting is complete). Caltrans will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO at least 15 working days prior to initiating project impacts.

CM 21. Preconstruction surveys will be conducted for thread-leaved brodiaea within 1 year prior to the commencement of vegetation clearing and construction activities for the project, in habitat suitable for the species within the project impact area, during the March to June blooming period. If brodiaea is observed within the project impact area, Caltrans will reinitiate consultation with the CFWO to address unanticipated impacts to this species.

CM 22. Measures included in the biological opinion to avoid and minimize project impacts to gnatcatcher and its designated critical habitat (i.e., CMs 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, and 16) will also avoid and minimize project impacts to the vireo, flycatcher, milk-vetch, sucker, brodiaea, and designated critical habitat for the sucker, and milk-vetch.

With incorporation of these proposed CMs, potential impacts to vireo, flycatcher, milk-vetch, sucker, brodiaea, and designated critical habitat for the sucker and milk-vetch will be minimized to the point where such effects are insignificant. For the purposes of section 7 consultation, an insignificant effect is one that is sufficiently small that a person would not be able to meaningfully measure, detect, or evaluate it. Based on the site and species information and Caltrans' commitment to implement avoidance and minimization measures during the project, we concur with the Caltrans' determination that the project is not likely to adversely affect these listed species and critical habitats.

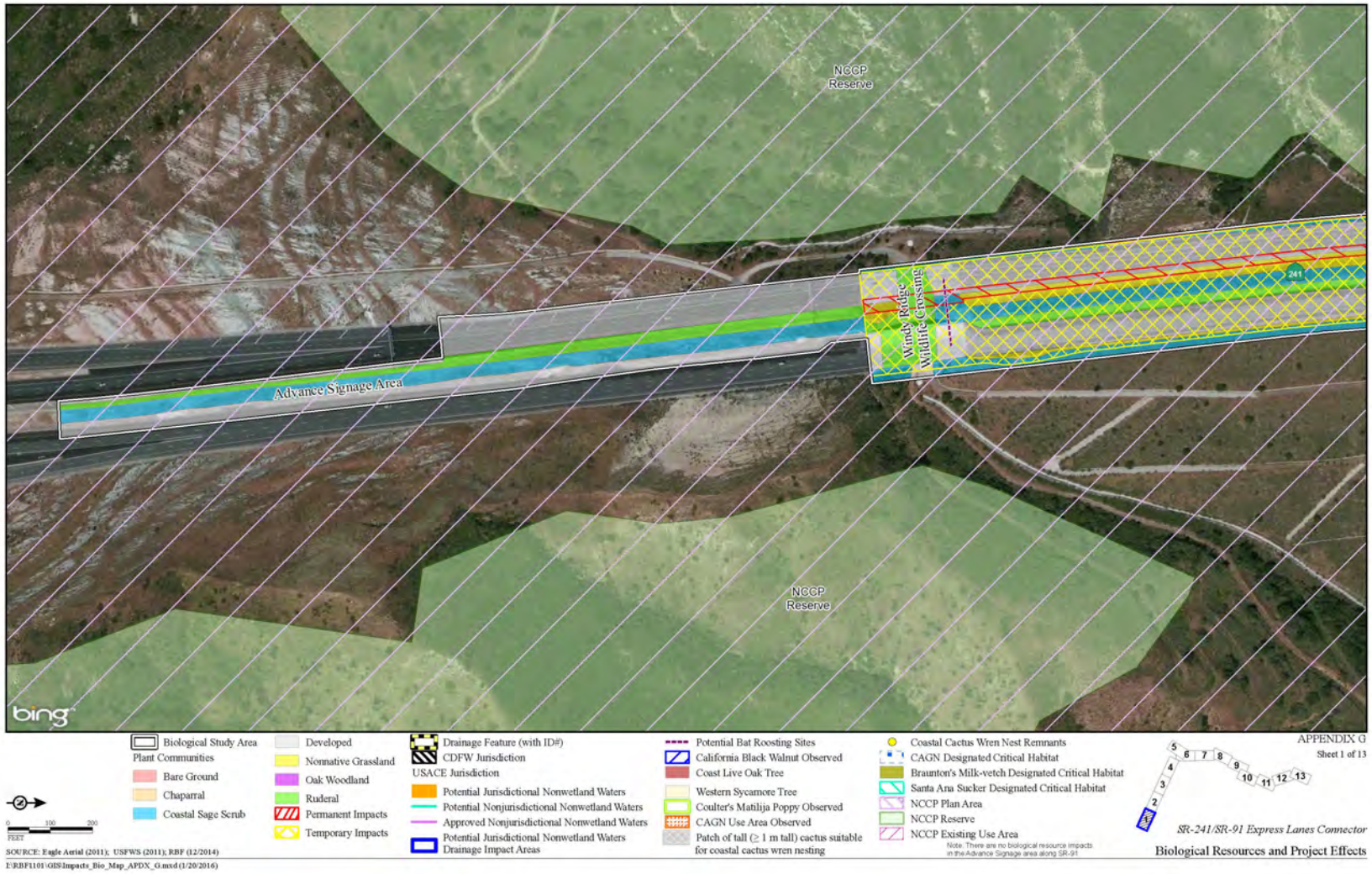


Figure 1. SR-241/SR-91 Express Lanes Connector (Source: Caltrans. 2016. SR-241/SR-91 Express Lanes Connector Project Biological Assessment, Orange and Riverside Counties, California.)

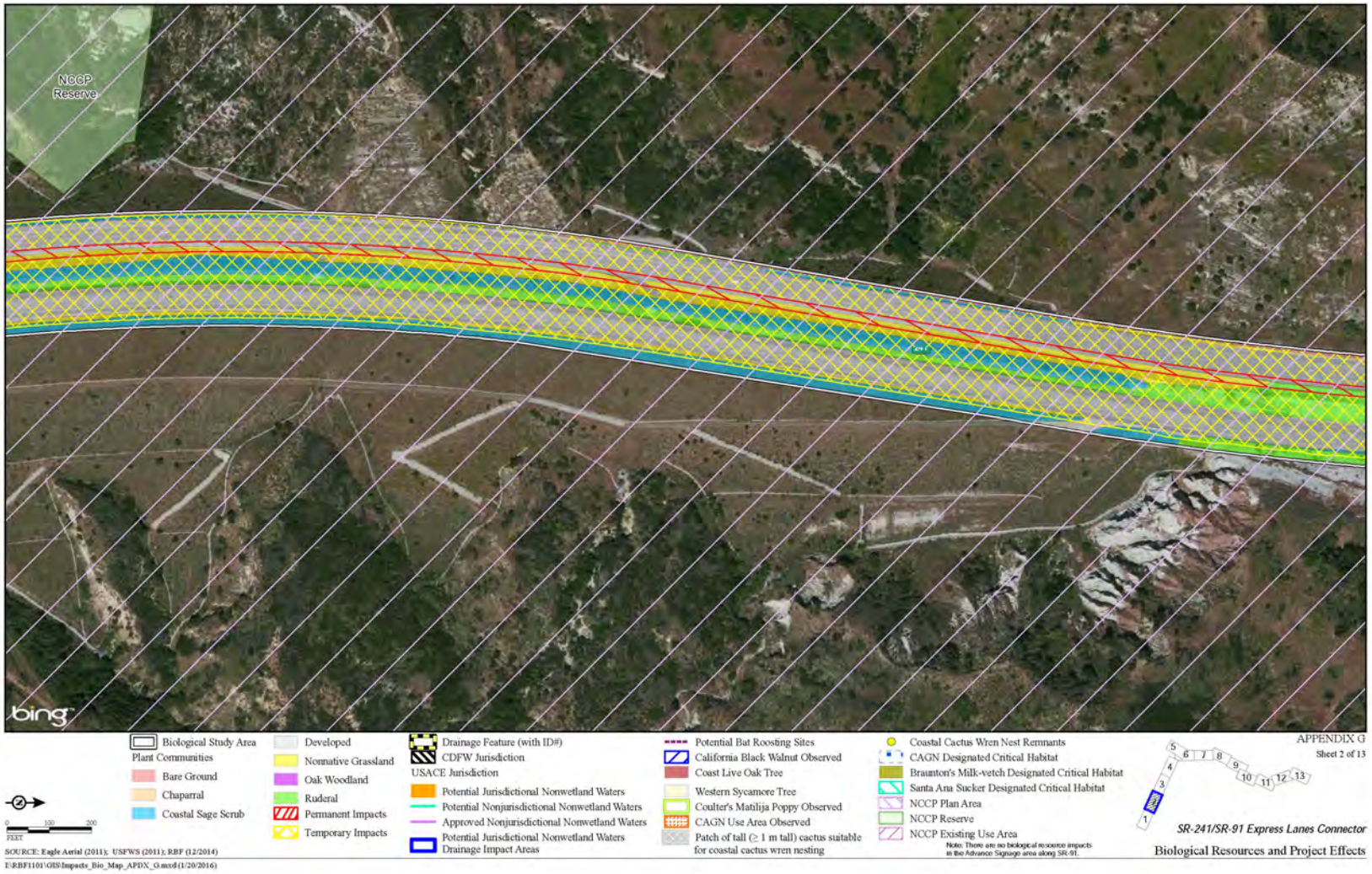


Figure 2. SR-241/SR-91 Express Lanes Connector (Source: Caltrans. 2016. SR-241/SR-91 Express Lanes Connector Project Biological Assessment, Orange and Riverside Counties, California.)

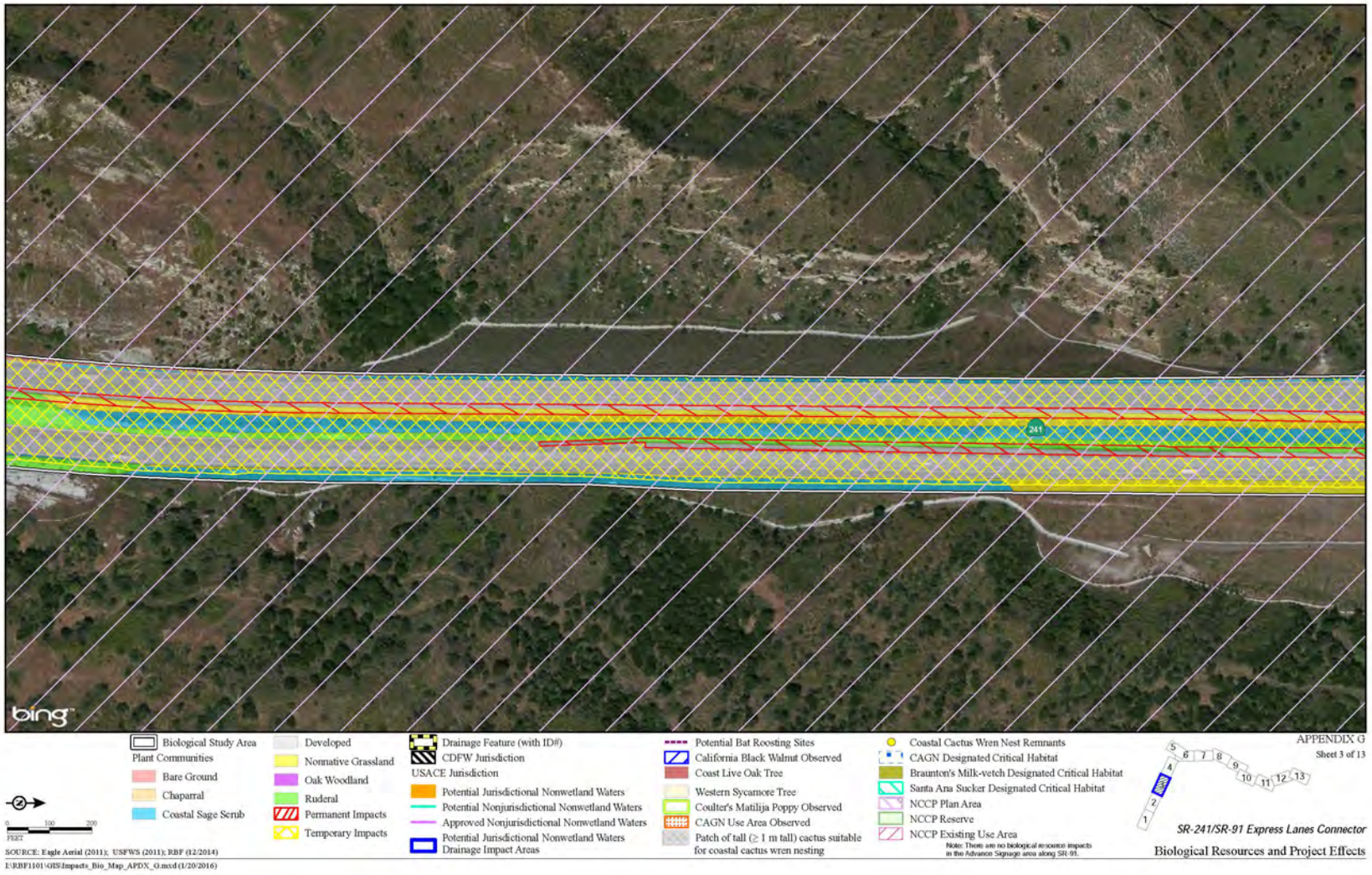


Figure 3. SR-241/SR-91 Express Lanes Connector (Source: Caltrans. 2016. SR-241/SR-91 Express Lanes Connector Project Biological Assessment, Orange and Riverside Counties, California.)

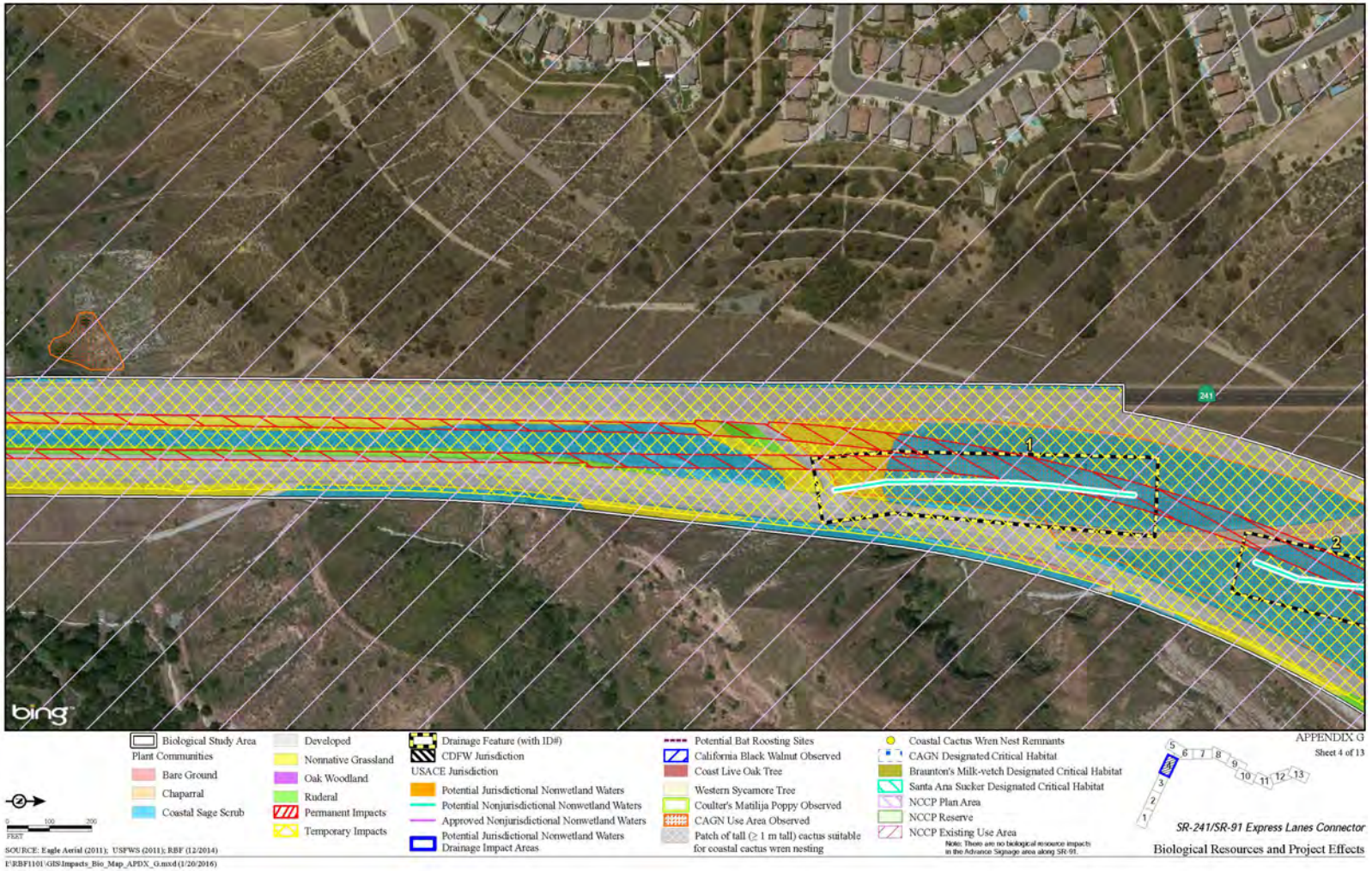


Figure 4. SR-241/SR-91 Express Lanes Connector (Source: Caltrans. 2016. SR-241/SR-91 Express Lanes Connector Project Biological Assessment, Orange and Riverside Counties, California.)

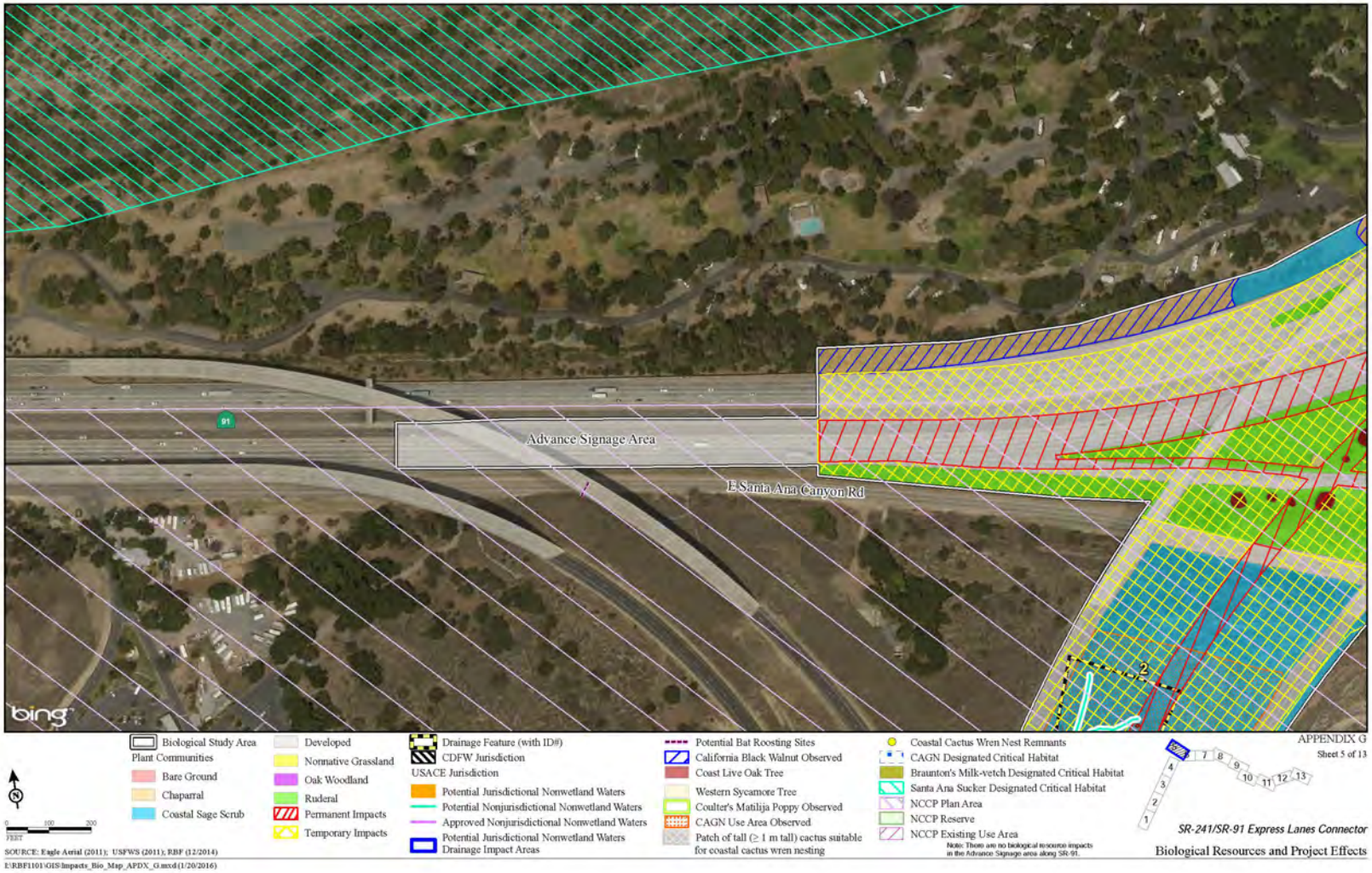


Figure 5. SR-241/SR-91 Express Lanes Connector (Source: Caltrans. 2016. SR-241/SR-91 Express Lanes Connector Project Biological Assessment, Orange and Riverside Counties, California.)

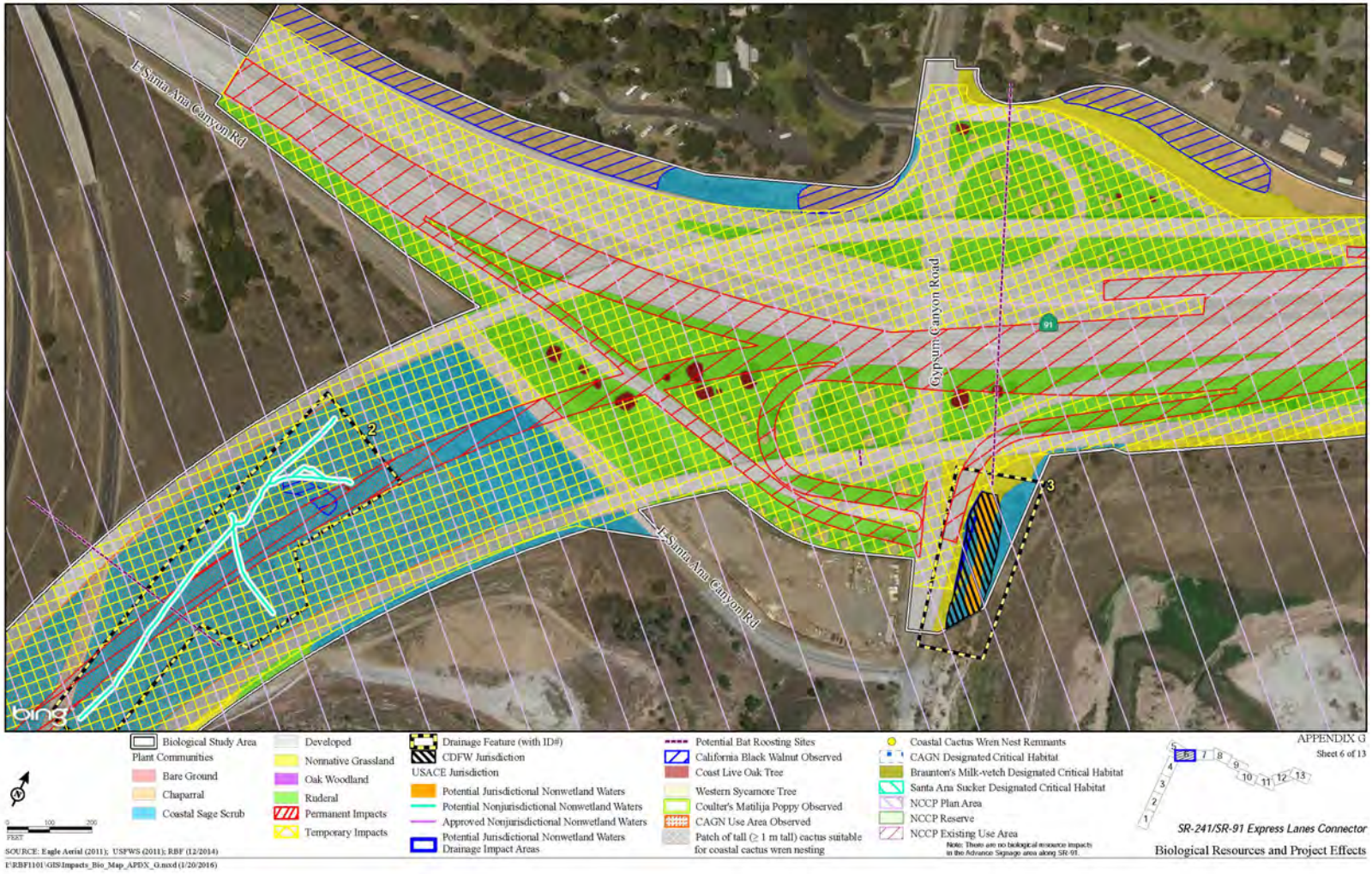


Figure 6. SR-241/SR-91 Express Lanes Connector (Source: Caltrans. 2016. SR-241/SR-91 Express Lanes Connector Project Biological Assessment, Orange and Riverside Counties, California.)

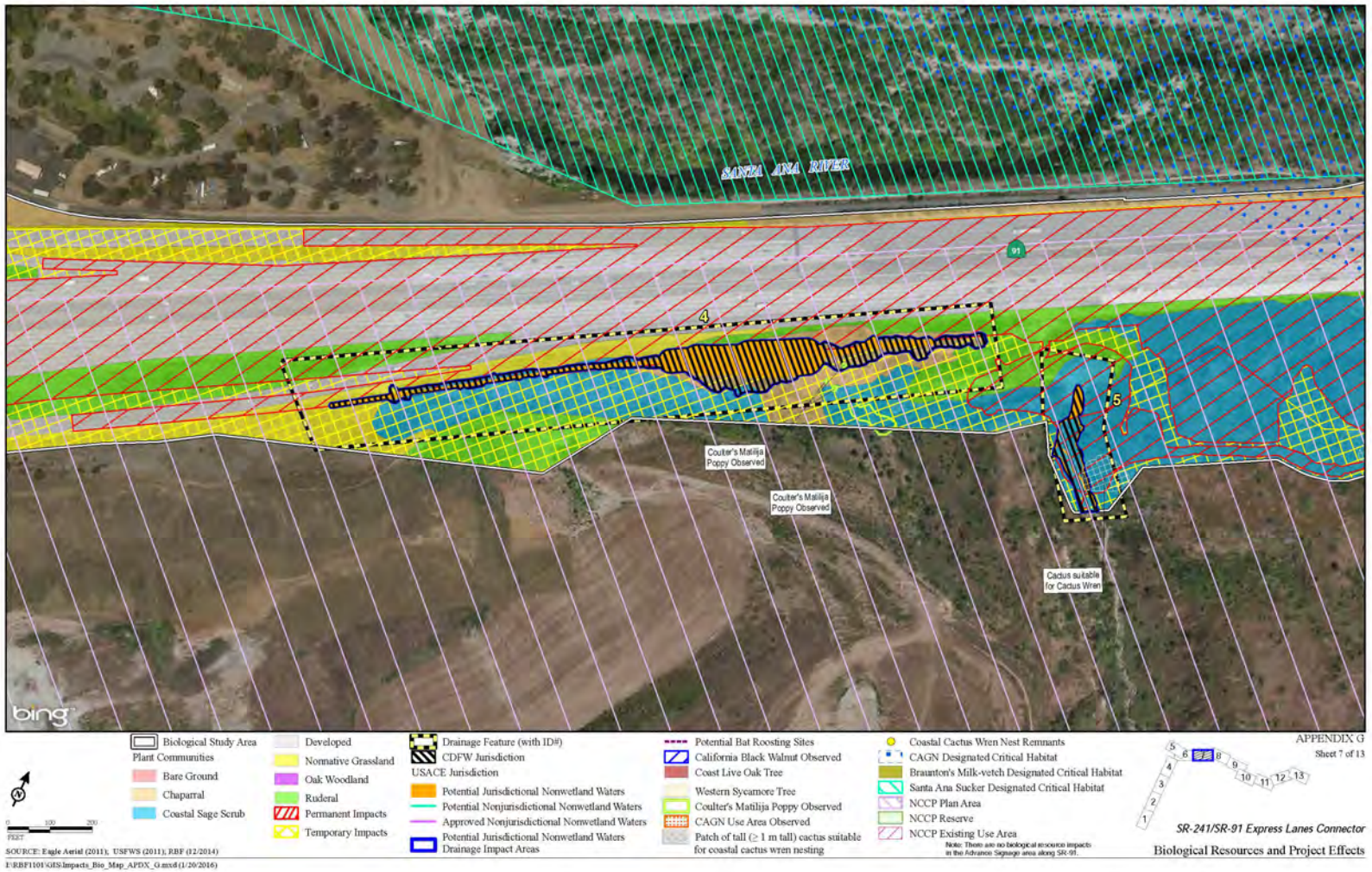


Figure 7. SR-241/SR-91 Express Lanes Connector (Source: Caltrans. 2016. SR-241/SR-91 Express Lanes Connector Project Biological Assessment, Orange and Riverside Counties, California.)

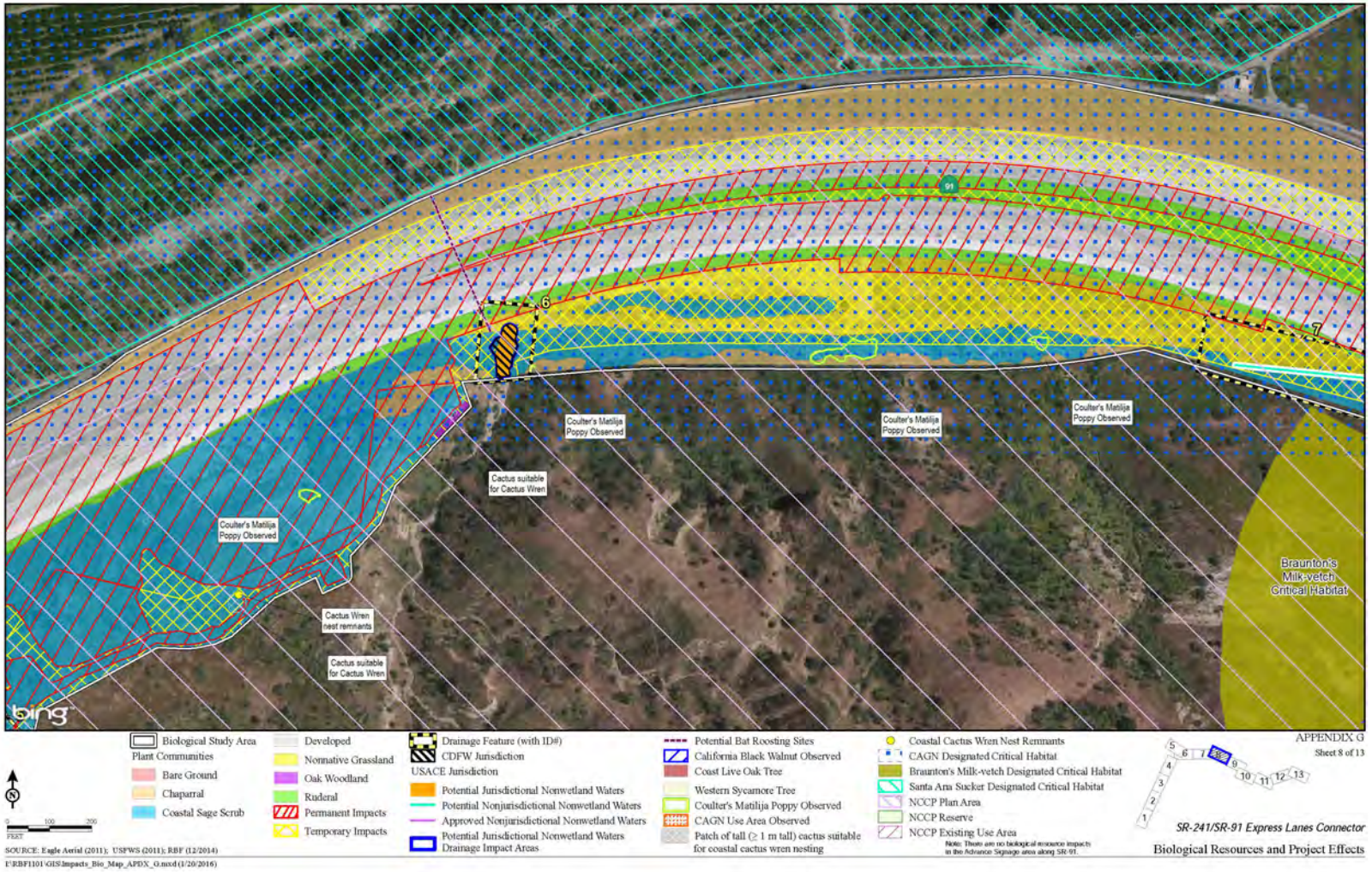


Figure 8. SR-241/SR-91 Express Lanes Connector (Source: Caltrans. 2016. SR-241/SR-91 Express Lanes Connector Project Biological Assessment, Orange and Riverside Counties, California.)

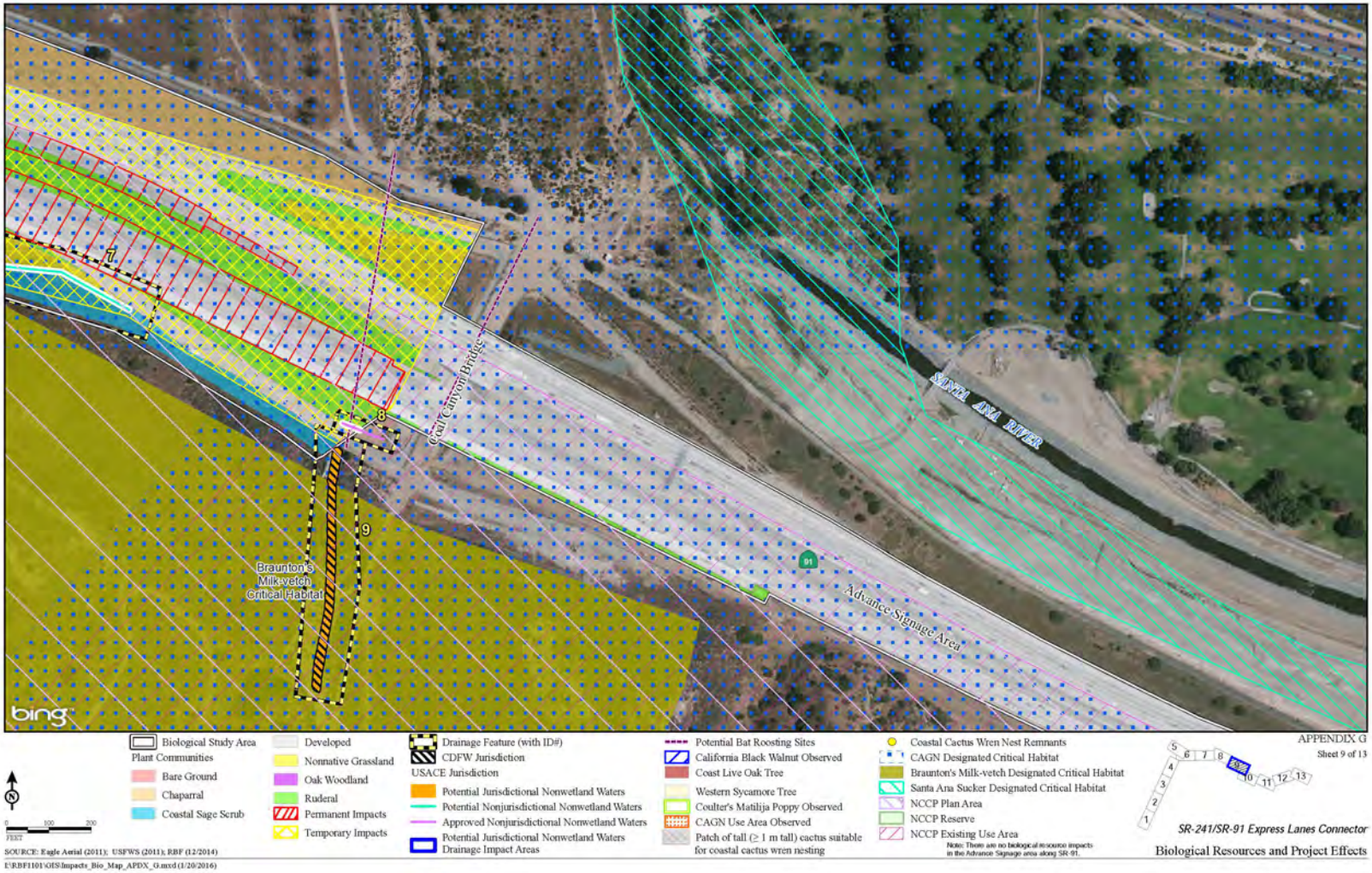


Figure 9. SR-241/SR-91 Express Lanes Connector (Source: Caltrans. 2016. SR-241/SR-91 Express Lanes Connector Project Biological Assessment, Orange and Riverside Counties, California.)

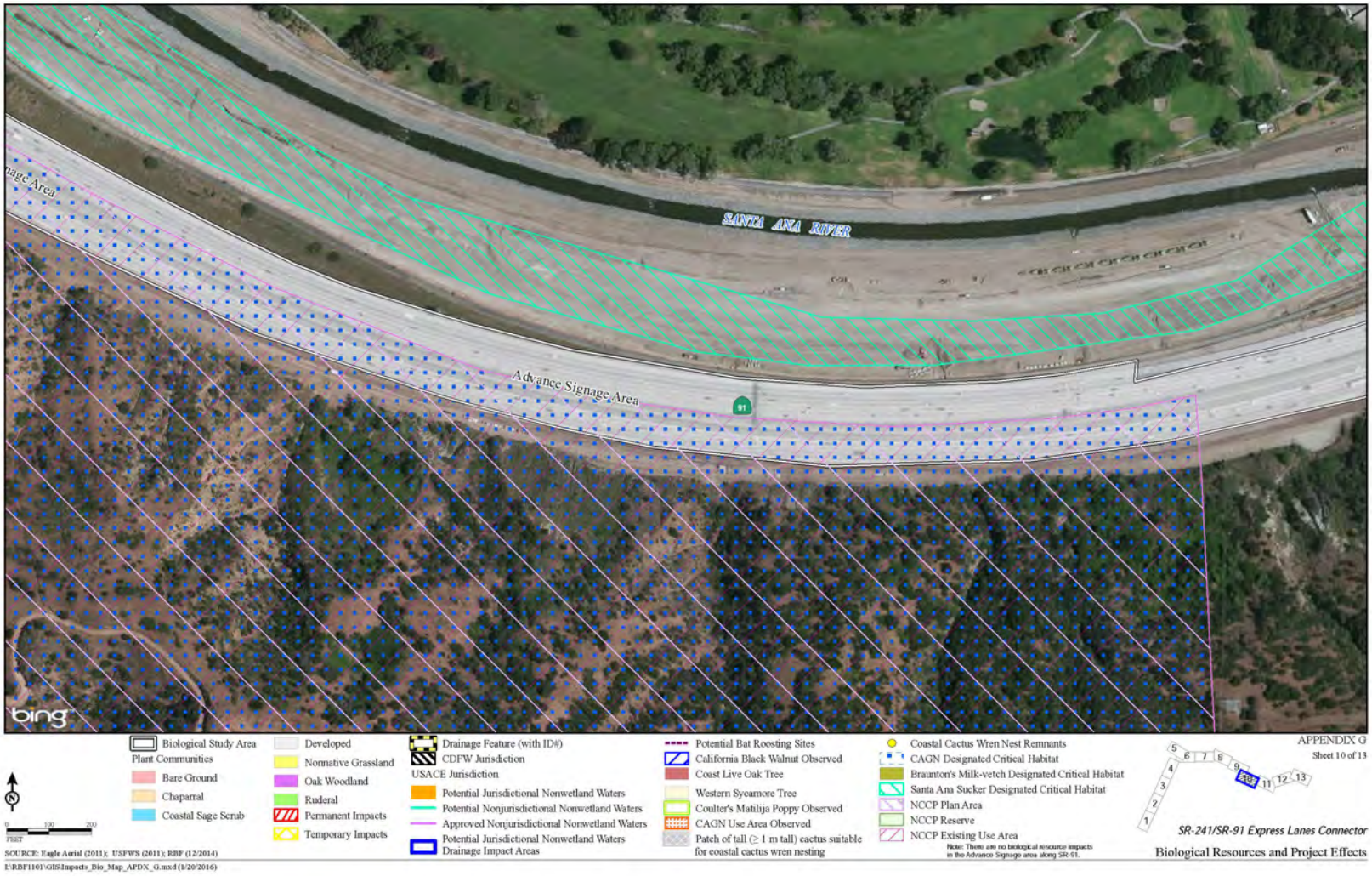


Figure 10. SR-241/SR-91 Express Lanes Connector (Source: Caltrans. 2016. SR-241/SR-91 Express Lanes Connector Project Biological Assessment, Orange and Riverside Counties, California.)

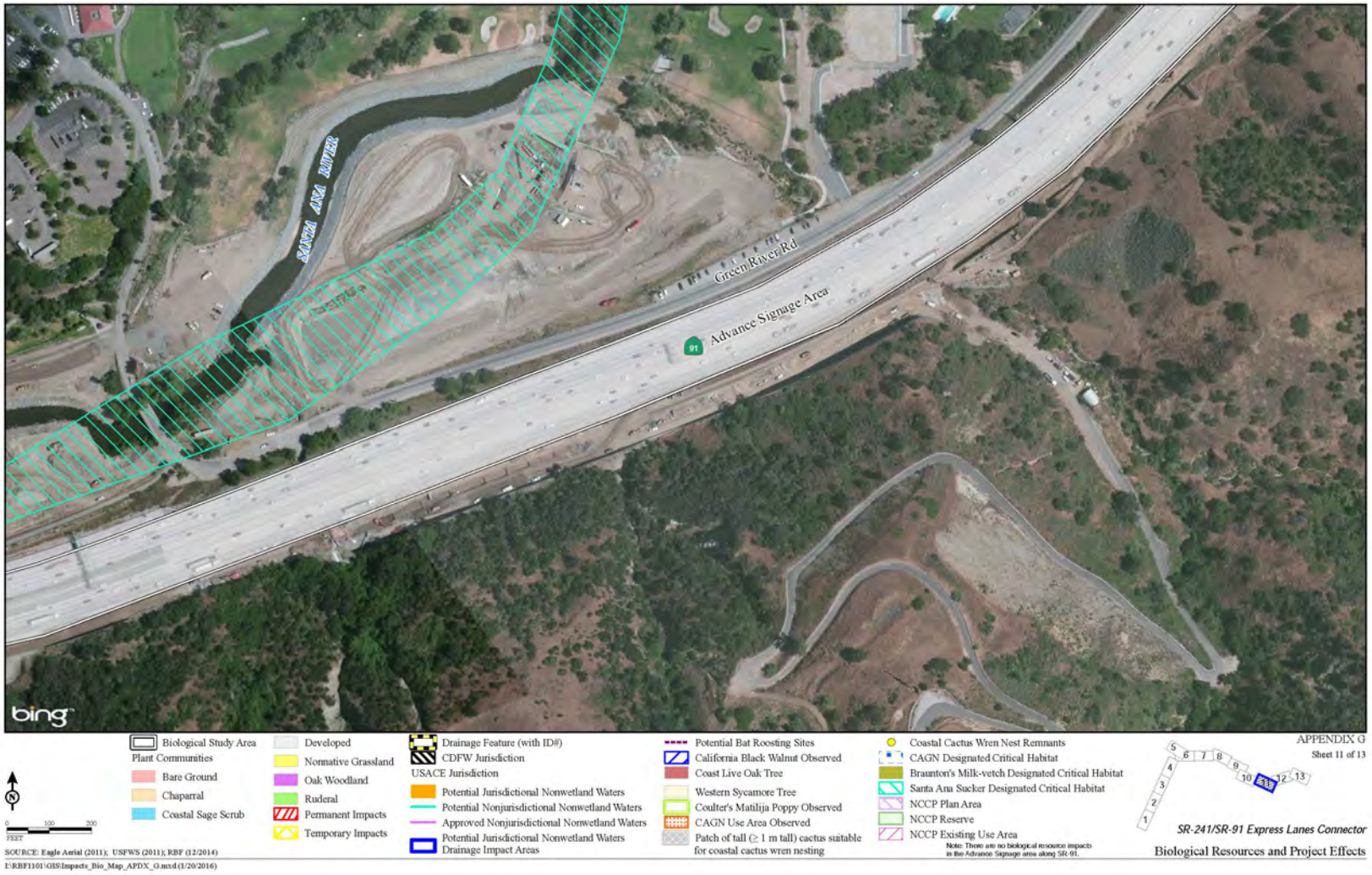


Figure 11. SR-241/SR-91 Express Lanes Connector (Source: Caltrans. 2016. SR-241/SR-91 Express Lanes Connector Project Biological Assessment, Orange and Riverside Counties, California.)



Figure 12. SR-241/SR-91 Express Lanes Connector (Source: Caltrans. 2016. SR-241/SR-91 Express Lanes Connector Project Biological Assessment, Orange and Riverside Counties, California.)



Figure 13. SR-241/SR-91 Express Lanes Connector (Source: Caltrans. 2016. SR-241/SR-91 Express Lanes Connector Project Biological Assessment, Orange and Riverside Counties, California.)

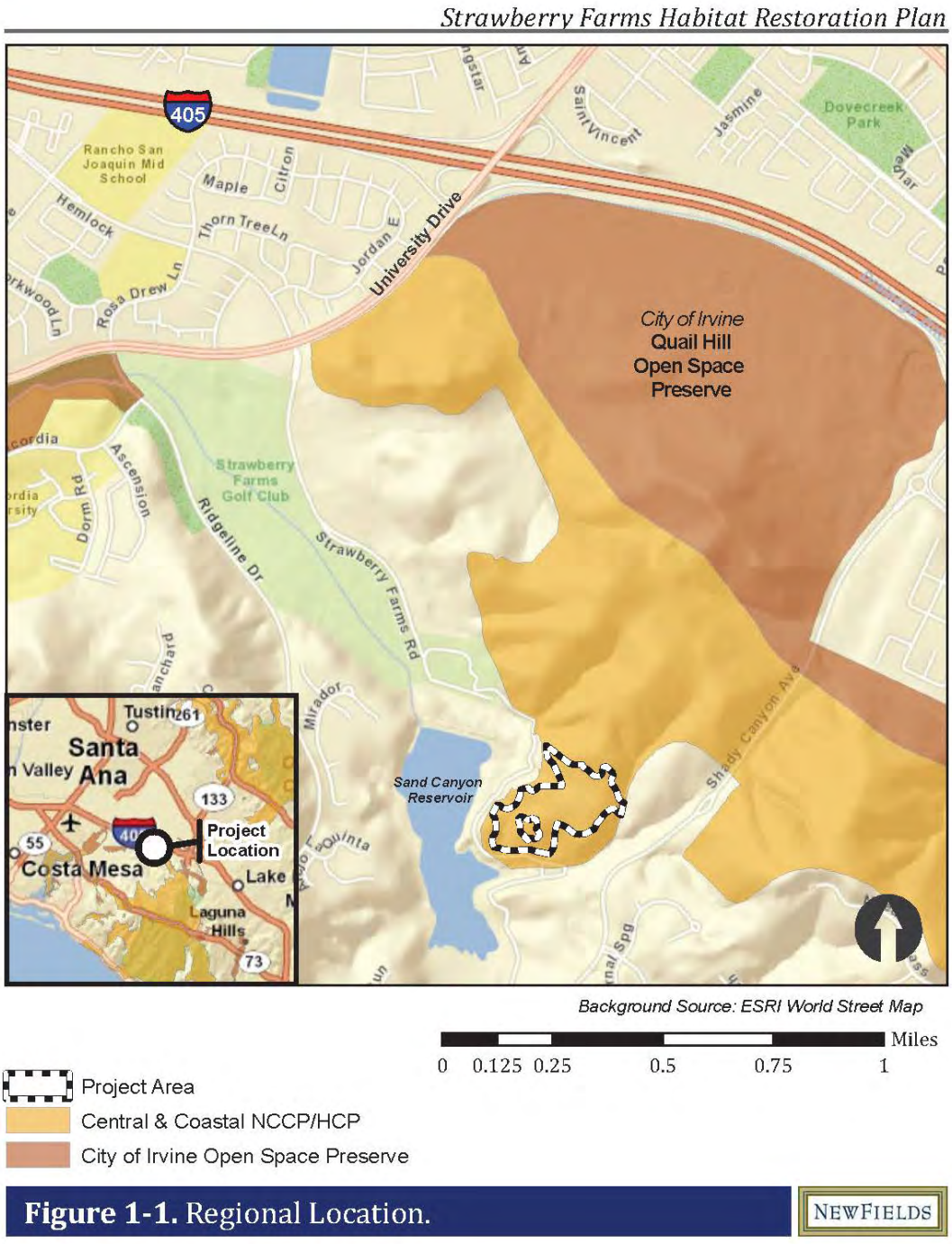


Figure 14. Strawberry Farms Restoration (Source: NewFields. 2011. Habitat Restoration Plan for the Strawberry Farms 15-Acre Parcel. 65 pp + Appendices.)

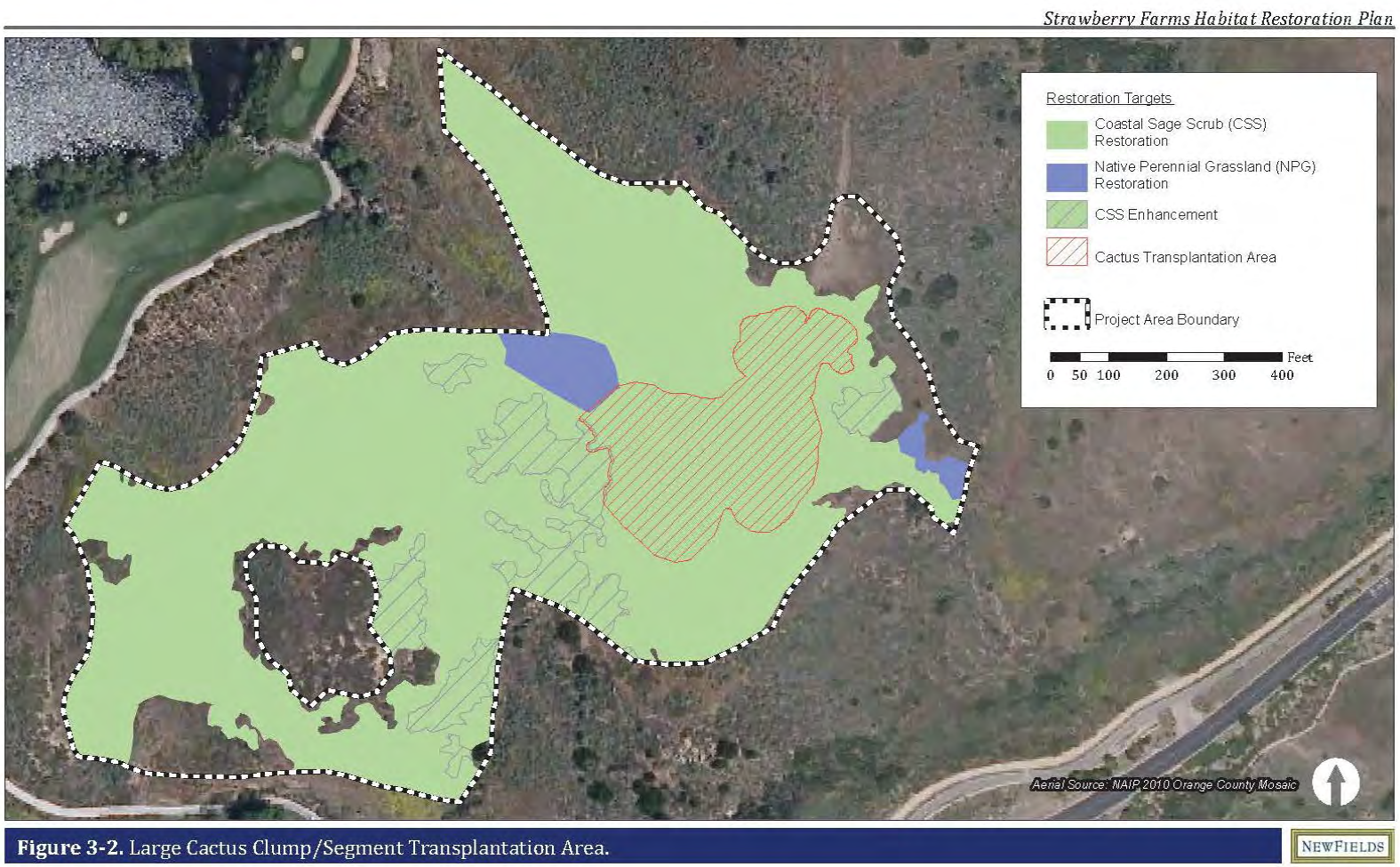


Figure 15. Strawberry Farms Restoration (Source: NewFields. 2011. Habitat Restoration Plan for the Strawberry Farms 15-Acre Parcel. 65 pp + Appendices.)



Figure 16. Saddle Club Mitigation Site (Source: Williams 2019, pers. comm.)

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Appendix L USACE Approved Jurisdictional Determination

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DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
915 WILSHIRE BOULEVARD, SUITE 930
LOS ANGELES, CALIFORNIA 90017

July 14, 2017

Valarie McFall
Chief Environmental Planning Officer
Transportation Corridor Agencies
125 Pacifica, Suite 100
Irvine, California 92618

SUBJECT: Approved Jurisdictional Determination regarding geographic jurisdiction

Dear Ms. McFall:

I am responding to your request (File No. SPL-2015-00304) dated January 31, 2017, for an approved Department of the Army jurisdictional determination (JD) for the State Route 241 / State Route 91 Express Lanes Connector Project, located in the city of Anaheim, Orange County, California (33.871622, -117.666477).

The Corps' evaluation process for determining whether or not a Department of the Army permit is needed involves two tests. If both tests are met, a permit would likely be required. The first test determines whether or not the proposed project is located within the Corps' geographic jurisdiction (i.e., it is within a water of the United States). The second test determines whether or not the proposed project is a regulated activity under Section 10 of the Rivers and Harbors Act or Section 404 of the Clean Water Act. This evaluation pertains only to geographic jurisdiction.

Based on available information, I have determined that there are waters of the United States on the project site, as well as non-jurisdictional aquatic resources, in the locations depicted on the enclosed drawing. The basis for our determination can be found in the enclosed Approved Jurisdictional Determination (JD) form(s).

This letter includes an approved jurisdictional determination for the State Route 241 / State Route 91 Express Lanes Connector Project project site. If you wish to submit new information regarding this jurisdictional determination, please do so within 60 days. We will consider any new information so submitted and respond within 60 days by either revising the prior determination, if appropriate, or reissuing the prior determination. If you object to this or any revised or reissued jurisdictional determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you wish to appeal this decision, you must submit a completed RFA form within 60 days of the date on the NAP to the Corps South Pacific Division Office at the following address:

Tom Cavanaugh

Administrative Appeal Review Officer
U.S. Army Corps of Engineers
South Pacific Division, CESPD-PDS-O, 2042B
1455 Market Street
San Francisco, California 94103-1399

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5 (see below), and that it has been received by the Division Office by **September 12, 2017**.

This determination has been conducted to identify the extent of the Corps' Clean Water Act jurisdiction on the particular project site identified in your request, and is valid for five years from the date of this letter, unless new information warrants revision of the determination before the expiration date. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

Thank you for participating in the regulatory program. If you have any questions, please contact Eric Sweeney at (213) 452-3002 or via e-mail at Eric.R.Sweeney@usace.army.mil. Please help me to evaluate and improve the regulatory experience for others by completing the customer survey form at http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey.

Sincerely,

Gerardo Salas
Senior Project Manager
Orange and Riverside Counties Section
South Coast Branch
Regulatory Division

Enclosures

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Valarie McFall, TCA	File No.: SPL-2015-00304	Date: July 14, 2017

Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at *http://www.usace.army.mil/cecw/pages/reg_materials.aspx* or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer (address on reverse). This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer (address on reverse). This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.

- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer (address on reverse). This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Eric Sweeney, Project Manager
Regulatory Division, Los Angeles District
U.S. Army Corps of Engineers
915 Wilshire Boulevard, Suite 930
Los Angeles, California 90017-3401
U.S. Army Corps of Engineers

Phone: (213) 452-3002, FAX 916-557-7803
Email: Eric.R.Sweeney@usace.army.mil

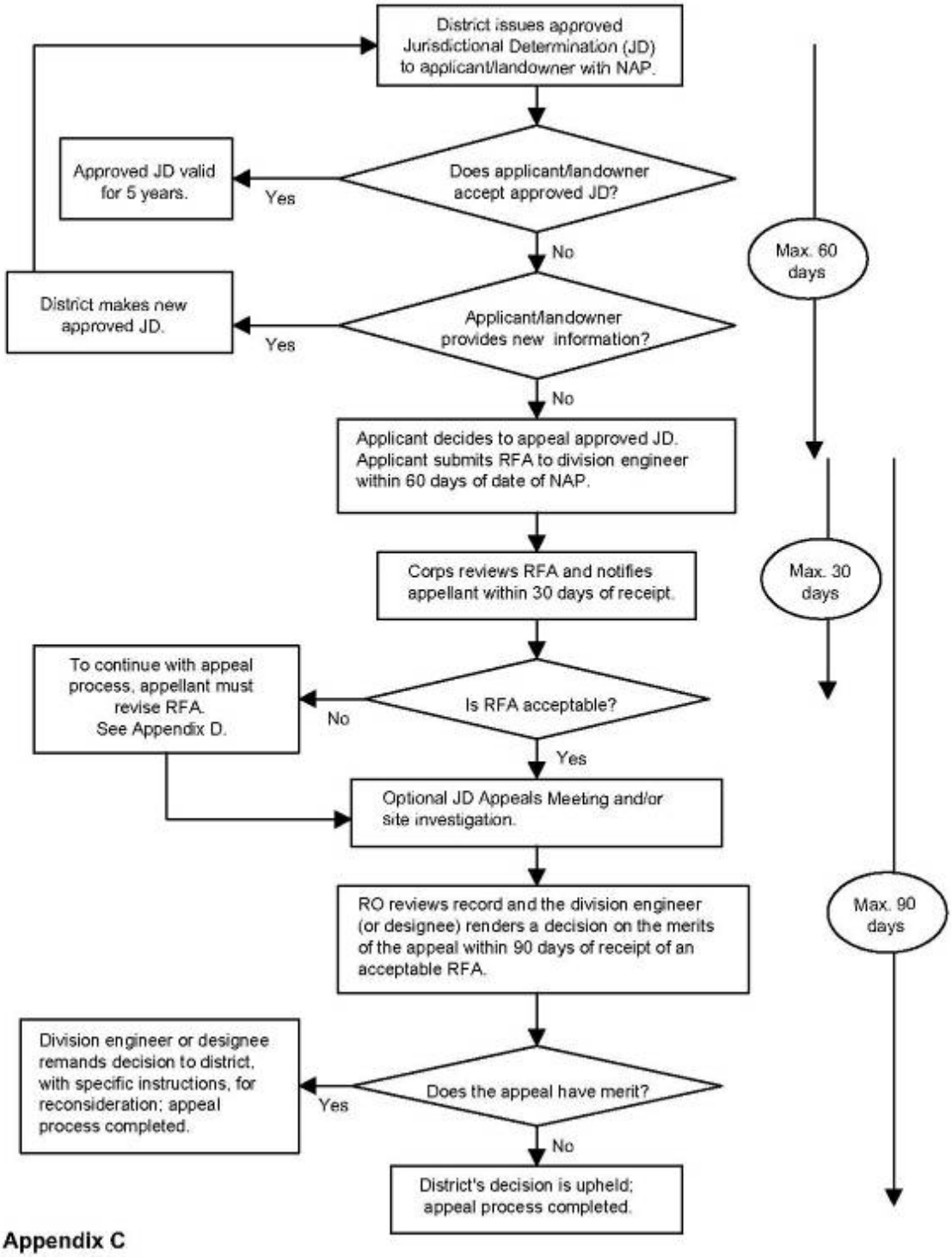
If you only have questions regarding the appeal process you may also contact:

Thomas J. Cavanaugh
Administrative Appeal Review Officer
U.S. Army Corps of Engineers
South Pacific Division
1455 Market Street, 2052B
San Francisco, California 94103-1399
Phone: 415-503-6574, FAX 415-503-6646)
Email: Thomas.J.Cavanaugh@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

	Date:	Telephone number:
_____ Signature of appellant or agent.		

Administrative Appeal Process for Approved Jurisdictional Determinations



Appendix C

§ 331.5 Criteria.

(a) *Criteria for appeal* —(1) *Submission of RFA.* The appellant must submit a completed RFA (as defined at §331.2) to the appropriate division office in order to appeal an approved JD, a permit denial, or a declined permit. An individual permit that has been signed by the applicant, and subsequently unilaterally modified by the district engineer pursuant to 33 CFR 325.7, may be appealed under this process, provided that the applicant has not started work in waters of the United States authorized by the permit. The RFA must be received by the division engineer within 60 days of the date of the NAP.

(2) *Reasons for appeal.* The reason(s) for requesting an appeal of an approved JD, a permit denial, or a declined permit must be specifically stated in the RFA and must be more than a simple request for appeal because the affected party did not like the approved JD, permit decision, or the permit conditions. Examples of reasons for appeals include, but are not limited to, the following: A procedural error; an incorrect application of law, regulation or officially promulgated policy; omission of material fact; incorrect application of the current regulatory criteria and associated guidance for identifying and delineating wetlands; incorrect application of the Section 404(b)(1) Guidelines (see 40 CFR Part 230); or use of incorrect data. The reasons for appealing a permit denial or a declined permit may include jurisdiction issues, whether or not a previous approved JD was appealed.

(b) *Actions not appealable.* An action or decision is not subject to an administrative appeal under this part if it falls into one or more of the following categories:

(1) An individual permit decision (including a letter of permission or a standard permit with special conditions), where the permit has been accepted and signed by the permittee. By signing the permit, the applicant waives all rights to appeal the terms and conditions of the permit, unless the authorized work has not started in waters of the United States and that issued permit is subsequently modified by the district engineer pursuant to 33 CFR 325.7;

(2) Any site-specific matter that has been the subject of a final decision of the Federal courts;

(3) A final Corps decision that has resulted from additional analysis and evaluation, as directed by a final appeal decision;

(4) A permit denial without prejudice or a declined permit, where the controlling factor cannot be changed by the Corps decision maker (e.g., the requirements of a binding statute, regulation, state Section 401 water quality certification, state coastal zone management disapproval, etc. (See 33 CFR 320.4(j));

(5) A permit denial case where the applicant has subsequently modified the proposed project, because this would constitute an amended application that would require a new public interest review, rather than an appeal of the existing record and decision;

(6) Any request for the appeal of an approved JD, a denied permit, or a declined permit where the RFA has not been received by the division engineer within 60 days of the date of the NAP;

(7) A previously approved JD that has been superceded by another approved JD based on new information or data submitted by the applicant. The new approved JD is an appealable action;

(8) An approved JD associated with an individual permit where the permit has been accepted and signed by the permittee;

(9) A preliminary JD; or

(10) A JD associated with unauthorized activities except as provided in §331.11.

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): July 14, 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Los Angeles District, SPL-2015-00304

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: California
County/parish/borough: Orange County
City: Anaheim
Center coordinates of site (lat/long in degree decimal format): Lat. 33.871622, Long. -117.666477
Universal Transverse Mercator: N/A
Name of nearest waterbody: Unnamed tributaries to the Santa Ana River
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Santa Ana River
Name of watershed or Hydrologic Unit Code (HUC): Santa Ana River Watershed (HUC8 #18070203)
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: July 14, 2017
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There are "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There are "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☒ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: Five features in the review area (Features 3, 4, 5, 6, and 9) were identified be jurisdictional waters of the U.S. due to the presence of an Ordinary High Water Mark (OHWM) (Exhibit 1). Annotated photos showing OHWM indicators for all five of these features are provided as Exhibit 2.
      Wetlands: N/A

   c. **Limits (boundaries) of jurisdiction**: N/A
      Elevation of established OHWM (if known): N/A

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: Three features (Features 1, 2, and 7) identified in the review area are ditches excavated in uplands and therefore were

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

determined to be non-jurisdictional. Feature 1 was identified as an asphalt-lined swale, Feature 2 was identified as a riprap-lined basin with concrete v-ditches and erosion mills, and Feature 7 was identified as a concrete v-ditch. The delineation report entitled“SR-241/SR-91 Express Lanes Connector Project,” by Caltrans, dated May 2015, indicated that these features were created on dry land as part of the original permitted construction of SR-241.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW: N/A

Summarize rationale supporting determination: N/A

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent": N/A

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):

☐ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☐ Other. Explain: .		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):

☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	

☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:	☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List.**

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: N/A
   - ☐ Wetlands adjacent to TNWs: N/A

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☒ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: The delineation of the project area provided as Exhibit 6 indicates on page 31 that the review area within San Diego Creek "is perennial, containing water year-round."
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: 0.51 acre
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. Non-RPWs[8] that flow directly or indirectly into TNWs.
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.
☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: 0.66 acre.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.[9]
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

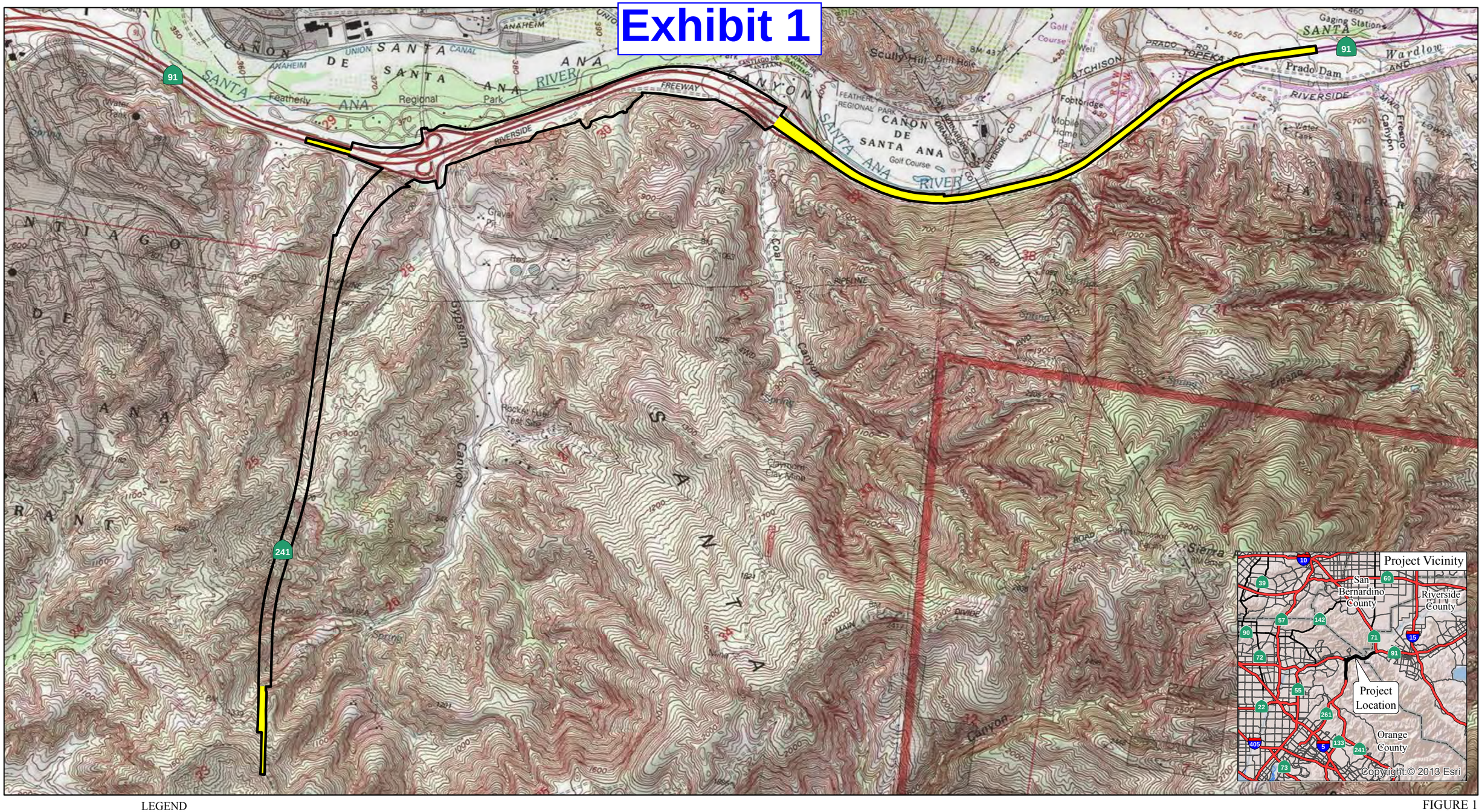
Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or submitted by or on behalf of the applicant/consultant: Maps showing the extent of jurisdictional and non-jurisdictional waters of the U.S. are shown in Exhibit 1. These maps were included in the delineation report entitled "SR-241/SR-91 Express Lanes Connector Project," by Caltrans, dated May 2015.
☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps:
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☐ U.S. Geological Survey map(s). Cite scale & quad name: .
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): The jurisdictional delineation map described above used aerial imagery obtained from Bing Maps in December 2014
or ☒ Other (Name & Date): Photos showing indicators of an OHWM for the five drainages determined to be jurisdictional are provided as Exhibit 2. These photos were obtained as part of a field visit by LSA Associates on May 25, 2017.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): N/A
☐ Other information (please specify): N/A

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

Exhibit 1



LEGEND

Project Location

Advance Signage Areas Only (FasTrak)

FIGURE 1

N

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SOURCE: USGS 7.5' Quad - Black Star Canyon (1988), CA

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SR-241/SR-91 Express Lanes Connector

Project Location



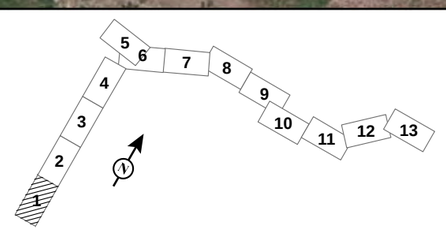
LEGEND

- Biological Study Area
- Proposed Roadway
- Proposed Bridge Structure
- Proposed Retaining Wall
- Proposed Grading Limits (Slope and Access Road)
- Advance Signage Areas
- Proposed Right-of-Way
- Existing Caltrans Right-of-Way
- Drainage Feature (with ID#)
- CDFW Jurisdiction

USACE Jurisdiction

- Potential Jurisdictional Nonwetland Waters
- Potential Nonjurisdictional Nonwetland Waters
- Approved Nonjurisdictional Nonwetland Waters

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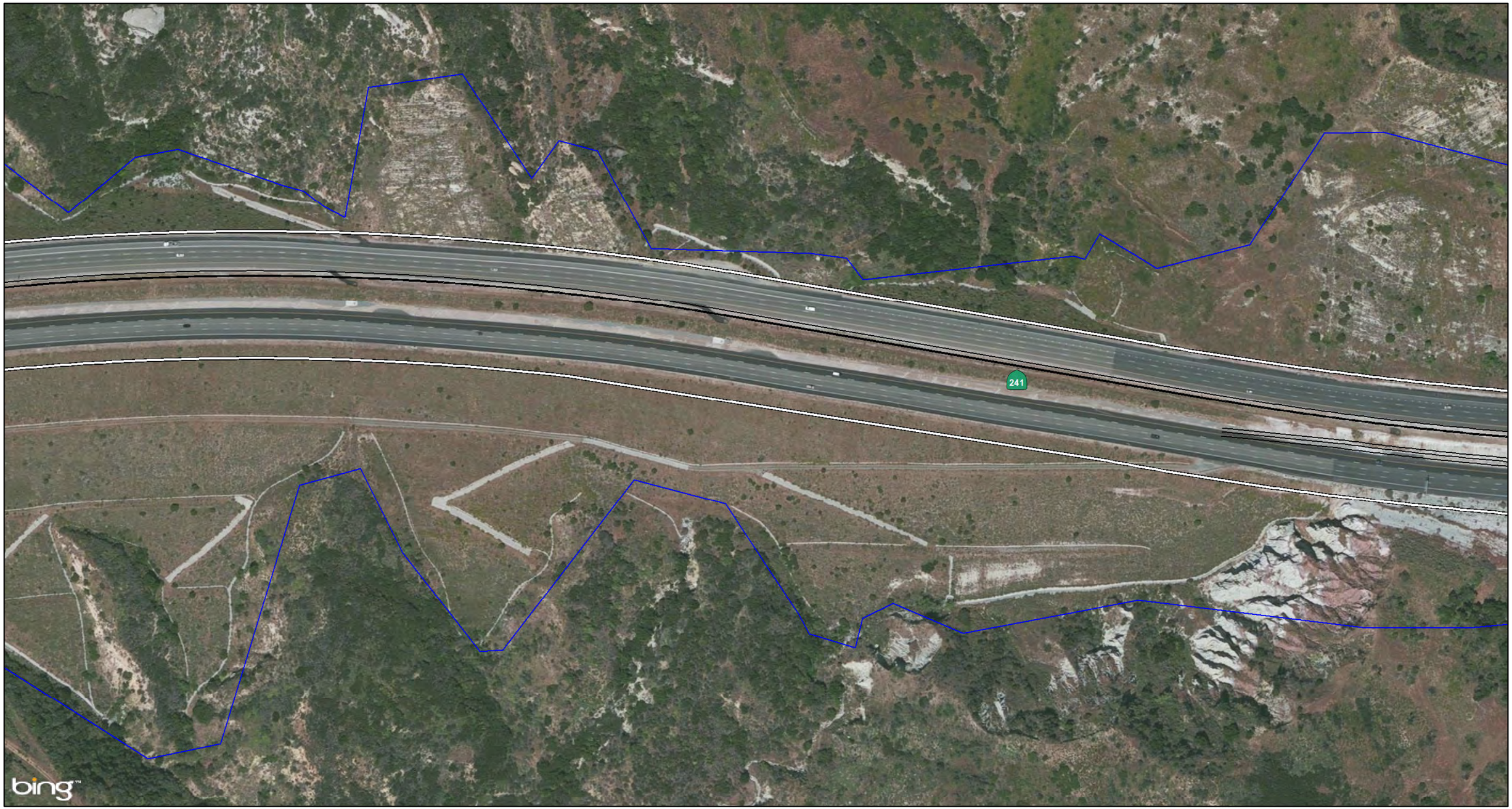
SOURCE: Bing Maps (2012); RBF (12/2014)

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FIGURE 2
Sheet 1 of 13

SR-241/SR-91 Express Lanes Connector

Location of Jurisdictional Waters



LEGEND

- Biological Study Area
- Proposed Roadway
- Proposed Bridge Structure
- Proposed Retaining Wall
- Proposed Grading Limits (Slope and Access Road)
- Advance Signage Areas
- Proposed Right-of-Way
- Existing Caltrans Right-of-Way
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USACE Jurisdiction

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SOURCE: Bing Maps (2012); RBF (12/2014)

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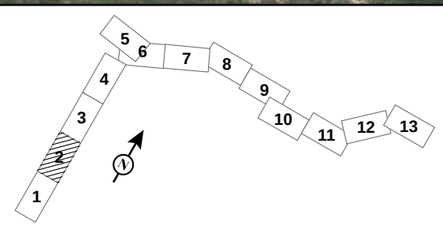


FIGURE 2
Sheet 2 of 13

SR-241/SR-91 Express Lanes Connector
Location of Jurisdictional Waters



LEGEND

- Biological Study Area
- Proposed Roadway
- Proposed Bridge Structure
- Proposed Retaining Wall
- Proposed Grading Limits (Slope and Access Road)
- Advance Signage Areas
- Proposed Right-of-Way
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- CDFW Jurisdiction

USACE Jurisdiction

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SOURCE: Bing Maps (2012); RBF (12/2014)

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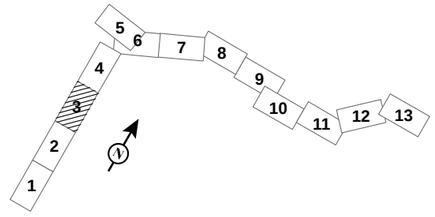
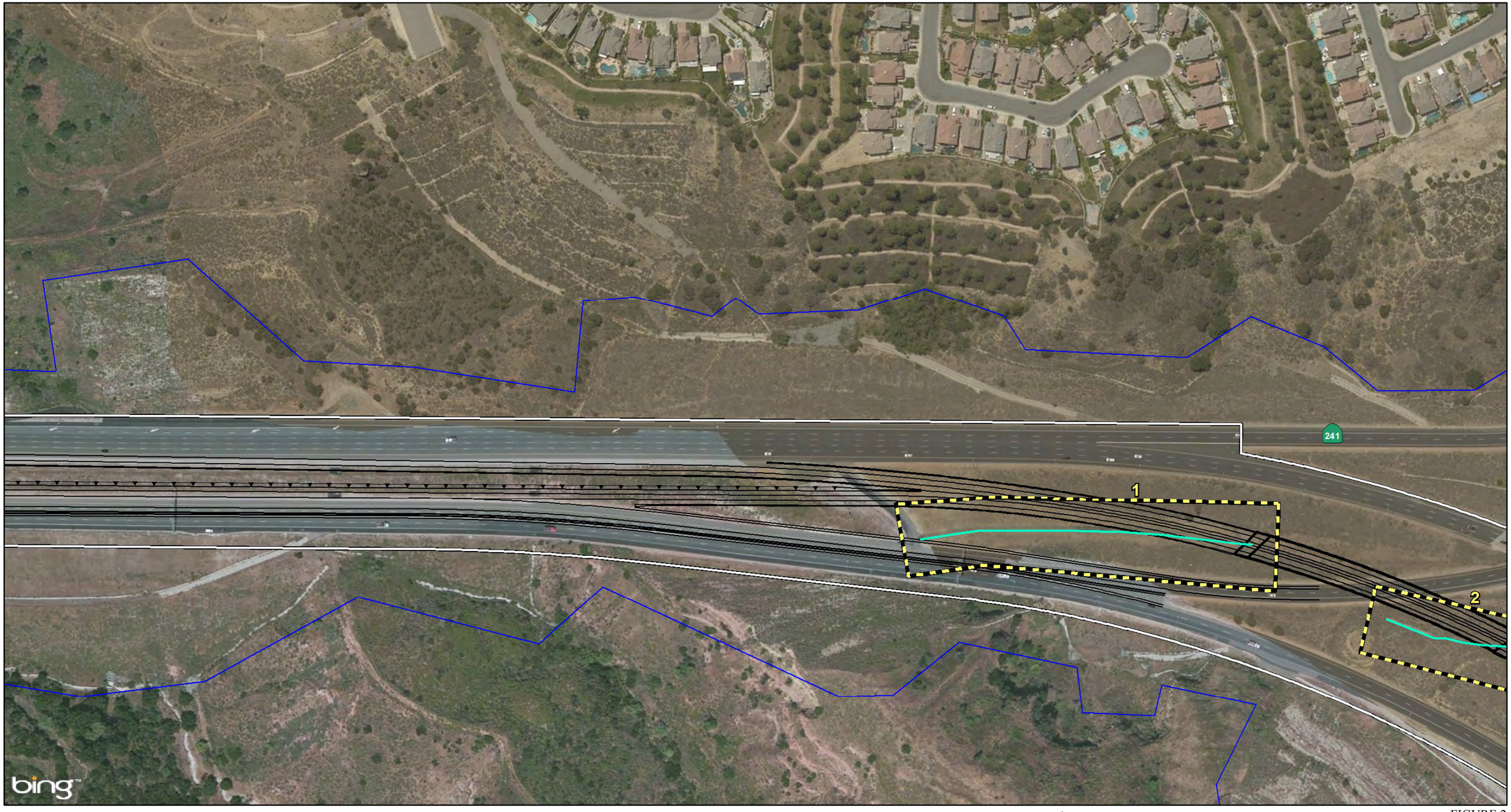


FIGURE 2
Sheet 3 of 13

SR-241/SR-91 Express Lanes Connector

Location of Jurisdictional Waters



LEGEND

- Biological Study Area
- Proposed Roadway
- Proposed Bridge Structure
- Proposed Retaining Wall
- Proposed Grading Limits (Slope and Access Road)
- Advance Signage Areas
- Proposed Right-of-Way
- Existing Caltrans Right-of-Way
- Drainage Feature (with ID#)
- CDFW Jurisdiction

USACE Jurisdiction

- Potential Jurisdictional Nonwetland Waters
- Potential Nonjurisdictional Nonwetland Waters
- Approved Nonjurisdictional Nonwetland Waters

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SOURCE: Bing Maps (2012); RBF (12/2014)

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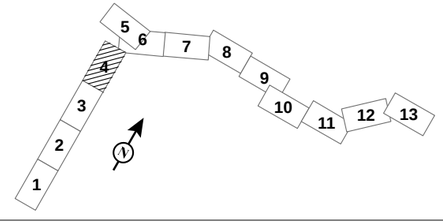


FIGURE 2
Sheet 4 of 13

SR-241/SR-91 Express Lanes Connector

Location of Jurisdictional Waters



LEGEND

- Biological Study Area
- Proposed Roadway
- Proposed Bridge Structure
- Proposed Retaining Wall
- Proposed Grading Limits (Slope and Access Road)
- Advance Signage Areas
- Proposed Right-of-Way
- Existing Caltrans Right-of-Way
- Drainage Feature (with ID#)
- CDFW Jurisdiction

USACE Jurisdiction

- Potential Jurisdictional Nonwetland Waters
- Potential Nonjurisdictional Nonwetland Waters
- Approved Nonjurisdictional Nonwetland Waters

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SOURCE: Bing Maps (2012); RBF (12/2014)

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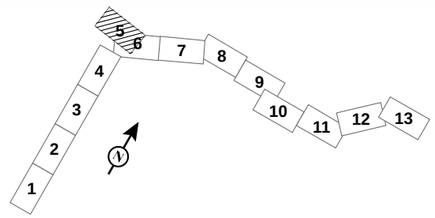
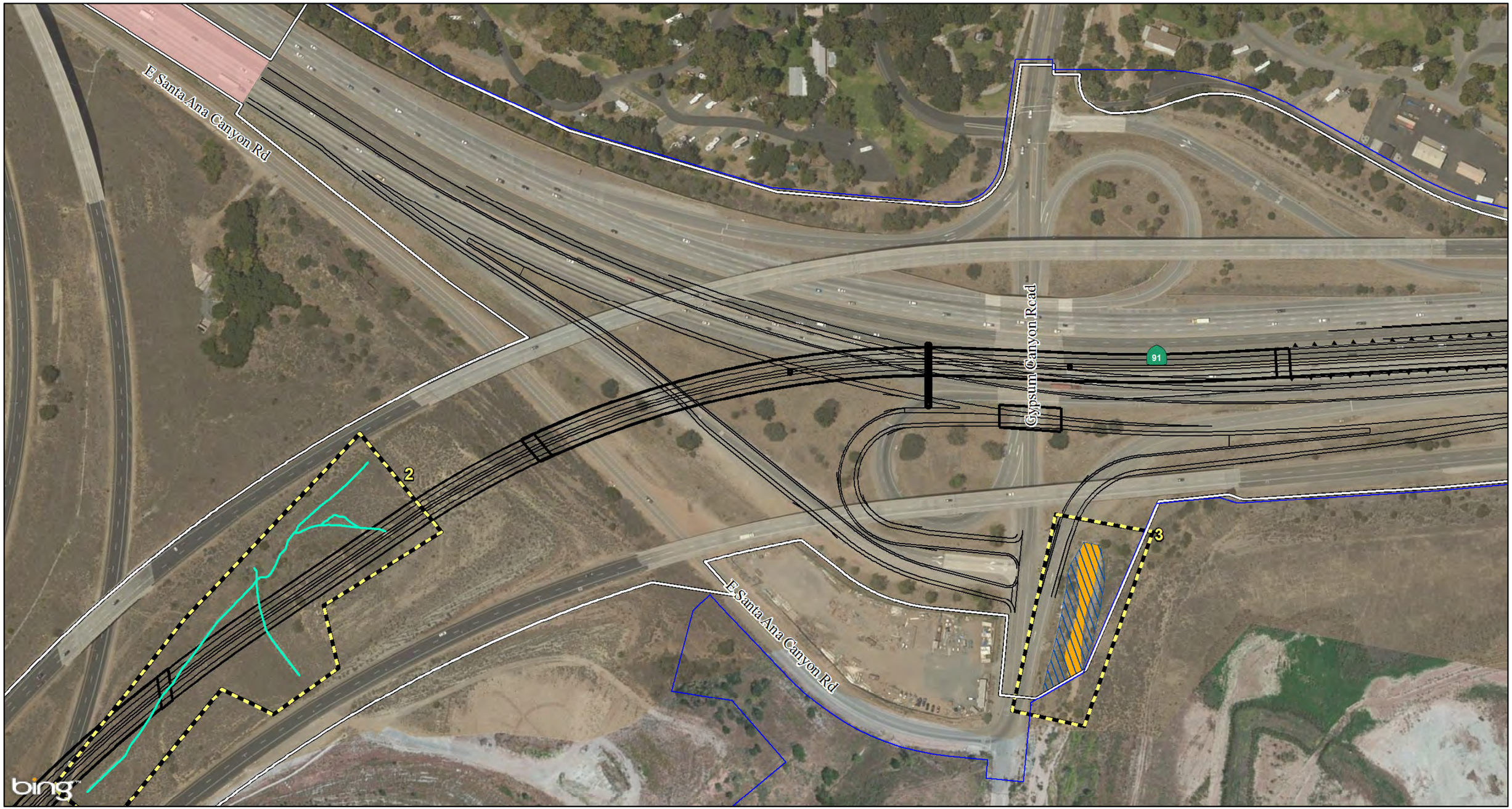


FIGURE 2
Sheet 5 of 13

SR-241/SR-91 Express Lanes Connector
Location of Jurisdictional Waters



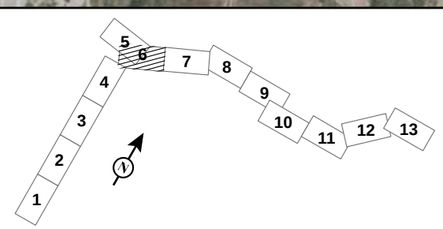
LEGEND

- Biological Study Area
- Proposed Roadway
- Proposed Bridge Structure
- Proposed Retaining Wall
- Proposed Grading Limits (Slope and Access Road)
- Advance Signage Areas
- Proposed Right-of-Way
- Existing Caltrans Right-of-Way
- Drainage Feature (with ID#)
- CDFW Jurisdiction

USACE Jurisdiction

- Potential Jurisdictional Nonwetland Waters
- Potential Nonjurisdictional Nonwetland Waters
- Approved Nonjurisdictional Nonwetland Waters

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SOURCE: Bing Maps (2012); RBF (12/2014)

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FIGURE 2
Sheet 6 of 13

SR-241/SR-91 Express Lanes Connector

Location of Jurisdictional Waters



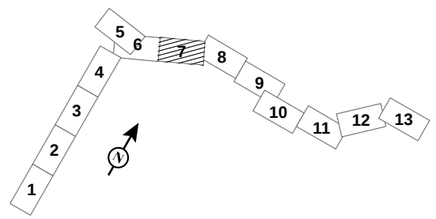
LEGEND

- Biological Study Area
- Proposed Roadway
- Proposed Bridge Structure
- Proposed Retaining Wall
- Proposed Grading Limits (Slope and Access Road)
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- CDFW Jurisdiction

USACE Jurisdiction

- Potential Jurisdictional Nonwetland Waters
- Potential Nonjurisdictional Nonwetland Waters
- Approved Nonjurisdictional Nonwetland Waters

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SOURCE: Bing Maps (2012); RBF (12/2014)

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FIGURE 2
Sheet 7 of 13

SR-241/SR-91 Express Lanes Connector

Location of Jurisdictional Waters



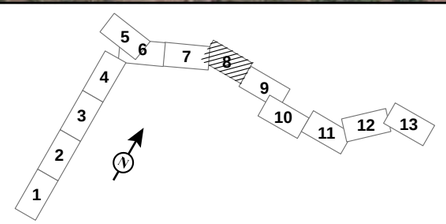
LEGEND

- Biological Study Area
- Proposed Roadway
- Proposed Bridge Structure
- Proposed Retaining Wall
- Proposed Grading Limits (Slope and Access Road)
- Advance Signage Areas
- Proposed Right-of-Way
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- CDFW Jurisdiction

USACE Jurisdiction

- Potential Jurisdictional Nonwetland Waters
- Potential Nonjurisdictional Nonwetland Waters
- Approved Nonjurisdictional Nonwetland Waters

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SOURCE: Bing Maps (2012); RBF (12/2014)

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FIGURE 2
Sheet 8 of 13

SR-241/SR-91 Express Lanes Connector

Location of Jurisdictional Waters



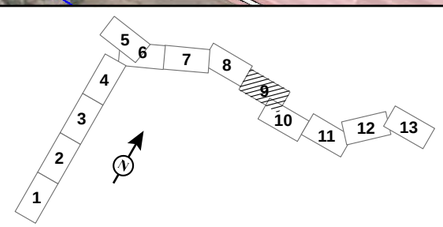
LEGEND

- Biological Study Area
- Proposed Roadway
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- Proposed Grading Limits (Slope and Access Road)
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USACE Jurisdiction

- Potential Jurisdictional Nonwetland Waters
- Potential Nonjurisdictional Nonwetland Waters
- Approved Nonjurisdictional Nonwetland Waters

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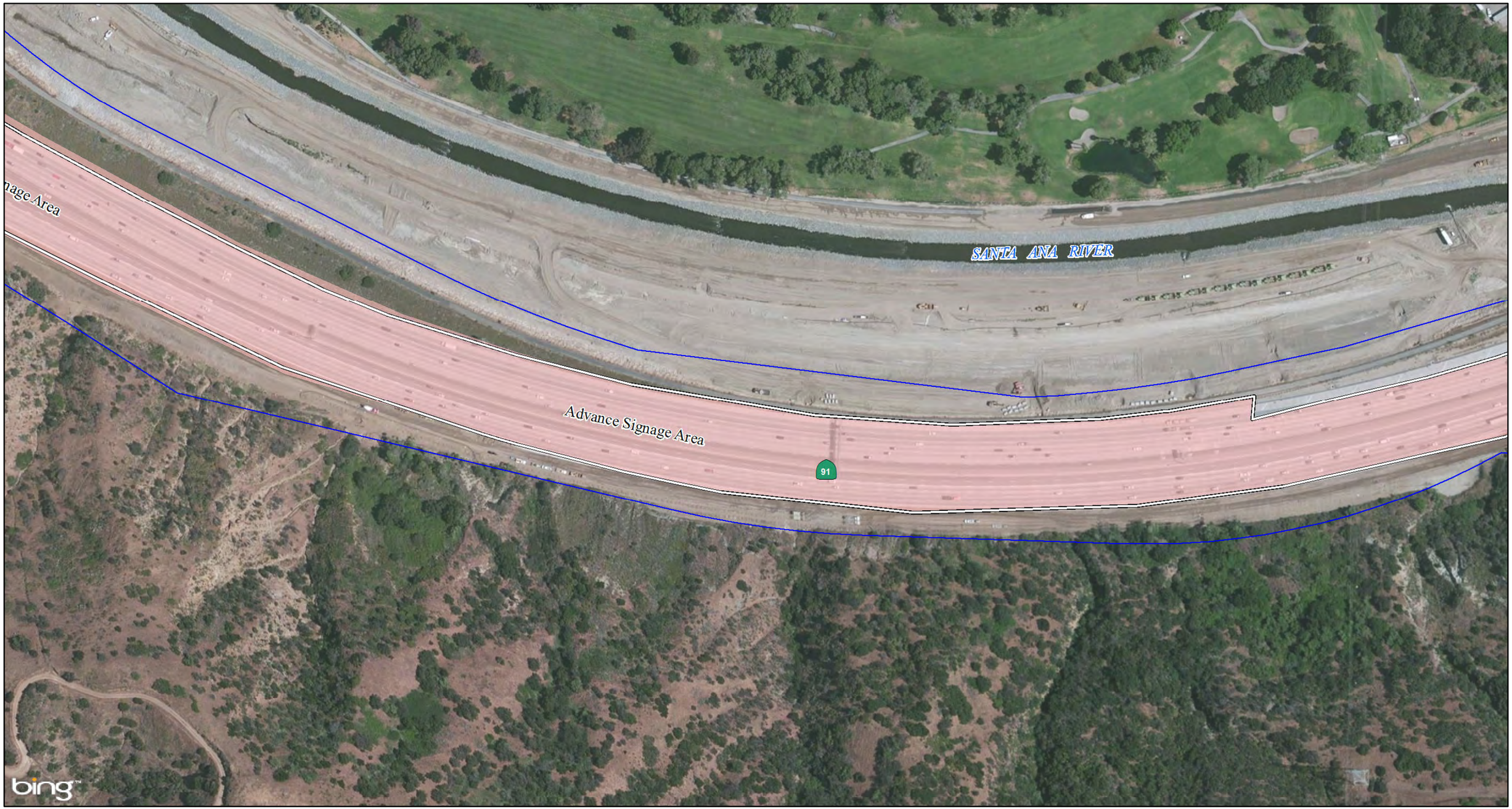
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FIGURE 2
Sheet 9 of 13

SR-241/SR-91 Express Lanes Connector

Location of Jurisdictional Waters



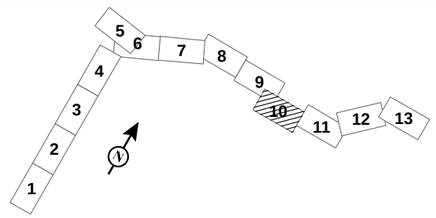
LEGEND

- Biological Study Area
- Proposed Roadway
- Proposed Bridge Structure
- Proposed Retaining Wall
- Proposed Grading Limits (Slope and Access Road)
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- CDFW Jurisdiction

USACE Jurisdiction

- Potential Jurisdictional Nonwetland Waters
- Potential Nonjurisdictional Nonwetland Waters
- Approved Nonjurisdictional Nonwetland Waters

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SOURCE: Bing Maps (2012); RBF (12/2014)

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FIGURE 2
Sheet 10 of 13

SR-241/SR-91 Express Lanes Connector

Location of Jurisdictional Waters



LEGEND

- Biological Study Area
- Proposed Roadway
- Proposed Bridge Structure
- Proposed Retaining Wall
- Proposed Grading Limits (Slope and Access Road)
- Advance Signage Areas
- Proposed Right-of-Way
- Existing Caltrans Right-of-Way
- Drainage Feature (with ID#)
- CDFW Jurisdiction

USACE Jurisdiction

- Potential Jurisdictional Nonwetland Waters
- Potential Nonjurisdictional Nonwetland Waters
- Approved Nonjurisdictional Nonwetland Waters

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SOURCE: Bing Maps (2012); RBF (12/2014)

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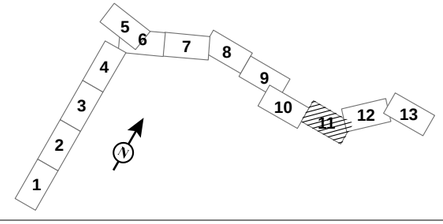


FIGURE 2
Sheet 11 of 13

SR-241/SR-91 Express Lanes Connector
Location of Jurisdictional Waters



LEGEND

- Biological Study Area
- Proposed Roadway
- Proposed Bridge Structure
- Proposed Retaining Wall
- Proposed Grading Limits (Slope and Access Road)
- Advance Signage Areas
- Proposed Right-of-Way
- Existing Caltrans Right-of-Way
- Drainage Feature (with ID#)
- CDFW Jurisdiction

USACE Jurisdiction

- Potential Jurisdictional Nonwetland Waters
- Potential Nonjurisdictional Nonwetland Waters
- Approved Nonjurisdictional Nonwetland Waters

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SOURCE: Bing Maps (2012); RBF (12/2014)

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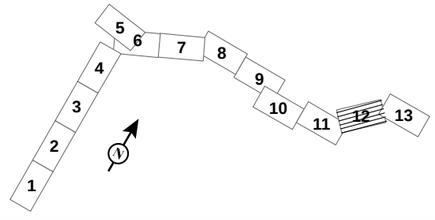


FIGURE 2
Sheet 12 of 13

SR-241/SR-91 Express Lanes Connector

Location of Jurisdictional Waters



LEGEND

- Biological Study Area
- Proposed Roadway
- Proposed Bridge Structure
- Proposed Retaining Wall
- Proposed Grading Limits (Slope and Access Road)
- Advance Signage Areas
- Proposed Right-of-Way
- Existing Caltrans Right-of-Way
- Drainage Feature (with ID#)
- CDFW Jurisdiction

USACE Jurisdiction

- Potential Jurisdictional Nonwetland Waters
- Potential Nonjurisdictional Nonwetland Waters
- Approved Nonjurisdictional Nonwetland Waters

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FEET

SOURCE: Bing Maps (2012); RBF (12/2014)

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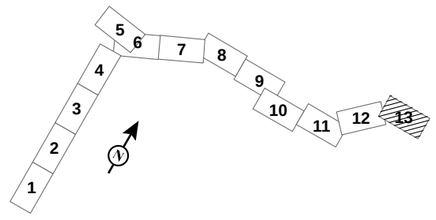


FIGURE 2
Sheet 13 of 13

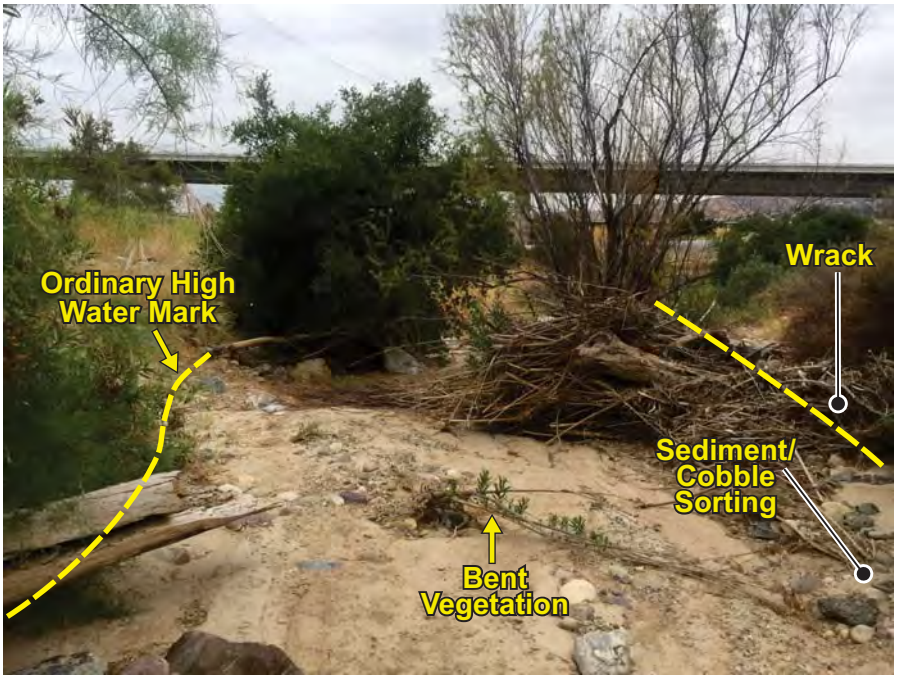
SR-241/SR-91 Express Lanes Connector

Location of Jurisdictional Waters

Exhibit 2



Feature 3 outlet culvert, as seen from photo point 1, facing north (May 25, 2017).



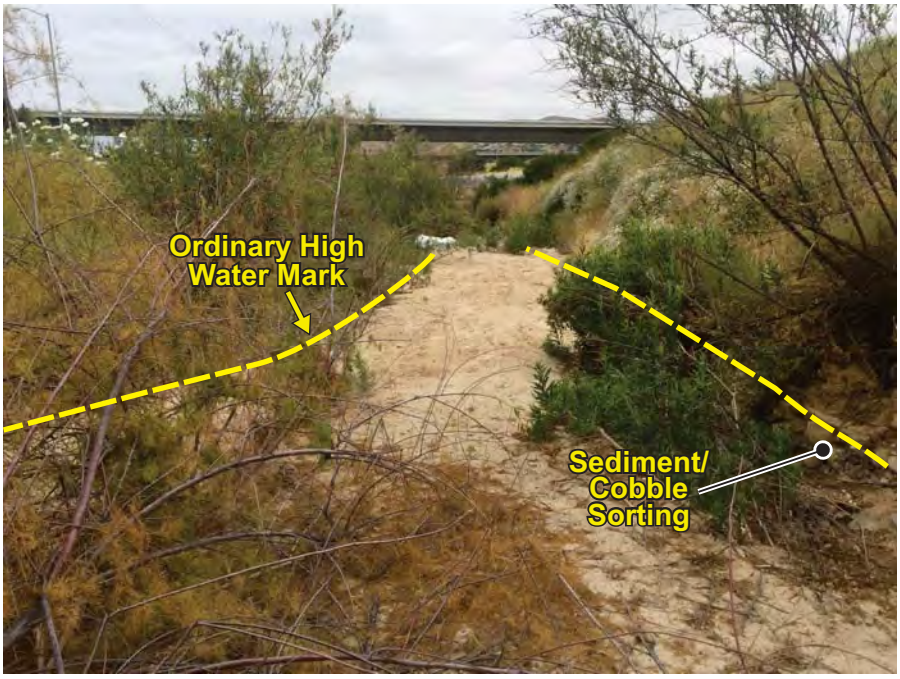
Feature 3, as seen from photo point 3, facing north (May 25, 2017). Wracking, sediment sorting, bent vegetation, and a lack of vegetation characterize the ordinary high water mark.

LSA

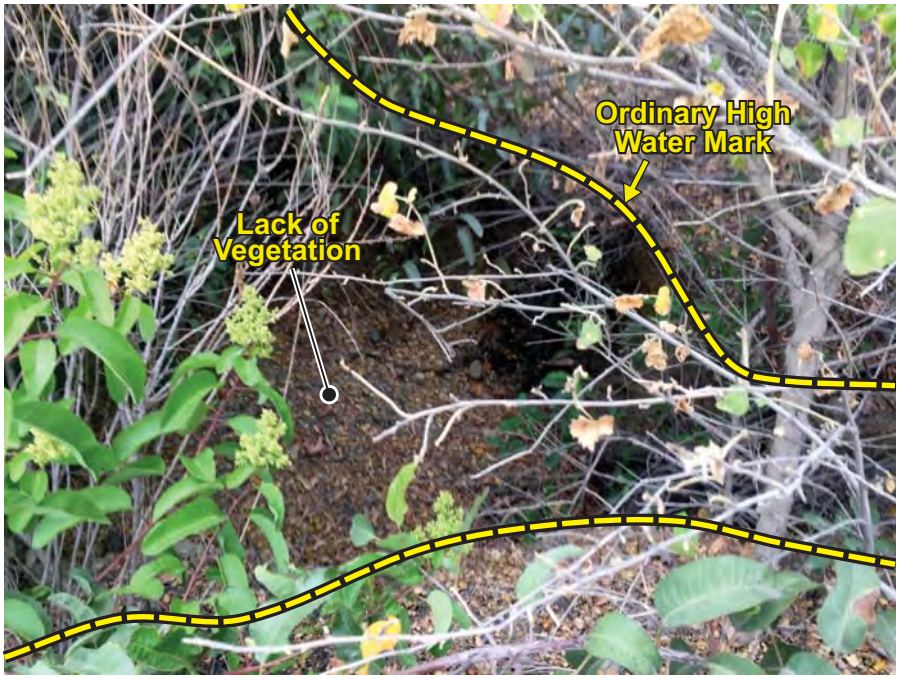
FIGURE 1a
(Page 1 of 6)

SR-241/SR-91 Express Lanes Connector
Site Photographs

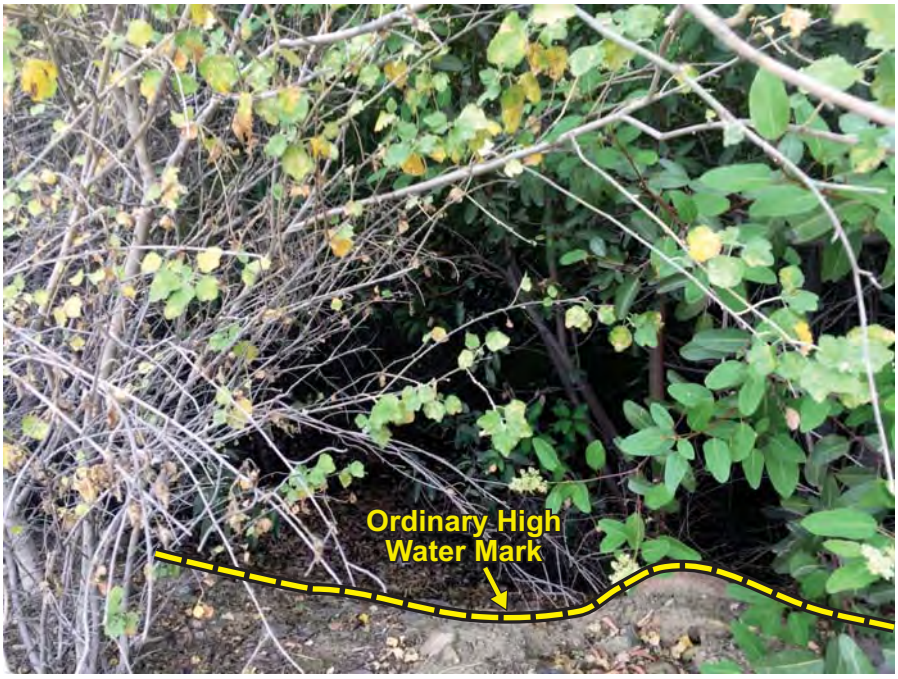
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Feature 3, as seen from photo point 2, facing north (May 25, 2017). Sediment sorting and a lack of vegetation characterize the ordinary high water mark.



Feature 4, as seen from photo point 4, facing east (May 25, 2017). Obscured by vegetation, the ordinary high water mark is characterized by a clear bed and bank.



Feature 4, as seen from photo point 5, facing east (May 25, 2017). A bed and bank and outline of ordinary high water mark are shown.



Feature 4 outlet culvert, as seen from photo point 11, facing northeast (May 25, 2017). An outlined ordinary high water mark is shown.

LSA

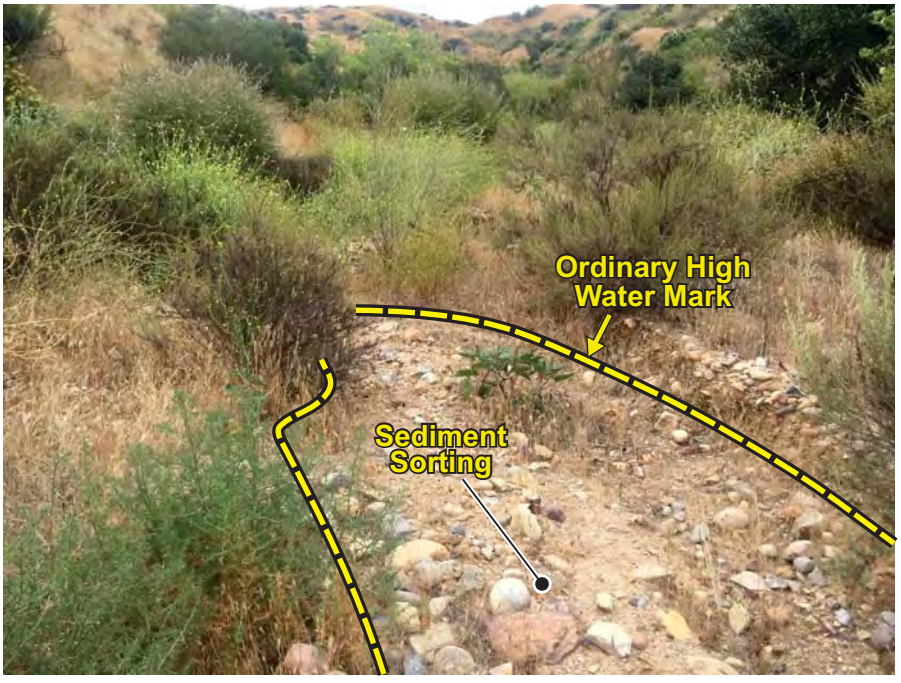
FIGURE 1c
(Page 3 of 6)

SR-241/SR-91 Express Lanes Connector
Site Photographs

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Feature 5 outlet culvert, as seen from photo point 6, facing west (May 25, 2017).



Feature 5, as seen from photo point 8, facing southeast (May 25, 2017). Sediment and cobble sorting and a lack of vegetation characterize the ordinary high water mark.

LSA

FIGURE 1d
(Page 4 of 6)

SR-241/SR-91 Express Lanes Connector
Site Photographs

I:\RBF1101\G\Biology\Bio Photos-5-2017.cdr (6/13/2017)



Feature 5, as seen from photo point 7, facing southwest (May 25, 2017). Dense vegetation obscures the ordinary high water mark, but scouring is evident.



Feature 6, with ordinary high water mark outlined, as seen from photo point 10, facing south (May 25, 2017).

LSA

FIGURE 1e

SR-241/SR-91 Express Lanes Connector
Site Photographs

I:\RBF1101\G\Biology\Bio Photos-5-2017.cdr (6/13/2017)



Feature 6 outlet culvert, as seen from photo point 9, facing northwest (May 25, 2017). The outlet is obscured by dense vegetation.



Feature 9 outlet culvert, as seen from photo point 12, facing north (May 25, 2017).

LSA

FIGURE 1f

SR-241/SR-91 Express Lanes Connector
Site Photographs

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Appendix M Court Reporter Affidavit

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AFFIDAVIT

OF

CERTIFIED SHORTHAND REPORTER

I, Amber N. Hogate, a Certified Shorthand Reporter for the State of California, with principal office in the County of Orange, hereby declare under penalty of perjury the following:

On Tuesday, November 29, 2016, at 5:00 p.m., I made an appearance at the East Anaheim Community Center, 8201 East Santa Ana Canyon Road, Anaheim, California, for the purpose of reporting the public hearing regarding the Transportation Corridor Association 241/91 Express Connector Project.

At approximately 8:30 p.m. after reporting no comments, I was informed that the hearing had concluded.

IN WITNESS WHEREOF, I have this date subscribed my name

Amber N. Hogate

Dated: January 6, 2016

Certificate Number 13525

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Appendix N Public Review Comment Letters

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F-1 FEDERAL AGENCIES

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F-1A

Lisa Williams

Subject: FW: comment period end date for 241/91 connector project?

From: LOWE, DEBBIE [mailto:Lowe.Debbie@epa.gov]
Sent: Monday, November 21, 2016 1:33 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>; Heydari, Bahar@DOT <bahar.heydari@dot.ca.gov>
Cc: Dunlap, Kelly C@DOT <Kelly.DUNLAP@dot.ca.gov>
Subject: comment period end date for 241/91 connector project?

Bahar,

Please note that the Toll Roads website (https://www.thetollroads.com/about/projects/241-91-connector) says that the comment period for the 241/91 connector project ends on January 9, 2017. And the Caltrans website (http://www.dot.ca.gov/d12/DEA/241-91/0K9700/) states that the comment period ends on January 5, 2017. F-1A-1

Can you correct the discrepancy? Please note that the federal register notice lists the end of the comment period as January 9, 2017. Thank you.

Debbie Lowe Liang
Environmental Review Section
US EPA, 75 Hawthorne St (ENF-4-2)
San Francisco, CA 94105
lowe.debbie@epa.gov
415-947-4155

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F-1B

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

January 5, 2017

Smita Deshpande, Generalist Branch Chief
Division of Environmental Analysis
Department of Transportation, District 12
1750 East Fourth Street, Suite 100
Santa Ana, California, 92705

Subject: Draft Supplemental Environmental Impact Statement, State Route 241/State Route 91 Tolled Express Lanes Connector Project, Orange and Riverside Counties, California [CEQ# 20160262]

Dear Ms. Deshpande:

The U.S. Environmental Protection Agency (EPA) has reviewed the Supplemental Draft Environmental Impact Statement (SDEIS) for the State Route 241/State Route 91 Tolled Express Lanes Connector Project. Our review and comments are pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

The proposed project is to build a tolled median-to-median direct connector linking the northbound 241 Toll Road to the eastbound 91 Express Lanes and the westbound 91 Express Lanes to the southbound 241 Toll Road.

Based on our review of the SDEIS, we have rated both the action alternative and the document as *Lack of Objections (LO)* (See attached "Summary of EPA Rating Definitions"). F-1B-1

We appreciate the opportunities for early coordination on this project. When the Final Supplemental EIS and Record of Decision are released for public review, please send one electronic copy to the address above (Mail Code: ENF 4-2) or via email to lowe.debbie@epa.gov. Should you have any questions, please contact me at (415) 947-3554, or contact Debbie Lowe Liang, the lead reviewer for the project at (415) 947-4155 or lowe.debbie@epa.gov. F-1B-2

Sincerely,

Carolyn Mulvihill

Carolyn Mulvihill, Acting Transportation Team Supervisor
Environmental Review Section

Enclosure: Summary of EPA Rating Definitions

Cc (via email): Brenda Powell-Jones, Caltrans Headquarters
Kelly Dunlap, Caltrans District 12 Environmental Coordinator

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Pacific Southwest Region
333 Bush Street, Suite 515
San Francisco, CA 94104

IN REPLY REFER TO:
(ER 16/0651)

Filed Electronically

January 25, 2017

Smita Deshpande
California Department of Transportation
1120 N Street
MS 49
Sacramento, CA 95814

Subject: Supplemental Draft Environmental Impact Statement (EIS) and Section 4(f) Evaluation State Route 241 and 91 (SR241/SR-91) Tolled Express Lanes Connector, Orange County, CA

Dear Ms. Deshpande,

The Department of the Interior has received and reviewed the subject document and has the following comments to offer.

The U.S. Fish and Wildlife Service (FWS) and the National Park Service (NPS) have reviewed the above referenced Draft Environmental Impact Statement (EIS), dated October 2016. Our primary concern and mandate is the protection of public fish and wildlife resources and their habitats and the potential harmful impacts on the Irvine Ranch National Natural Landmark (NNL). We have legal responsibility for the welfare of migratory birds, anadromous fish, and endangered animals and plants occurring in the United States. We are also responsible for administering the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq*.). The Service is a Participating Agency for this project. F-2-1

The project as proposed will result in the construction of a tolled median-to-median connector between State Route 241 (SR-241) and the tolled lanes in the median of State Route 91 (SR-91). The project is located in the cities of Anaheim, Yorba Linda, and Corona and the counties of Orange and Riverside, California.

General Comments from Fish and Wildlife

New Impact Area

The DEIS states, "The entire footprint of the ETC Corridor was assumed "take" through its construction, and per the NCCP/HCP documents, all development activities and uses addressed by the NCCP/HCP by participating landowners within the NCCP/HCP Plan Areas are considered fully mitigated by the NCCP/HCP. No additional mitigation is required for impacts to identified species and their habitat or for species residing in covered habitats" (page 3.15-1). The DEIS should document that the current proposed project extends farther to the east along SR-91 than was previously proposed. Impacts to sensitive species and habitats that were not previously analyzed and offset through the 1994 Biological Opinion and NCCP/HCP will need to be quantified and should be offset. The FEIS should include in the project figures the mapped eastern limit of the previously analyzed project. Table 3.15.2 should be revised to include separate columns for the project area previously analyzed under the 1994 Biological Opinion and NCCP/HCP, and the new eastern portion of the project that has not been analyzed and offset. F-2-2

Gypsum Canyon Nature Preserve

The project will result in permanent impacts to 5 acres of land located within the Gypsum Canyon Nature Preserve that is protected by a Conservation Easement held by The Nature Conservancy. The project proposes to use the area for construction staging (page S-11), for the construction of a maintenance access road (page S-10), and for slope grading to accommodate the realigned eastbound SR-91 lanes (page 2-18). The DEIS proposes a de minimis finding for these impacts to the Gypsum Canyon Nature Preserve under section 4(f) of the Department of Transportation Act of 1966 (page 3.1-56). The de minimis finding is not appropriate. Under section 4(f) these lands may only be affected for a transportation use if there is no prudent and feasible alternative and the project includes all possible planning to minimize harm to the site. F-2-3

To minimize harm to the site, the proposed construction staging should be relocated to existing developed / disturbed areas, such as the junction of SR-241 and SR-91 in the existing Caltrans right-of-way, to avoid impacts to sensitive habitats and species. The need for a maintenance access road at this location is not clearly explained in the DEIS, and the road appears to impact adjacent habitat unnecessarily (Figure 2.1, Sheet 4). The project should be redesigned to remove or relocate the maintenance access road. If it is not feasible to relocate the maintenance access road, the FEIS should provide a clear description of the need for the road. The proposed slope grading should be minimized through the use of a retaining wall. F-2-4

The DEIS states that the proposed impacts to the Gypsum Canyon Nature Preserve did not warrant the proposed activity approval process within the grant deed of the Conservation Easement (page 5-19 to 5-20). The FEIS should provide the relevant language from the Conservation Easement that was used to reach the decision that the proposed activity approval process is not warranted for this project. Regardless of the language in the Conservation Easement, we recommend that the project be designed to avoid and minimize impacts to this conserved area. F-2-5

Wildlife Crossings

The DEIS states that the construction activities and project improvements would be entirely within the Caltrans right-of-way, in the median, and along existing paved roads, in the vicinity of F-2-6

Gypsum Canyon, Coal Canyon and B Canyon and, therefore, would not impact the use or operation of the undercrossings as wildlife crossings (pages 3-45 and 3.15-55). All wildlife undercrossings are located within the right-of-way of the roads under which they are located. In the FEIS, this analysis needs to be revised to examine more critically the function of wildlife crossings in the project footprint and how the proposed use of wildlife crossings for construction access and staging will impact their functioning as wildlife crossings. Specifically, the analysis should address any potential impacts from changes in noise and lighting, bridge or culvert widening, changes to vegetation cover adjacent to culvert or bridge openings, changes to substrate within or at either end of the crossing (e.g., placement or rip-rap at either end of a bridge or culvert would inhibit wildlife dispersal), and reduction in visibility (e.g., vertical or horizontal bends would impede the ability of wildlife to look through the crossing to habitat on the other side of the road). The project should incorporate wildlife connectivity benefits to offset any unavoidable impacts to wildlife crossings. F-2-6

The DEIS refers to advance signage in the vicinity of the Windy Ridge Wildlife Crossing and Coal Canyon Undercrossing (page S-9). The FEIS should provide detail on how the project will avoid light spill from signage lighting into areas of adjacent habitat, including wildlife crossing areas. Lit signs, and in particular changeable message signs and signs with blinking lights, should be located away from wildlife crossing areas. Lighting, including signage lighting, should be directed toward the freeway and shielded and directed away from adjacent habitat areas. F-2-7

The DEIS refers to restoring all disturbed habitat adjacent to the Windy Ridge Wildlife Undercrossing with native vegetation (pages S-40 to S-41 and 3.15-62) but does not mention restoration of native habitats at the other wildlife crossings within the project area. While the Coal Canyon undercrossing had previously been unvegetated and disturbed, in 2013 it was planted with native vegetation to encourage increased use of the undercrossing by wildlife. Impacts to native vegetation within all wildlife crossing areas should be avoided to the greatest extent feasible. Avoidance of native habitats, and restoration of habitats where avoidance is not feasible, should apply to all of the wildlife crossings in the project area. The DEIS states that "Enhanced plantings shall occur adjacent to wildlife crossings" (page S-21). The FEIS should provide more detail regarding the proposed plantings at wildlife crossings. Plantings at undercrossings should consist of native species that will not obscure the opening of the crossing and will encourage wildlife movement. F-2-8

The DEIS refers to avoiding night work at the Windy Ridge and Coal Canyon wildlife undercrossings and the states, "If work must be done at night, noise and direct lighting will be directed away from Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing" (page S-41). It is not clear how noise and light could be directed away from the undercrossings in the event that night work is conducted within the undercrossings. The FEIS should specify that no night work will occur in or adjacent to these sensitive wildlife crossing areas. The DEIS also refers to use of noise barriers during vibratory pile driving at the Coal Canyon Undercrossing (Page 3.15-62). It is not clear why vibratory pile driving would need to occur in or adjacent to the Coal Canyon Undercrossing, which is mapped in the DEIS as an advanced signage area. It is also not clear whether vibratory pile driving is proposed at the Windy Ridge Wildlife Undercrossing, and if so, whether noise attenuation measures are proposed for this sensitive wildlife movement area. The project should avoid impacts, or incorporate noise attenuation F-2-9

measures at all affected wildlife crossing areas.

The DEIS states that the Coal Canyon undercrossing ramps will be regraded so the area can be used as a construction turnaround and to access the median (page 2-25). This area has been planted with native habitats to encourage increased use of the undercrossing by wildlife. We are engaged in on-going coordination efforts aimed at closing the Coal Canyon off-ramps to encourage increased use of the undercrossing by wildlife. Regrading the ramps to allow for access by construction vehicles is counter to our ongoing habitat restoration and access control efforts in this area and would have a negative effect on wildlife use of the undercrossing. The project should be redesigned to use the median for construction access and turnaround and to avoid all impacts to the Coal Canyon undercrossing. F-2-9

Specific Comments from FWS

Page S-17. Emergency Services – It is our understanding that the freeway median in the vicinity of Coal Canyon is now being used as a turn-around by emergency vehicles, reducing vehicle use of the Coal Canyon undercrossing, which benefits both wildlife connectivity and human safety by providing a more accessible and rapid turn-around location that is outside of the wildlife undercrossing. The FEIS should address how the project will maintain the median turn-around and associated human safety and wildlife connectivity benefits. F-2-10

Page S-25. Groundwater Dewatering – The DEIS does not provide detail to ensure that proposed dewatering will not affect riparian and riverine habitats along the Santa Ana River corridor. If necessary, the project should be modified to ensure that these sensitive riparian habitats are not affected by dewatering. F-2-11

Pages S-29 and S-30. Hazardous Materials – The DEIS does not include specific measures that will be used to contain and dispose of materials contaminated with asbestos and lead within sensitive habitat areas, including Gypsum Canyon. The project should be modified to incorporate specific measures to contain and dispose of contaminated waste. F-2-12

Page S-36 and S-37 and Pages 3.15-58 to 59. Natural Communities, Coastal California Gnatcatchers – The DEIS states that, "…to the maximum extent practicable, no grading of CSS habitat that is occupied by nesting [coastal California gnatcatchers, *Polioptila californica californica*] CAGN will occur during the breeding season (February 15 through July 15)… subject to public health and safety considerations." The DEIS also states that in the event of such considerations, project proponents, "will provide USFWS/CDFW with the maximum practicable notice (or such notice as is specified in the NCCP/HCP) to allow for capture of CAGN". The FEIS should specify that all vegetation removal activities for the proposed project will occur outside of the bird breeding season. Although the NCCP/HCP includes language regarding the capture of coastal California gnatcatchers, we do not recommend capture and relocation of gnatcatchers as a project avoidance measure, and all references to capture of coastal California gnatcatchers should be removed from the project minimization measures. As appropriate, passive relocation through flushing will be addressed in the section 7 consultation for the project. F-2-13

Page S-38. Natural Communities, Coastal Sage Scrub – The DEIS states that, "Waste dirt or F-2-14

rubble will not be deposited on adjacent CSS identified in the NCCP/HCP for protection." The document later states that dust control measures will be implemented for CSS identified in the NCCP/HCP for protection. The project should be modified to ensure that project construction impacts will be limited to the defined project footprint, and dust control measures will be implemented for adjacent native plant communities, regardless of whether the adjacent habitats are identified in the NCCP/HCP for protection. F-2-14

Figure 3.15.2, sheet 8. – The DEIS does not explain the need for the expansive temporary impact area south of SR-91 between the Gypsum Canyon Nature Preserve and Coal Canyon. The project should be redesigned to minimize impacts in this area to avoid sensitive habitats, including coastal sage scrub and Coulter's Matilija poppies. If this impact consists of a graded slope it should be mapped as a permanent impact area, and the impact should be minimized through the use of a retaining wall. F-2-15

We appreciate the opportunity to comment on the Draft EIS and to participate in the transportation planning process. If you have any questions regarding this letter, please contact Sally Brown of the Carlsbad Fish and Wildlife Office at 760-431-9440, extension 278. F-2-16

General Comments from NPS

Please be advised that this proposed project potentially impacts the Irvine Ranch National Natural Landmark (NNL). The NNL contains a diverse landscape dominated by chaparral and coastal sage scrub associations. These Mediterranean-type shrublands are a core element of concern for the South Pacific Border Biophysiographic Province. Both associations are represented by extensive stands with high biological diversity. The range of community composition present in the coastal sage scrub associations makes Irvine Ranch NNL one of the larger remaining areas of this threatened ecosystem. Other associations present on the Irvine Ranch considered as associated communities include live oak woodlands, riparian woodlands, Tecate cypress woodlands and grasslands. Woodlands and grasslands communities cover smaller areas of favorable habitat within the matrix of chaparral and coastal sage scrub. These habitats contribute to the biodiversity of the Irvine Ranch and are spatially and ecologically integrated into the chaparral and coastal sage scrub communities. F-2-17

Irvine Ranch NNL also contains a remarkably complete stratigraphic succession ranging in age from late Cretaceous to the present (last ~80 million years). This succession records the transition through several plate tectonic frameworks that are key to understanding the evolution of the South Pacific Border Biophysiographic Province. It also captures the sedimentologic and paleoenvironmental responses to evolving plate tectonic settings. A diverse spectrum of rock types and fossils beautifully illustrates the pageant of changing landscapes, seascapes and paleogeographies at the junction of the Peninsular Ranges and Transverse Ranges geological provinces. The site presents a coastline to rugged mountain spectrum of landscapes shaped by tectonic uplift and erosional sculpting during the past 4 million years. F-2-18

Irvine Ranch NNL possesses significant biological resources of Mediterranean shrublands, including extensive areas of chaparral and coastal sage scrub associations. These chaparral resources are equal to those of other significant areas within the South Pacific Border F-2-19

Biophysiographic Province (such as the Santa Monica Mountains National Recreation Area), and the coastal sage scrub areas present one of the largest extant areas of this association remaining in California. It is the presence of these large and relative undisturbed ecosystems and their biological diversity that provides the uniqueness of this area. Important rare and endangered plants and animals are present in these habitats. Additionally, the NNL contains significant resources of live oak woodlands, riparian woodlands, and rare Tecate cypress woodlands, with their associated biota. Beyond their conservation significance, these biological resources have great value for research and education. F-2-19

A remarkably unique, long time-range stratigraphic succession in the Irvine Ranch shows the linkage between tectonic framework, provenances, sedimentology, paleoenvironments, paleontology, paleoclimate, landscape evolution and geologic history. In this regard it is not only outstanding, but represents one of the most critical time intervals and locations in the evolution of the South Pacific Border Biophysiographic Province. A diverse spectrum of fossil faunas and floras, including invertebrates, vertebrates, and plants, add an important significance component to the stratigraphy of the Irvine Ranch from the perspectives of evolutionary events and important biostratigraphic reference sections. The tectonic geomorphology is particularly well-displayed and illustrates young mountain building processes through a combination of uplift and sea-level changes that have left their signature landforms well expressed throughout the site. This NNL is the best of a rare set of places within the South Pacific Border Biophysiographic Province where a long time-range, intact and structurally uncompromised stratigraphic section that records important earth history events are preserved. F-2-20

The NNL protected area includes approximately 36,398 acres, and is depicted on the attached map (see below) of the project area (the green shading is Irvine Ranch NNL). For additional information or assistance with addressing this matter in preparing the Final EIS, please contact Ms. Laurie Lee Jenkins, National Natural Landmarks Coordinator, Pacific West Region, National Park Service, 810 State Route 20, Sedro Woolley, Washington, 98284, telephone (360) 854-7206. F-2-21

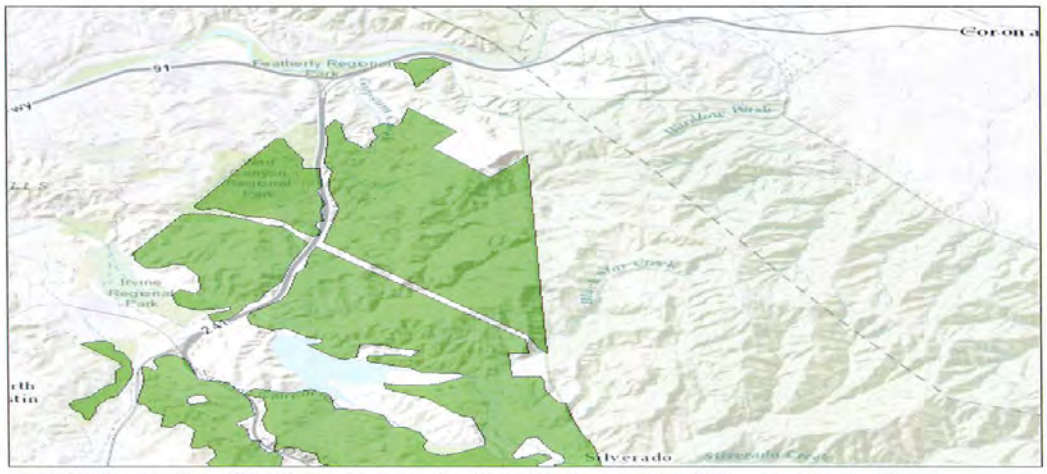
Thank you for the opportunity to review this project.
Sincerely,



Patricia Sanderson Port
Regional Environmental Officer

cc: OEPC-Staff Contact: carol_braegelmann@ios.doi.gov, 202-208-6661

NNL Boundaries-Laurie MAIN



Earthstar Geographics, CNES/Airbus DS | County of Los Angeles, County of Riverside, Bureau of Land Management, Esri, HERE, DeLorme, Intermap, USGS, NGA, EPA, USDA, NPS

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L-1 LOCAL AGENCIES

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L-1

Lisa Williams

Subject: FW: 241-91 DSEIR/EIS Comment Period

From: Lindsay Anderson
Sent: Wednesday, November 16, 2016 2:21 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: 241-91 DSEIR/EIS Comment Period

Please see the attached comment letter for the 241-91 Supplemental EIR/EIS.

Lindsay Anderson
Legislative Analyst
Orange County Business Council

2 Park Plaza, Suite 100 | Irvine, CA 92614
Tel: 949.794.7218
Fax: 949.476.9240
Cell: 949.241.9447
landerson@ocbc.org



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ORANGE COUNTY BUSINESS COUNCIL

2 Park Plaza, Suite 100 | Irvine, CA 92614| P 949.476.2242 | F 949.476.0443 |

November 16, 2016

Smita Desphande
Generalist Branch Chief
Caltrans Distrct 12
ATTN: 241-91 DSEIR/EIS Comment Period
1750 East Fourth Street, Suite 100
Santa Ana, CA 92705

RE: 241-91 DSEIR/EIS COMMENT PERIOD

Dear Ms. Desphande,

Orange County Business Council (OCBC) supports the Build Alternative (Preferred Alternative) for the State Route 241 (SR-241)/State Route 91 (SR-91) Express Lanes Connector Project. The Build Alternative would achieve the project goals of:

- Implementing the build out of the ETC, as approved in 1994;
- Attaining compatibility with the SR-91 mainline and SR-91 Express Lanes;
- Improving traffic flow and operations by reducing weaving across multiple general purpose lanes between the SR-91 Express Lanes and the SR-241 general purpose lane connectors; and
- Enhancing the efficiency of the tolled system, thereby reducing congestion on the non-tolled system on SR-91.

L-1-1

The SR-91 is continuing to experience increased congestion as a result of population growth in the Inland Empire and the increase in jobs in the County of Orange. As a result of population growth, the numbers of vehicles on SR-91 are expected to increase by approximately 50 percent by 2035, which would result in continuing congestion and delays on SR-91.

L-1-2

As analyzed in the Supplemental EIR/EIS, implementation of the Build Alternative would decrease (or maintain the same) travel times along SR-91 despite population growth anticipated by 2040. **Therefore, OCBC supports implementation of the Build Alternative as opposed to the No Build Alternative.**

L-1-3

Sincerely,

Bryan Starr
Senior Vice President Government Affairs

Community Development
1 Civic Center Plaza, Irvine, CA 92606-5208
cityofirvine.org
949-724-6000

December 27, 2016

Attn: 241-92 DSEIR/EIS Comment Period
Smita Deshpande
Caltrans-District 12
1750 East South Street, Suite 100
Santa Ana, CA 92705

Subject: Draft Supplemental Environmental Impact Report/Environmental Impact Statement for SR-241/SR91 Tolled Express Lanes Connector Project

Dear Smita Deshpande:

The City of Irvine Community Development staff reviewed the Draft Supplemental EIR for the SR-241/SR-91 Tolled Express Lanes Connector in Anaheim, Yorba Linda, Corona and other areas within Orange and Riverside county. The project is intended to improve access between SR-241 and SR-91, and to provide a tolled facility that is approximately 8.7 miles long. L-2-1

Staff has no comments at this time. If you have any questions regarding this approval, please contact Justin Equina, Associate Planner, at 949-724-6364 or by email at jequina@cityofirvine.org

Sincerely,

for

JUSTIN EQUINA
Associate Planner

cc: Bill Jacobs, Principal Planner

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L-3

Community Development Department

TUSTIN

BUILDING OUR FUTURE
HONORING OUR PAST

January 3, 2017

Ms. Smita Deshpande
Generalist Branch Chief
Caltrans – District 12
Attn: 241-91 DSEIR/EIS Comment Period
1750 East Fourth Street, Suite 100
Santa Ana, CA 92705

SUBJECT: REVIEW OF DRAFT SEIR/EIS FOR THE CALTRANS SR-241/SR-91 TOLLED EXPRESS LANES CONNECTOR PROJECT

Dear Ms. Deshpande:

Thank you for the opportunity to provide comments on the Draft Supplemental Environmental Impact Report and Environmental Impact Statement (DSEIR/EIS) for the Caltrans SR-241/SR-91 Tolled Express Lanes Connector Project in the cities of Anaheim, Yorba Linda, and Corona and the counties of Orange and Riverside. The project proposes to construct a median to median connector between the SR-241 and the tolled lanes in the median of the SR-91.

The City of Tustin offers the following comment at this time:

> According to the Table 3.5.4 of the DSEIR/EIS, the proposed new connector would increase traffic volumes to and from the SR-241 by approximately 10% by year 2040. These trips would otherwise use SR-91 to and from the west. The traffic study area does not extend beyond the immediate vicinity of the SR-241/SR-91 confluence and therefore does not show the ramifications of the potential increased traffic volume to local roadways such as Jamboree Road in Tustin, which provides a fee-free alternative to toll road SR-261 (a southwesterly connection from SR-241). The DSEIR/EIS should be revised to include an analysis of potential impacts to Jamboree Road and other local roadways that may be impacted, or data should be provided to demonstrate that no impacts are anticipated. L-3-1

The City of Tustin appreciates the opportunity to provide comments on this project and the Draft SEIR/EIS. I would appreciate receiving a copy of the Final SEIR/EIS when it becomes available. If you have any questions regarding the City's comments, please call Scott Reekstin, Principal Planner, at (714) 573-3016 or Krys Saldivar, Public Works Manager, at (714) 573-3172. L-3-2

Sincerely,

Elizabeth A Binsack

Elizabeth A. Binsack
Community Development Director

cc: Jeffrey C. Parker, City Manager
Douglas S. Stack, Public Works Director
Ken Nishikawa, Deputy Director of Public Works/Engineering
Krys Saldivar, Public Works Manager – Traffic/Transportation
Justina Willkom, Assistant Director – Planning
Scott Reekstin, Principal Planner

S:\Cdd\SCOTT\Environmental etc\Caltrans SR-241 SR-91 Express Lanes Connector DSEIR EIS Letter.DOC

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OC Public Works
Integrity, Accountability, Service, Trust
Shane L. Silsby, Director

January 4, 2017

NCL-16-042

Smita Deshpande, Generalist Branch Chief
Caltrans District 12, "Attn: 241-91 DSEIR/EIS Comment Period
California Department of Transportation, District 12
1750 East Fourth Street Suite 100
Santa Ana, CA 92705

Subject: 241-91 DSEIR/EIS Comments Notice of Availability of Draft Environmental Impact Report/Environmental Impact Statement for the SR-241/SR-91 Tolled Express Lanes Connector

Dear Smita Deshpande:

Thank you for the opportunity to comment on the subject project that is to construct a median-to-median connector between SR-241 and the tolled lanes in the median of SR-91. The County of Orange would like to offer the following comments for your consideration:

OC Public Works Infrastructure Programs/Flood Program Support

The Santa Ana River (E01) is the Orange County Flood Control District (OCFCD) facility in the vicinity of the project. E01 may potentially be affected by the proposed subject project.

1. Any work related to the proposed project within OCFCD right-of-way will require an encroachment permit from the County's Public Property Permits Section. In addition, all work within OCFCD right-of-way should be performed in a manner that will not adversely impact functionality, operability, access, or maintenance of OCFCD facilities. Information regarding permit application is available on our website – http://www.ocplanning.net/. L-4-1
2. E01 was constructed as part of a federal project; any proposed modifications to E01 will require a Section 408 permit from the Army Corps of Engineers. L-4-2
3. Any work related to the proposed project should implement all necessary measures to protect the existing Santa Ana River Interceptor (SARI) line, a major wastewater pipeline that is located under the southern levee of the Santa Ana River. Measures may include, but not be limited to, installation of extensometers and inclinometers to monitor underground soil movements that may impact the SARI line. L-4-3
4. Chapter 3.8.2.2 titled Local Hydrology, page 3.8-7 of the SR-241/SR-91 Tolled Express Lanes Connector Project Supplemental EIR/EIS states: "The Orange County Environmental Management Agency's Orange County Hydrology Manual (1986) recommends a value of 90 percent impervious for the entire area within the State right-of-way." Please delete the agency name "Environmental Management Agency" and replace with the Orange County Public Works. L-4-4

OC Public Works Project Development/Trails

1. The subject project may impact two planned County riding and hiking (dirt) trails and an existing length of a Class I (paved) Bikeway L-4-5
2. Project map also affect the use of Santa Ana Canyon Road, a popular bicycle route for on-road cyclists. L-4-6
3. The Santa Ana River Class I (paved, off-road) Bikeway is located on the south side of the Santa Ana River and the north side of the SR-91 Freeway from Gypsum Canyon Road east to the Orange County border. The bikeway provides regional commuter and recreational cycling along the entire length of the river (in Orange County) and between Orange County, Riverside and San Bernardino counties. The bikeway must remain open at all times to insure those using the route will always have access to this important, non-motorized, facility. L-4-7
4. Planned parallel to the existing Santa Ana River Class I Bikeway is a future length of the Gypsum-Coal Canyon Riding and Hiking (dirt) Trail. The trail will adjoin the bikeway between the SR-91 and the Santa Ana River from Gypsum Canyon Road east to near Coal Canyon. The project must not preclude the development of this trail. L-4-8
5. A second length of the Gypsum-Coal Canyon Regional Riding and Hiking (dirt) Trail is also planned to pass through Canyon RV Park (also known as County's Featherly Regional Park) to then undercross the SR-91 into Gypsum Canyon before undercrossing the SR-241 into County's Weir Canyon Regional Park. The project must not preclude the future extension of this trail. L-4-9
6. Santa Ana Canyon Road is a popular bicycle route for riders traveling between Orange, Riverside and San Bernardino counties. The project should not limit existing cycle use along this roadway or preclude the development of a Class II Bike Lane along the east and west-bound sides of its highway. L-4-10
7. The Weir Canyon Regional Riding and Hiking (dirt) Trail is planned along the south side of Santa Ana Canyon Road beginning 0.60 mile east of Weir Canyon Road. This regional trail is to continue east to Gypsum Canyon Road and the future Gypsum Canyon Regional Riding and Hiking (dirt) Trail. The project must not preclude the future development of this important trail. L-4-11

If you have any questions regarding these comments, please contact Robert McLean at (714) 647-3951 or Anna Brzezicki at (714) 647-3989 of OC Public Works Infrastructure Programs, Jeff Dickman at (714) 647-3937 of OC Public Works/Project Development/Trails or Linda Smith at (714) 667-8848 of OC Public Works/Development Services.

Sincerely,

Joanna Chang

for Laree Alonso, Manager, Planning Division
OC Public Works Service Area/OC Development Services
300 North Flower Street
Santa Ana, California 92702-4048
Laree.alonso@ocpw.ocgov.com

cc: Robert McLean, OC Infrastructure Programs
Anna Brzezicki, OC Infrastructure Programs
Jeff Dickman, Project Development/Trails

L-5

City of Anaheim
PLANNING AND BUILDING DEPARTMENT

January 5, 2017 by email to: D12.SR241-91ELC@dot.ca.gov

Smita Deshpande, Generalist Branch Chief
Caltrans District 12 Office
Attn: 241-91 DSEIR/EIS Comment Period
1750 East Fourth Street, Suite 100
Santa Ana, CA 92705

Subject: Draft Supplemental Environmental Impact Report/Statement for the State Route-241/State Route-91 Tolled Express Lanes Connector Project

Dear Ms. Deshpande:

Thank you for the opportunity to review and comment on the above-referenced document. City of Anaheim staff has the following comments:

Land Use and Planning
Please contact Susan Kim, Principal Planner, at skim@anaheim.net or 714-765-4958 with any questions pertaining to this section. L-5-1

1. Figure 1.2, Project Location, should show the City/County Boundaries in the project area.
2. The City of Anaheim adopted the Mountain Park Specific Plan No. 90-4[1] (Mountain Park) in 2005, which allowed for the development of up to 2,500 residential units, public facilities, infrastructure, trails, schools, and parks on 830 acres, with an additional 2,163 acres reserved for open space. The project site generally was located south of the SR-91 and on either side of the SR-241, which is within the Study Area for the Proposed Project. Prior to any development taking place, in 2014, the landowner (The Irvine Company) dedicated the entire project site to the County of Orange as permanent open space. As such, the Mountain Park Specific Plan development will not occur. L-5-2
3. The City has reviewed the project description for the proposed project and verified that it reflects the current status of Mountain Park and the City's most recent growth projections. However, the status of Mountain Park is not accurately described in subsequent sections of the document. For example, on page 3.1-9, the document states that Mountain Park has been partially developed on the west side of the SR-241, which is incorrect. Residential development west of the SR-241 reflects the build-out of the Sycamore Canyon Specific Plan No. 88-1 and the Summit of Anaheim Hills Specific Plan No. 88-2. L-5-3

200 S. Anaheim Blvd.
Suite #162
Anaheim, CA 92805
Tel: (714) 765-5139
Fax: (714) 765-5280
www.anaheim.net

[1] http://anaheim.net/1040/Mountain-Park

4. The City requests that all references to Mountain Park in the document, including Tables, Figures, and Exhibits, i.e Figure 3.1.1, be updated to reflect the current status of Mountain Park as permanent open space. L-5-4

5. The City and the County of Orange plan to build out the proposed riding and hiking trails and Class II Bike Lanes within the Proposed Project's Study Area, specifically on Santa Ana Canyon Road and Gypsum Canyon Road. Several of these routes were identified in the Mountain Park Specific Plan, in addition to the City's Circulation Element[2], Bicycle Master Plan[3], and General Plan, and the County of Orange Master Plan of Regional Riding and Hiking Trails, Recreation Element, and General Plan. The project description should properly reflect all existing and proposed pedestrian and bicycle facilities in the Study Area, which are itemized below in Item #6. L-5-5

6. On page 3.5-32, the document concludes that the Build Alternative would not modify or otherwise affect the Santa Ana River Trail/Bike Lane or the existing fire trails in the Study Area. However, there are several riding and hiking trails and bikeways that are either existing or proposed in the plans listed in Item #5, above, and not reflected in the document, i.e. in Figure 3.1.4 and related discussion. The Proposed Project should properly identify and not preclude the implementation of riding and hiking trails and/or bike lanes, including but not limited to: L-5-6

    a. Existing Class II Bike Lane on Santa Ana Canyon Road from Weir Canyon Road to Gypsum Canyon Road. This route is identified in the City's Circulation Element and Bicycle Master Plan, and is an important regional connector from Anaheim Hills to the Santa Ana River Trail and points east. This bikeway is not currently signed and striped to MUTCD standards, however, the shoulder functions as a bikeway and would be improved to Caltrans standards at such time that Santa Ana Canyon Road is built to its ultimate Right-of-Way.

    b. Proposed Class II Bike Lane on Gypsum Canyon Road from Santa Ana Canyon Road to the Yorba Linda City limits, which is just south of the SR-91.

    c. Proposed Gypsum-Coal Canyon Riding and Hiking Trail, which would parallel Gypsum Canyon Road to connect the Santa Ana River Trail to the north with the Santiago Creek Trail to the south and continue into Santiago Oaks and Irvine Regional Parks.

    d. Proposed Weir Canyon Regional Riding and Hiking Trail on the south side of Santa Ana Canyon Road from its current terminus 0.6 miles east of Weir Canyon Road easterly to Gypsum Canyon Road to link with the proposed Gypsum-Coal Canyon Riding and Hiking Trail.

7. The County of Orange has identified a need for a regional staging area and trail head in the vicinity of Santa Ana Canyon Road and Gypsum Canyon Road. The Mountain Park Specific Plan identified Development Area 6 (APNs 514-011-01 and 514-011-04, owned by the County of Orange) as the preferred location for the regional staging area and trail L-5-7

[2] http://anaheim.net/DocumentCenter/View/9520 Figure C-5 Page C-33
[3] http://anaheim.net/DocumentCenter/Home/View/2027 Map 5, Page 20

head. The Proposed Project should not preclude the implementation of this proposed use, should the County pursue it in the future. L-5-10

Traffic and Transportation

Please contact David Kennedy, Associate Transportation Planner, at dkennedy@anaheim.net or 714-765-4920 with any questions pertaining to this section.

1. The Transportation Management Plan identified in Measure TR-1 on page 3.5-39 should be coordinated with the City of Anaheim Public Works Department and all other local jurisdictions in the Study Area, as well as the Orange County Transportation Authority, Riverside County Transportation Commission, and Metrolink, and any other affected agencies and/or property owners. L-5-11
2. The Proposed Project should account for non-motorized travel impacts in the Study Area, specifically on Santa Ana Canyon Road and Gypsum Canyon Road, during project construction (Section 3.5.3.1 Temporary Impacts/Build Alternative – Page 3.5-5) and operation (Section 3.5.3.2 Permanent Impacts/Build Alternative – Page 3.5-32). L-5-12
3. On Page 2-19 and 2-42, the document discusses Ramp Realignment of the SR-91/Gypsum Canyon Road eastbound on and off ramps. No further detail of the ramp realignment is provided in the document. Please add further detail, including figures, that depict the proposed ramp realignments, including accommodation for bikeways and riding and hiking trails previously mentioned. L-5-13
4. Chapter 2, Project Alternatives, references Figure 2.1 and various sheets within this figure, multiple times throughout the chapter. However, this figure does not appear in the document, nor on the project's website. This figure, and any others referenced in the document, should be easily accessible and included in the document. L-5-14
5. The ramp realignment mentions a possible roundabout configuration at this location. When the eastbound SR-91 mainline is congestion, queuing from the eastbound on-ramp will spill into the roundabout, causing it to fail. A signalized intersection at this interchange can better regulate the flow of traffic onto the SR-91 from Gypsum Canyon Road without significantly impacting through traffic on Gypsum Canyon Road. L-5-15
6. Santa Ana Canyon Road and Gypsum Canyon Road are both currently two-lane undivided roadways, and are classified as four lane Secondary Arterials in both the City of Anaheim General Plan Circulation Element and the OCTA Master Plan of Arterial Highways. The Proposed Project shall allow for both streets to be widened to their ultimate widths, including Class II Bike Lanes and riding and hiking trails, as previously discussed. The design shall account for the column placements of the existing connector bridges from the SR-91 to the SR-241 in order to avoid dangerous curves due to the constrained right-of-way available in this area. L-5-16
7. The City requests that design and engineering of the overhead structures and the placement of the bridge footings be coordinated with the Public Works Department. L-5-17

Utilities – Water

Please contact Aladdin Shaikh, Principal Civil Engineer, at ashaikh@anaheim.net or 714-765-5268 with any questions pertaining to this section.

In the City's April 15, 2015 comment letter on the NOP/NOI for the Proposed Project, the Public Utilities Department: Water Engineering requested that the DSEIR/EIS address Utilities – Water Service, specifically whether the Proposed Project requires temporary or permanent water service, and if so, from which agency/provider. In review of Section 3.4 Utilities/Emergency Services, and Section 3.8, Physical Environment-Water Quality, there does not appear to be a discussion that addresses this comment. Please advise if this discussion appears in another section of the document, or if not, please add this discussion in its appropriate section. L-5-18

Please continue to include the City of Anaheim as a participating agency in the ongoing environmental review of this project. Please forward any subsequent public notices regarding this project to my attention at the address listed at the bottom of the first page of this letter. If you have any questions regarding this response, please do not hesitate to contact Christine Saunders at (714) 765-5238 or csaunders@anaheim.net or me at (714) 765-4958 or skim@anaheim.net.

Sincerely,

Susan Kim, AICP, LEED AP ND
Principal Planner

Cc: Christine Saunders, Planning and Building Department
David Kennedy, Public Works Department
Aladdin Shaikh, Public Utilities Department
Pamela Galera, Community Services Department
Jeff Dickman, OC Public Works, Project Development

L-6

OCTA

AFFILIATED AGENCIES

Orange County Transit District

Local Transportation Authority

Service Authority for Freeway Emergencies

Consolidated Transporation Service Agency

Congestion Management Agency

Service Authority for Abandoned Vehicles

January 9, 2017

Ms. Smita Deshpande
Generalist Branch Chief
Caltrans-District 12, "Attn: 241-91 DSEIR/EIS Comment Period"
1750 East Fourth Street, Suite 100
Santa Ana, CA 92705

Subject: Draft Supplemental Environmental Impact Report/Environmental Impact Statement (SCH. 1989010410) for the State Route 241/State Route 91 Tolled Express Lanes Connector Project (Project No. 1200020097)

Dear Ms. Deshpande: Smita

Thank you for providing the Orange County Transportation Authority (OCTA) with the Draft Supplemental Environmental Impact Report/Environmental Impact Statement (DSEIR/S) for the State Route 241/State Route 91 Tolled Express Lanes Connector Project (Project). The following comments are provided for your consideration:

- On page 2-23, Section 2.2.1.2 'Permanent Project Features,' subsection 'TSM/TDM' the proposed Project is stated "to have dynamic traffic technology (toll pricing based on express lanes demand)." The analysis in the DSEIR/S did not address tolling and potential economic implications. OCTA recommends further analysis on tolling under applicable environmental factors analysis. L-6-1

- On Page 5-3, Table 5.1 'Comments Received During Scoping,' states "Toll operations are being coordinated between F/ETCA, OCTA, and RCTC and are evaluated in a separate Concept of Operations report." OCTA recommends including this throughout the DSEIR/S, as applicable. L-6-2

- The opening year analysis should be redone to reflect the actual opening year of 2020 rather than 2017. While Section 3.5.3.2 provides an explanation that the differences in traffic operations are nominal between 2017 and 2020, given the SR-91 Corridor Improvement Project (CIP) is scheduled to open in 2017, a thorough 2020 analysis would be appropriate. L-6-3

- Given the complex nature of having multiple tolled facilities operated by different agencies, OCTA suggests that the analysis in the environmental document be updated to include traffic volume data anticipated to be available in Spring 2017 with the opening of the CIP. This would help refine the existing, opening year, and 2040 conditions analysis (throughput, speeds, and travel time). L-6-4

- It appears that the environmental document had not analyzed weaving impacts along the SR-91 at the confluence of the SR-241 Express Connector merge/diverge, the OCTA 91 Express Lanes, and the RCTC 91 Express Lanes. Therefore, a more detailed weaving analysis would be appropriate. L-6-5

- It appears that the complex nature of the multiple tolling options (including dynamic pricing) for the SR-241, the SR-241 Express Connector, the OCTA 91 Express Lanes, and the RCTC 91 Express Lanes are not adequately discussed with respect to the traffic impacts. These should be explored in detail. L-6-6

- OCTA understands that there are complementary concept of operations studies (con-ops) underway. Some of the appropriate results from the con-ops studies should be integrated into this environmental document. L-6-7

- It appears there needs to be a more thorough analysis of the construction impacts on the OCTA 91 Express Lanes, including traffic impacts, toll and revenue implications. L-6-8

Thank you for providing OCTA the opportunity to review this item. Throughout the development of this proposed project, we encourage continued communication with OCTA on the matters discussed herein. If you have any questions or comments, please contact me by phone at (714) 560-5907 or by email at dphu@octa.net.

Sincerely,



Dan Phu
Environmental Programs Manager

c: Valarie McFall, TCA

IP-1 INTERESTED PARTIES

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I-1

California Native Plant Society
ORANGE COUNTY CHAPTER
P.O. Box 54891
Irvine, CA 92619-4891
occnps.org

The California Native Plant Society is a statewide non-profit organization. Its membership is open to all.

CNPS' mission is to conserve California native plants and their natural habitats, and increase understanding, appreciation, and horticultural use of native plants.

The Orange County Chapter of CNPS focuses that mission on the native plants and natural vegetation of Orange County and adjacent Southern California.

January 5, 2017

Smita Deshpande, Generalist Branch Chief
Division of Environmental Analysis
Department of Transportation, District 12
1750 East Fourth Street, Suite 100
Santa Ana, CA 92705

RE: SR-241/SR-91 Tolled Express Lanes Connector Project

Dear Ms. Deshpande:

The Orange County Chapter of the California Native Plant Society has long had a strong interest in maintaining the integrity of Orange County's natural reserve areas. Thus we oppose in principle the permanent acquisition of 5 acres of the Gypsum Canyon Nature Preserve by CalTrans for use in the subject project. We do understand the practical-management aspects of such a transfer of ownership. I-1-1

The discussion of Section 4(f) in Appendix B details the reasons for approving the permanent acquisition. Those reasons are repeated in Chapter 3.1. Section 3.1.3.1 points out that the Park Preservation Act requires that compensation be made in such acquisitions. But what that compensation might consist of is not stated. We would like to see clarification of what that compensation might be.

Comments on maps in the document:

1. A base map containing uniform information should be used throughout. At a minimum, each map should show ALL the reserved lands in the vicinity of the project, similarly to Fig. 3.3.2. However, that map is incomplete, it does not show: I-1-2
   - The Coal Canyon and Tecate Cypress Ecological Reserves, which lie between the Gypsum Canyon Nature Reserve and the Cleveland National Forest.
   - The county lines.
   - The Windy Ridge and Coal Canyon wildlife crossings; these are mentioned often in the text, so should be indicated on the base map.

2. The base map, on its first appearance in the document, should also clearly indicate which reserve areas are "NCCP Plan Areas," which are "NCCP Reserves," and which are "National Natural Landmarks," and these distinctions should be more clearly explained in the text than they currently are. Land ownership, easements, and management change; the current land managers (Irvine Ranch Conservancy and OC Parks) should be consulted for the corrected map and description. Later uses of I-1-3

this map could show the reserve areas as a light uniform tint underlying the other information. I-1-3

3. In general, the impression is that many of the maps throughout the current document were made for the original 1991 ETC Draft EIR/EIS and have not been updated. This results in incorrect information in the current document. For example:
   - Fig 1.2, and all figures that repeat it (Fig 1.6 *et seq*.) give the impression that the area labeled "Unincorporated Orange County" is just open land. In fact the area encompasses a mosaic of reserve lands under varied land ownership, as is shown on other maps in other parts of the document. It is confusing that these first maps convey a misleadingly simplistic view. I-1-4
   - Fig. 3.1.1 shows areas labeled as "Undeveloped" and Fig. 3.1.2. shows the same areas as "Residential." Both maps were devised in 2012. Since then, the "Undeveloped/Residential" areas have been set aside as reserve areas, under OC Parks. These maps should be updated. I-1-5
   - Figs. 3.1.1, 3.1.2, and 3.1.3 show the outline of a study area that covers more territory than does the 1/2-mile radius of the project area shown on subsequent maps in this and later Chapters. It would be helpful if the two outlines could be overlain for comparison of what they bound. I-1-6
   - The 5 acres to be permanently acquired should be indicated on Sheets 7 and 8 of Fig. 3.15.1. I-1-7

Section 3.17.2.2 describes Coulter's Matilija poppy *(Romneya coulteri)* as having " … large paper mâché-like flowers …" The petals would be better described as crepe-paper-like: thin but crisp in substance and wrinkly/pleated in texture. *Papier-mâché* is usually stiff, thicker than crepe paper, and painted and/or coated with lacquer or similar preservative. I-1-8

We note that patches of cactus (possible Cactus wren habitat) and matilija poppy and are found within the 5 acres that are to be acquired by CalTrans. We request that propagules be taken from these plants and used in the restoration to be done around the Windy Ridge Wildlife Crossing and elsewhere in the project area, as possible. I-1-9

We are pleased that Mitigation Measure V-4, Landscaping, specifies "…. Drought-tolerant native species shall be used adjacent to areas of native habitat. Enhanced plantings shall occur adjacent to wildlife crossings…." The native species used in landscaping should be species that naturally grow in the native habitat, and should be used for landscaping throughout the project. I-1-10

Thank you for the opportunity to comment on this project.

Respectfully,

Celia Kutcher
Conservation Chair

P-1 PUBLIC COMMENTS

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P-1

-----Original Message-----
From: Alex Park
Sent: Tuesday, November 29, 2016 9:04 AM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: Strong support for 241/91 connector

Hello,

Just want to personally address my proponent and strong support for the 241/91 connector (241 North to 91 East) - direct toll connection.

As a daily carpool commuter from Eastvale to Irvine… many of my friends and neighbors have expressed the need for the direct connector (even with additional toll fee). This was discussed many years ago amongst ourselves and anxious to hear the progression is taking place.

I have been commuting via 241 to 91 since 2009. Initially, the commute via 241/91 was bearable and even acceptable. However, with the population growth and economic recovery, the commuter volume has exponentially grown. Last few years have been the worst. It was unheard of to sit and wait on the northbound 241 for over 25 minutes to just merge onto the 91 eastbound freeway. My commute increased from 50 minutes to over hour and 20minutes. That's half hour increase for the same commute! P-1-1

Not to mentioned, the congestion has increased the commuters incidents/motivation to 'cut' into narrow gaps or even stopping middle of the lanes to merge, all while going downhill at high rate of speed. I have witnessed few accidents and dangerous close calls many times.

The proposed 241/91 connector is well over due to relieve the congestion and dangerous stand stills (on downhill grade). I, along with many of my counterparts, are willing to pay additional toll fees to have the option to directly connect to the 91 eastbound from the North 241 to save time and ensure better safety.

Final thought… would it be possible to extend the 241/91 to three lanes instead of the two lanes currently in place? The N241 to WestBound 91 traffic is very light and don't see the need to have 2 dedicated lanes for this merge. P-1-2

Rather, might be more efficient to allow 3 of the 4 lanes on N241 to be used for Eastbound 91 merge to help relieve some of the congestion until the 241/91 connector is finished. Hoping this may prevent some dangerous standstills. Also, a recommendation is to install temporary dividers between the dedicated lanes so it prevents commuters from cutting toward end of the merge. P-1-3

Thank you for your time and efforts.

Alexander Park

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Lisa Williams P-2

Subject: FW: 241/91 connector

-----Original Message-----
From: andreagladson
Sent: Tuesday, November 08, 2016 6:14 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: 241/91 connector

Yes! Please continue to improve traffic flow along the 91. This connector should have been built in the original constructions of the express lanes. please complete it. P-2-1
Andrea Gladson

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P-3A

Lisa Williams

Subject: FW: 241/91 connector questions comments

From: Becky Johnson
Sent: Wednesday, November 30, 2016 5:05 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: 241/91 connector questions comments

Hello,
I was unfortunately unable to make the open house last night.
I do not find that the online information helps me get answers to several of my questions and concerns. P-3A-1

- Will there be another public meeting?

For the Westbound AM commute, I am wondering if most of the traffic that needs to move across the westbound 91 freeway is more traffic from the 71 and also from Green River Road. The only way to get into the FastTrack lanes is to maneuver through the lanes and the proposed connector does not solve that problem. With the soon to be completed Foothill Parkway/Green River Road project, even more cars will me merging onto the freeway at Green River Road. Those cars from the 71 or Green River Road that will travel to the 241, do not need an connector as it is safer to stay in the right hand lanes and use the present exit ramp. P-3A-2

When traveling the PM commute on the Fast Tract/Express Lanes from OC to Riverside County esp. during peak times, the traffic is most often very slow from the 55 Freeway to Wier Canyon area. It makes one wonder why are we paying a pricey toll while the traffic in the regular lanes zips by????. Yet, there is often relief of the congestion at about Weir Canyon area. P-3A-3

- If the relief from sitting in the congested Fast Tract/Express Lanes does not happen till the Weir Canyon area, how will adding cars to the east bound Express Lanes from the proposed 241 connector improve flow on the east bound 91 Fast Track/Express Lanes??? P-3A-4
- And if the temporary flow that is experienced on the eastbound 91 bottles up because of the addition of cars from the connector, for how long will that relieve the 241 jam? (--20 seconds as per your chart?—see below) P-3A-5

The renderings seem to show that it is proposed to widen the freeway so as to accommodate another Express Lane to accommodate the merging traffic to the 91 Express Lanes. P-3A-6

- If so, to what point will the added lane transition to the current existing two lanes?--The Riverside County line?

I also often drive the 241 northbound and sit in the congested traffic waiting to merge onto the 91 Freeway. P-3A-7

- In the rendering, it appears there will be added an additional lane to the Express lane to accommodate the connector?
- Again, for what distance with that lane last?

I hope the follow through does not stop at the Riverside County line—even with the addition of the Express Lanes through Corona. I wonder if the backup will just be pushed a short distance up the rode because cars will continue to exit and maneuver to Green River/Foothill and then for the 71 freeway. P-3A-8
Without adding additional lanes to the Express Lanes for long enough distances to accommodate the traffic from the northbound 241—*without reducing the number of regular lanes which are already insufficient in number*— to comfortably and safely absorb the increased traffic and lane change issues, nothing will change. I do not see how the traffic on the 241 which is often backed up to the Windy Ridge toll booth will improve! P-3A-9

I'm not sure if I am interpreting the data below from one of your charts correctly.

- Is it saying that when 91 Express Lanes through Corona are built that time saved on the 241 will be 38 seconds? P-3A-10

- And when the connector project is completed and beyond an additional 20 second 241 commute time will be saved????
- How is it that you project the number of vehicle throughput within the project limits?
    - Average 2000 cars compared to the 40000 that currently travel the route is a only 5 %.

Please explain this data and project your results beyond the project limits to the overall traffic problem.

Traffic Transportation Summary

Measure	Year	Results
Increase in vehicle throughput within project limits. Build Alternative will: • Help overall traffic flow for region • Draw vehicles from I-5, SR-55 and other major streets during peak hours	2017	2,586 vehicles (+7%)
	2040	1,239 vehicles (+3%)
• Enhance travel and relieve traffic congestion between Orange/Riverside Counties.		
Travel speed enhanced by	2017	+1.9 MPH (+6%)
	2040	+2.7 MPH (+7%)
Travel time decreased by	2017	-38 seconds/vehicle (-12%)
	2040	-48 seconds/vehicle (-17%)

Based on seven hours of results for combined AM peak (three hours) and PM peak (four hours)

P-3A-10

Even though Express lanes are being constructed through Corona, I fail to see PROOF that there will be an improvement in traffic flow especially since more people/cars are being projected to travel through an area that is heavily congested most weeks at all *seven* days. Not to forget that homes and apartments in Corona, Eastvale, Riverside…are continuing to be built which adds a significant traffic burden.

P-3A-11

I have long hoped for a connector ramp to be built from the 91/71 into the car pool, or now express lanes similar the 55/5 and the 55/405.

P-3A-12

- Is there any conversation about SIMULTANEOUSLY building connector ramps at the 91/71 junction?
- Do your studies show if a large number of travelers in the 91 Express Lanes and the 241 Northbound lanes also make multiple lane changes to be able to connect to the 71 freeway?

P-3A-13

- Have you addressed the traffic issues at Green River Road—esp. with the soon to open Foothill Parkway project?

P-3A-14

I look forward to your reply,
Becky Johnson
Corona, CA

Carmen Lo

P-3B

To: D12 SR241-91ELC@DOT; Lisa Williams
Cc: Deshpande, Smita R@DOT; McFall, Valarie
Subject: RE: 241/91 connector questions comments

From: Becky Johnson
Sent: Monday, February 06, 2017 7:21 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: RE: 241/91 connector questions comments

I would like to add to my email below, the idea of putting in a *tolled connector ramp/s* for morning traffic from northbound Green River Road to the westbound 91 and for evening traffic from the east bound 91 up on to southbound Green River Road. P-3B-1
I wonder if the flow of traffic could be managed on a single ramp that allows for the change of traffic direction primarily based on the time of day (i.e. the ramp being used for one direction only.)
Thank you again,
Becky Johnson

From: Becky Johnson
Sent: Wednesday, November 30, 2016 5:05 PM
To: D12.SR241-91ELC@dot.ca.gov
Subject: 241/91 connector questions comments

Hello,
I was unfortunately unable to make the open house last night.
I do not find that the online information helps me get answers to several of my questions and concerns.

- Will there be another public meeting?

For the Westbound AM commute, I am wondering if most of the traffic that needs to move across the westbound 91 freeway is more traffic from the 71 and also from Green River Road. The only way to get into the FastTrack lanes is to maneuver through the lanes and the proposed connector does not solve that problem. With the soon to be completed Foothill Parkway/Green River Road project, even more cars will me merging onto the freeway at Green River Road. Those cars from the 71 or Green River Road that will travel to the 241, do not need an connector as it is safer to stay in the right hand lanes and use the present exit ramp.

When traveling the PM commute on the Fast Tract/Express Lanes from OC to Riverside County esp. during peak times, the traffic is most often very slow from the 55 Freeway to Wier Canyon area. It makes one wonder why are we paying a pricey toll while the traffic in the regular lanes zips by????. Yet, there is often relief of the congestion at about Weir Canyon area.

- If the relief from sitting in the congested Fast Tract/Express Lanes does not happen till the Weir Canyon area, how will adding cars to the east bound Express Lanes from the proposed 241 connector improve flow on the east bound 91 Fast Track/Express Lanes???
- And if the temporary flow that is experienced on the eastbound 91 bottles up because of the addition of cars from the connector, for how long will that relieve the 241 jam? (--20 seconds as per your chart?—see below)

The renderings seem to show that it is proposed to widen the freeway so as to accommodate another Express Lane to accommodate the merging traffic to the 91 Express Lanes.

- If so, to what point will the added lane transition to the current existing two lanes?--The Riverside County line?

I also often drive the 241 northbound and sit in the congested traffic waiting to merge onto the 91 Freeway.

- In the rendering, it appears there will be added an additional lane to the Express lane to accommodate the connector?
- Again, for what distance with that lane last?

I hope the follow through does not stop at the Riverside County line—even with the addition of the Express Lanes through Corona. I wonder if the backup will just be pushed a short distance up the rode because cars will continue to exit and maneuver to Green River/Foothill and then for the 71 freeway.
Without adding additional lanes to the Express Lanes for long enough distances to accommodate the traffic from the northbound 241—*without reducing the number of regular lanes which are already insufficient in number*— to comfortably and safely absorb the increased traffic and lane change issues, nothing will change. I do not see how the traffic on the 241 which is often backed up to the Windy Ridge toll booth will improve!

I'm not sure if I am interpreting the data below from one of your charts correctly.

- Is it saying that when 91 Express Lanes through Corona are built that time saved on the 241 will be 38 seconds?
- And when the connector project is completed and beyond an additional 20 second 241 commute time will be saved????
- How is it that you project the number of vehicle throughput within the project limits?
    - Average 2000 cars compared to the 40000 that currently travel the route is a only 5 %.

Please explain this data and project your results beyond the project limits to the overall traffic problem.

Traffic Transportation Summary

Measure	Year	Results
Increase in vehicle throughput within project limits. Build Alternative will: • Help overall traffic flow for region • Draw vehicles from I-5, SR-55 and other major streets during peak hours	2017	2,586 vehicles (+7%)
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Even though Express lanes are being constructed through Corona, I fail to see PROOF that there will be an improvement in traffic flow especially since more people/cars are being projected to travel through an area that is heavily congested most weeks at all *seven* days. Not to forget that homes and apartments in Corona, Eastvale, Riverside…are continuing to be built which adds a significant traffic burden.
I have long hoped for a connector ramp to be built from the 91/71 into the car pool, or now express lanes similar the 55/5 and the 55/405.

- Is there any conversation about SIMULTANEOUSLY building connector ramps at the 91/71 junction?
- Do your studies show if a large number of travelers in the 91 Express Lanes and the 241 Northbound lanes also make multiple lane changes to be able to connect to the 71 freeway?
- Have you addressed the traffic issues at Green River Road—esp. with the soon to open Foothill Parkway project?

I look forward to your reply,
Becky Johnson
Corona, CA

P-4A

Lisa Williams

Subject: FW: COMMENTS - 241/91 Express Connector Project

Importance: High

From: Bob Lampley
Sent: Wednesday, November 09, 2016 12:00 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: COMMENTS - 241/91 Express Connector Project
Importance: High

I do not wish to suffer any increased "TOLL-ROAD" costs as a result of this project.
Provided all funding can be resolved through other means, I have no objection.

P-4A-1

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Carmen Lo

To: D12 SR241-91ELC@DOT; Lisa Williams
Cc: Deshpande, Smita R@DOT; Valarie McFall
Subject: RE: 241/91 TOLL ROAD COMMENTS

From: Bob Lampley
Sent: Monday, January 09, 2017 8:31 AM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: 241/91 TOLL ROAD COMMENTS
Importance: High

During "Peak times" (mornings/afternoons) there is considerable congestion on both the 91 and 241 freeways due to the lengthy and ongoing construction on the 91 freeway. In as much, with regards to this proposed addition, consider the following;

1. Wait for **"all construction"** to end on the 91 freeway, in all directions. P-4B-1
2. Monitor the traffic speeds for these concerns over a **"one (1) year"** period of time to better determine a proper course of correction.
3. Consider during this period whether there is a need to only resolve heavy traffic transition from two directions.
   a. Specifically the W/B 91 to the S/B 241 (AM traffic), and the N/B 241 to the E/B 91 (PM traffic).
4. **Ensure that no "current" Toll Road users will be impacted financially for this endeavor.**

Thank you,
Bob Lampley

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P-5

Lisa Williams

Subject: FW: Fact Sheet

From:
Sent: Monday, October 31, 2016 4:19 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: Fact Sheet

The graph on the fact sheet shows construction from mid-2018 to the end of 2020. However, the Quick Facts below the graph state that construction could begin in late 2020 while according to the graph construction should be completed then. P-5-1

Dave Alford

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P-6

Lisa Williams

Subject: FW: Toll Connector from 241 to 91 Express Lanes

From: David Wright
Sent: Monday, November 28, 2016 9:10 AM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: Toll Connector from 241 to 91 Express Lanes

Good Morning!

I think this would be a very good addition to that interchange. Eliminating the need for people to try to push left across 5 lanes of bumper to bumper traffic will not only help alleviate the congestion created by these lane changes, but could literally save lives. P-6-1

The 241 to 91 Express is one of two spots where drivers will be trying to cross all lanes, undoubtedly causing extreme traffic issues. The 91 Express East to Green River is the another spot where I anticipate many, many accidents as people attempt to exit the Express Lanes and get off on Green River to bypass Corona to the south, via the soon-to-open Foothill Extension. There really should be a Green River center-exit from the Express Lanes - not sure how the current project was ever approved without that! P-6-2

Good luck and hope to see this approved, P-6-3
Thank you,

David Wright

Corona, CA 92882

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P-7

Lisa Williams

Subject: FW: I am for this connection

From:
Sent: Tuesday, November 29, 2016 6:48 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: I am for this connection

I could not make the meeting, but I am all for the 241/91 connector. It is horrible coming from Orange county on the 241 and then coming to a dead stop and standing in line for 30 minutes or more to get onto the 91 Fwy. And of course there are always those idiots who drive in lane #3 all the way to the end so they can cut in and not wait like the rest of us. P-7-1 P-7-2

I do not feel that right now I am getting my money's worth for the tolls I am paying for this road, and also the 91 Fwy. Sometimes when I first get on the 91 fwy. From orange county, the regular freeway is going faster than our two toll lanes. It is annoying to see we are not getting our money's worth on that freeway too. P-7-3

So I will be glad when the connector from the 91 to the 15 fwy is done next year, and I am looking forward to seeing the 91/241 eventually done too. I don't mind paying as long as it delivers what it promises.....a faster commute home. P-7-4

Thank you
Dianne Chavarria

Dianne Chavarria

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P-8

Carmen Lo

To: D12 SR241-91ELC@DOT
Subject: RE:

The eastbound 91 express lanes are currently congested during the entire afternoon/evening compute times. A connector from the northbound 241 to the eastbound 91 express lanes will add to the current congestion and create road rage especially for those "express" lane customers who pay up to a $10.45 toll for travel between the 55 freeway and the Riverside county line. P-8-1

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P-9

Lisa Williams

Subject: FW: 241/91 commuter (living in Corona)

From: Ed Arriola
Sent: Sunday, November 13, 2016 7:47 AM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: 241/91 commuter (living in Corona)

I live in Corona, near the Cajalco off ramp of 15 fwy. Eagle Glen HOA.
Work in Aliso Viejo, Orange County.

Currently in the am I take the Corona streets to Green River to enter the 91 west to get to the 241 South. I haven't used the 91 in 2 years!!

Afternoons. BAD,BAD, & WORSE. I get to the 241 North/91 East curve about 4:10. Every day for 2-3 years the 241 NOrth is backed up. Road rage is obvious. CHP doesn't make much of an effort. P-9-1

Currently I get off 91 east and Green River to get home. Takes 24 minutes now off the freeway. Foothill west extension will help.

I'd rather stay on the 91 east express toll to the 15 and get off Cajalco.

.....Future housing developments ie: Arantine Hills project off Cajalco will make it bad again. P-9-2

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P-10

Lisa Williams

Subject: FW: SR241 91 connector

From: Ed Gray
Sent: Thursday, November 10, 2016 4:02 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: SR241 91 connector

Please add an extension lane from the east 91 to 241 toll road entry. During large volume of traffic, entering the 91 east from the Weir Canyon on ramp, there is a back-up of vehicles trying to enter the 241. The right lane on the 91 east does not continue to get on the 241. You have to merge onto to the 91 and then exit to the 241. P-10-1
Ed Gray

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P-11

Lisa Williams

Subject: FW: comments on connector

From: Hryze
Sent: Monday, October 31, 2016 12:45 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: comments on connector

This should have been done when originally built. Now when traffic is unbearable you decide to build and of course charge extra to use it. I have been a tollroads user from the beginning and still have'nt figured out why this was not done when it was built. P-11-1

Hryze

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P-12

Lisa Williams

Subject: FW: Request for 91/241 input

From:
Sent: Thursday, November 10, 2016 4:42 AM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: Request for 91/241 input

I don't use the 91/241 connecter. I want to tell you though, your request for input for the proposed change impresses me. This is the first time, and I've been around for a long time, I've had anyone ask me for input about an impending project. P-12-1 P-12-2

Thank you for keeping me informed about the 91 freeway project. I do us that information. I leave for work, from Corona, at 3:15 AM. I need to go east on the 91 to north on the 15. Your emails help me decide what route I'll need to negotiate. P-12-3 P-12-4

You are doing a good job. I just wanted to take this chance to thank you. P-12-4

jd

Sent from Mail for Windows 10

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P-13

Lisa Williams

Subject: FW: Please build connector

From: Jason Zinkin
Sent: Sunday, November 27, 2016 9:56 AM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: Please build connector

At rush hour, traffic backs up for a good 20 minutes on the transition. This negates almost any incentive to take the 241. Might as well just take the 55 to the 91. Jason in Irvine

P-13-1

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Lisa Williams

Subject: FW: 241-91 Express Connector Project

From: John Fox **Sent:** Wednesday, November 30, 2016 5:28 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: 241-91 Express Connector Project

My concern is the effect the project will have on lane changes at the toll lane access just west of Green River. Seems like dedicated toll lane on and off ramps should be a high priority either at or somewhere near Green River to mitigate what is sure to become another bottleneck due to increased lane changes due to increased demand for the toll lanes as a result of the 241-91 Express Connector project. P-14-1

The 241-91 Express Connectors will affect the 91 ten or more miles beyond the project's borders. There will be a 7% increase in toll lane use according to your figures. You've also stated that one of the goals of the project is to cut down on lane changes. But won't this increase in toll traffic also increase lane changes at the county line as many of that 7% attempt to enter WB and exit EB at Green River? Let's face it, the 91 is still going to jam through Corona, including the toll lanes – EB especially, due to continuing and increasing bottlenecks at La Sierra and El Cerrito. And now that Green River is six lanes, it'll be even more of a favorite alternate, leading to an increase in lane changes – up to six lanes in less than a mile to access and egress the toll lanes west of Green River. P-14-2

John Fox
General Manager, Rez Radio 91.3

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Lisa Williams

Subject: FW: 241 to 91

From: Phileoca
Sent: Monday, November 21, 2016 1:57 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: 241 to 91

Greetings,

I am an Anaheim Hills Resident who works in Irvine.
I take the 241 daily and have valuable insight into your projects

The 241 North is 4 lines wide when you are at windy ridge. The 2 left lanes go Westbound on the 91 and the 2 right lanes go East Bound on the 91. Attached is an image noting the typical traffic which is 100% EASTBOUND 91 commuters. What happens on the 241 is selfish commuters want to skip the line so they block the left 2 lines waiting for an opportunity to cut in front of someone.
Not only is it selfish, but it is also very dangerous. Many of these vehicle have to stop completely in the number 2 lane while they bully their way into the number 2 lane.

My suggestion is putting a DIVIDER between the number 2 and number 3 lanes.
This divider will start at WINDY RIDGE.
Left 2 lanes will be designated for WESTBOUND 91.
Right 2 lanes will be designated for EASTBOUNT 91.

P-15A-1

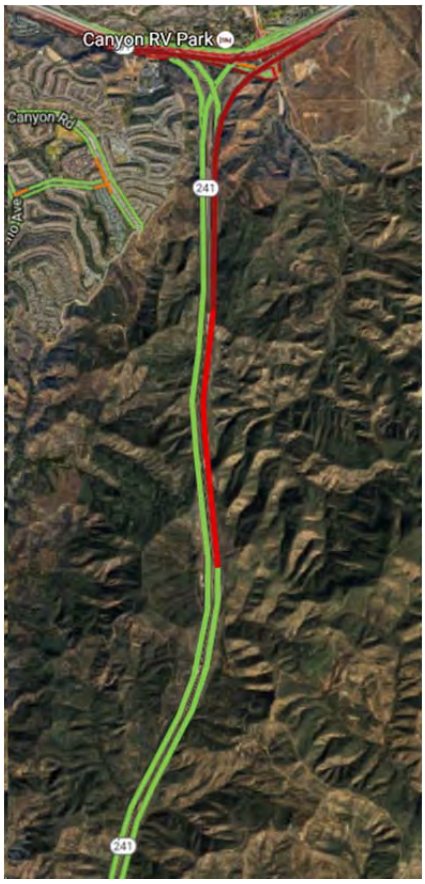
Windy Ridge toll booths should be removed
New signage approaching Windy Ridge will notify drivers that all EASTBOUND drivers MUST go on the right side of the divider approaching windy ridge.

This will solve the problem of dangerous drivers and road rage among drivers who are cut off by these selfish drivers. It will also alleviate congestion for the drivers who are destined to go westbound on the 91 as they only make up roughly 1-5% of the total 241 north bound traffic.
In fact, the westbound destined drivers only need 1 lane to travel, but that would not solve the problem the eastbound drivers face since there are only 2 lanes that merge onto the 91.

P-15A-2

Lanes
| 1 | 2 || 3 | 4 |
| W | W || E | E |

Figure 1



P-15A-2

Now regarding a 91 express lane to the 241. That will only be beneficial for 91 Westbound drivers.
Anyone who is on the 91 eastbound in the toll lanes will not be interested in going south on the 241. If they are near the 55 and 91, they will just take the 55 to the 5 south.
Going westbound it would be very beneficial especially after the 91 tollroads in riverside are complete.

P-15A-3

Any questions, feel free to contact me.
Kyle Tate
BS Information System Management
MS Information Technology

Lisa Williams

Subject: FW: 241 flyover

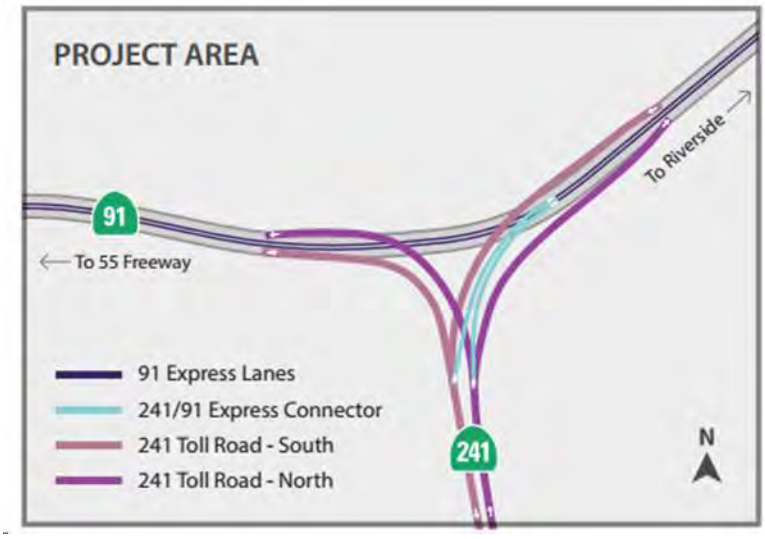
From: Kyle Tate
Sent: Monday, November 21, 2016 2:07 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: 241 flyover

Greetings,

I looked at the project area and it seems like a good idea. However, that depends WHERE the flyover is.
If the 241 flyover to the 91 express lanes is on the right side of the 241 north, then it will be fine.
However, if you put the flyover on the left side, that means that in the event of the 91 being stopped for an accident (every day), the ENTIRE 241 north will be blocked even for commuters who are going to Anaheim hills/Yorba Linda area. The Corona commuters already block all of the lanes on the 241 as they try to weasel their way to the front of the line. If the flyover is on the left side, all of the lanes will be blocked.
This will lead to ALL yorba linda/Anaheim commuters to get off the tollroads and take Chapman to Santiago Canyon to Cannon.

This flyover MUST be on the right side, not the left!

P-15B-1



Kyle Tate
IT Manager

Like us on Facebook!

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Lisa Williams

Subject: FW: Official Comment on the 241/91 Express Connector

-----Original Message-----
From: LEIF GRANE
Sent: Tuesday, November 29, 2016 12:50 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>; 241-91ExpressConnector@TheTollRoads.com
Subject: Official Comment on the 241/91 Express Connector

Hello, I would like to be sure that my concern is address prior to the official approval of the final design for the 241/91 Express Connector.

*** On both the east-bound and west bound 91 as it approaches the 241, there are five (5) regular lanes (outside of the 91 Express Lanes).

*** As the 91 passes the 241, the fifth lane is lost as an off ramp to the 241 Toll Road on both the east-bound and west-bound 91, reducing the number of lanes to four (4) and creating a huge bottleneck for traffic. P-16A-1

*** I officially request that the 5th lane be extended on the east-bound and west-bound lanes, passing the 241 as part of this project - if this is not done, the 241/91 Express Connector should not be approved.

I would appreciate immediate confirmation that my concerns are being addressed. I am hopeful that this is already included in the plan - but I felt the need to make it official, just in case.

Thanks for your attention,

Leif Grane
Corona, CA

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Carmen Lo

To: D12 SR241-91ELC@DOT; Lisa Williams
Cc: Deshpande, Smita R@DOT; Valarie McFall
Subject: RE: Official Comment on the 241/91 Express Connector

-----Original Message-----
From: LEIF GRANE
Sent: Monday, December 12, 2016 11:33 AM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>; 241-91ExpressConnector@TheTollRoads.com; LEIF GRANE
Subject: Re: Official Comment on the 241/91 Express Connector

Hello, I have not yet gotten a response to my comment. Please respond a soon as possible. Until I have confirmation the 5th lanes will be connected, this will not be closed. P-16B-1

Please respond officially to my comment below - I need something to submit to all local newspapers.

Leif Grane
Corona, CA

On Tue, 11/29/16, LEIF GRANE wrote:

Subject: Official Comment on the 241/91 Express Connector
To: D12.SR241-91ELC@dot.ca.gov, 241-91ExpressConnector@TheTollRoads.com
Date: Tuesday, November 29, 2016, 12:50 PM

Hello, I would like to be sure that
my concern is address prior to the official approval of the final design for the 241/91 Express Connector.

*** On both the east-bound and west bound 91 as it approaches the 241, there are five (5) regular lanes (outside of the 91 Express Lanes).

*** As the 91 passes the 241, the fifth lane is lost as an off ramp to the 241 Toll Road on both the east-bound and west-bound 91, reducing the number of lanes to four (4) and creating a huge bottleneck for traffic.

*** I officially request that the 5th lane be extended on the east-bound and west-bound lanes, passing the
241 as part of this project - if this is not done, the
241/91 Express Connector should not be approved.

I would appreciate immediate confirmation that my concerns are being addressed. I am hopeful that this is already included in the plan - but I felt the need to make it official, just in case.

Thanks for your attention,

Leif Grane
Corona, CA

Carmen Lo

To: D12 SR241-91ELC@DOT; Lisa Williams
Cc: Deshpande, Smita R@DOT; Valarie McFall
Subject: RE: Comments 241-91

From:
Sent: Monday, January 09, 2017 3:34 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: Comments 241-91

In addition to the previous comments I made back in November, I have additional comments. I did not notice anything in the environmental study about the huge increase in emissions that will be the result of only having 4 Lanes passing the 241 toll roads on the 91 freeway... They need to change the plan to make it 5 lanes. This shortsightedness not only will increase traffic congestion dramatically it will also have an incredibly negative impact on the greenhouse gases as a result of cars idling through there. This absolutely must be addressed to not do so would be a travesty, California is a green state, or so at least pretends to be... This needs to be addressed on the environmental impact study please correct... P-16C-1

If necessary,, I may consider legal action...

Leif G Grane
Corona, CA

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Carmen Lo

To: D12 SR241-91ELC@DOT; Lisa Williams
Cc: Deshpande, Smita R@DOT; Valarie McFall
Subject: RE: 241 91 comments resubmission from 11/29/2016

From: LEIF GRANE
Sent: Monday, January 09, 2017 3:56 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: 241 91 comments resubmission from 11/29/2016

Since I never received a previous confirmation. on my comments from November 29th 2016, I am resubmitting them again today... I sent an additional comment today and did receive a confirmation today so I am extremely worried that my first comment was ignored or not received here is my original comment:

P-16D-1

Please be sure to confirm receipt this time!!!!!

(The below comments were originally sent 11/29/2016)

Hello, I would like to be sure that my concern is address prior to the official approval of the final design for the 241/91 Express Connector.

*** On both the east-bound and west bound 91 as it approaches the 241, there are five (5) regular lanes (outside of the 91 Express Lanes).

*** As the 91 passes the 241, the fifth lane is lost as an off ramp to the 241 Toll Road on both the east-bound and west-bound 91, reducing the number of lanes to four (4) and creating a huge bottleneck for traffic.

*** I officially request that the 5th lane be extended on the east-bound and west-bound lanes, passing the 241 as part of this project - if this is not done, the 241/91 Express Connector should not be approved.

I would appreciate immediate confirmation that my concerns are being addressed. I am hopeful that this is already included in the plan - but I felt the need to make it official, just in case.

Thanks for your attention,

Leif Grane
Corona, CA

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I wish to raise two concerns about lighting and light pollution resulting from the proposed project.

The project as presented at the public meeting of 29 November included new bridges at a significant height above grade.
These present two separate lighting concerns. P-17A-1

First, a new tolling gantry is proposed atop one of the bridges. The constant strobe flashes from the camera systems located this high above grade will be highly visible and annoying to residents and commuters alike.
Residents of both Yorba Linda and Anaheim Hills will have their nighttime sky constantly disturbed by these "lightning flashes".
In addition, based on driving the existing toll roads after dark, the strobe flashes at both Windy Ridge and especially at Irvine Ranch are very bright and temporarily obscure driver vision. P-17A-2
Fortunately, both of these existing locations are straight roadways with no urgent need to maneuver or deal with merging traffic.
However, the proposed new gantry location appears to be on or very near a curve on the bridge, requiring positive driver vision and control. P-17A-3
I suggest the gantry be relocated to be coincident with the existing Windy Ridge toll station, or at another grade level or below grade level location where the flashes are not visible from homes.

Second, there will be a need for roadway lighting on the proposed new, high elevation bridges.
Standard freeway light poles place downward directed light sources high over the roadway, but when placed on a high bridge, these are very visible and disturbing light sources in the night sky as viewed from Yorba Linda and Anaheim Hills. P-17A-4
I suggest alternative lighting be explored, such as strip lighting placed within guard rail structures on both sides of the bridge roadway, located just above the roadway surface and directed downward across the roadway surface.

Lindon Baker
Business Owner
Tustin, CA

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P-17B

Carmen Lo

To: D12 SR241-91ELC@DOT
Subject: RE: Public Comment 241-91 Express Connector

I believe that the plan as presented at the public meeting on November 29 is deficient and fails to adequately address traffic concerns of Orange County citizens who need to travel the toll roads within Orange County.

P-17B-1

Specifically, the plan fails to include an explicit remediation for the unsafe traffic mess occurring nightly at the transition 241 north to 91 east and 91 west.

I recommend that the plan be expanded to include reconfiguration of the 241 lanes northbound from the Windy Ridge toll plaza into 3 physically separated extended length transition ramps.
The rightmost two lanes should go only to the eastbound 91, the center lane should go only to the proposed new connector to the eastbound 91 Express toll lanes, and the far left lane should go exclusively to the 91 westbound.
It is necessary to increase the length of the physically divided transition ramps to enable each transition ramp to accommodate and contain all vehicles choosing that path.
By ensuring that all vehicles are contained within a dedicated queue, the motivation for lane jumping, weaving, cutting in, etc, will be entirely eliminated.
Each queue must be large enough to ensure that the queue does not overflow into general traffic lanes of the 241.

P-17B-2

Lindon Baker
Business Owner
Tustin, CA

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P-17C

Carmen Lo

To: D12 SR241-91ELC@DOT; Lisa Williams
Cc: Deshpande, Smita R@DOT; Valarie McFall
Subject: RE: Public Comment on 241-91 Express Connector Project

From: Lindon Baker
Sent: Friday, December 09, 2016 5:31 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: Public Comment on 241-91 Express Connector Project

I believe it is customary in Environmental review documents to consider and compare alternatives to the proposed project.
The only options I found in the documents were build, or no build.
I would like to propose an alternate project design that would, when completed, deliver greater traffic congestion relief, and during construction, be less disruptive to traffic flow and to the neighborhoods near the 241-91 interchange.

I propose construction of 3 million square feet of Class A hi-tech office and office/R&D space at a site to be acquired in the Inland Empire.
This space would be offered for lease to qualified firms at 25% of the prevailing lease rate in OC, or around 50 cents a square foot, triple net.
In order to qualify for a long term lease at the reduced rate firms would have to demonstrate that greater than 50% of the workers at the location presently commute on the 91-241 corridor, and would no longer need to commute on that route.
This project would potentially remove between 10,000 and 15,000 daily commuters from the 91 freeway, measured at the Riverside / Orange county line.

P-17C-1

The project would be funded by the same bond issues proposed for the 241-91 connector project, and bonds would be repair by lease income from the new office space.
Because no construction would occur at the 241-91 interchange there would be no traffic disruption, and there would be no disruption to nearby neighborhoods.

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P-18

Lisa Williams

Subject: FW: 241 Connector

From: Lynda Jenkins
Sent: Monday, October 31, 2016 2:40 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: 241 Connector

This is a great idea to mitigate more congestion. However additional tolls for this should not come into play. The tolls on the 241 are substantial. P-18-1

Thank you.

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P-19

Lisa Williams

Subject: FW: "ATTN: 241-91 DSEIR/EIS Comment Period"

From:
Sent: Tuesday, November 08, 2016 5:46 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: "ATTN: 241-91 DSEIR/EIS Comment Period"

I find it a **huge lack of foresight** that when the 241 Toll road was built that there was no direct connection to the 91 Express lanes. AS this should have been part of the original build, fixing this problem now as soon as possible would only benefit all motorists. I also feel there should NOT be an extra toll to utilize this fix . P-19-1

P-19-2

A new 241/91 Express Connector would offer an alternative to the existing **incomplete** connector

Thank you, toll road users Mark & Kimberly Zimmermann

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Lisa Williams

Subject: FW: 241/91 connector

From: Norma Barrientos
Sent: Monday, November 07, 2016 4:35 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: 241/91 connector

This cannot happen soon enough, it it could be fast-tracked and incentives given to make this happen yesterday it could not be soon enough. P-20-1

If there was a way to connect the 241 to Foothill Parkway even better. P-20-2

Some of us who have lived in Corona for almost two decades are increasingly held hostage by the lack of much needed alternatives. We live in Corona because its a great place to raise a family. Poor planning has made getting around nearly impossible if you have to leave your neighborhood. Since non tolled roads will never be improved to the extent needed, give the people willing to pay tolls theses options. P-20-3

Also much needed would be a way to hop on/off the toll road at weir canyon. Those of us who have to go just to weir or gypsum for sports, doctors, etc would really appreciate not sitting on a parking lot. Its all about convenience and being willing to pay for that convenience. P-20-4

Norma

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P-21

Lisa Williams

Subject: FW: Comment on proposed 241/91 Express Connector Project

From: Randall B Black
Sent: Monday, October 31, 2016 2:32 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: Comment on proposed 241/91 Express Connector Project

Commuting from Irvine to UC Riverside in a vanpool, I can verify that currently a significant amount of lane changing is required to get into the diamond lane, when going East, and out of the diamond lane, when going West. Especially, when crossing several lanes going West to get out of the express lane and onto the 241, one encounters a large number of drivers accelerating past as 91 congestion eases. The proposed 241/91 Express Connector Project would make the drive safer. P-21-1

Thank you for the opportunity to comment.

Randy

Randall Black
Director of Research Development
Research and Economic Development
University of California, Riverside 92521

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P-22

Lisa Williams

Subject: FW: Seriously

-----Original Message-----
From: Rick Cleveland
Sent: Wednesday, November 09, 2016 11:09 AM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: Seriously

You can't get to the express lanes now and why do you need to? Go 2 miles and enter like you do now and spend less money on roads! P-22-1
Sent from my iPhone

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P-23

Lisa Williams

Subject: FW: Public Comments

From: Ruth Quinnan
Sent: Friday, November 18, 2016 1:23 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: Public Comments

Caltrans Distrct 12 / "ATTN: 241-91 DSEIR/EIS Comment Period

Dear Smita Desphande,

I don't believe this is a necessary project. It's a way to "encourage" more people to use the toll lanes and increase revenue for the tollway. Millions of dollars will be spent to construct this, which will result in increased toll fees, and inflict great inconvenience on drivers during the construction project which the 91 hardly needs more of, all to solve a problem that doesn't actually exist. P-23-1
Sincerely,

Ruth Quinnan
Director of Admissions and Academic Affairs
Graduate Division
University of California, Irvine

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Lisa Williams

Subject: FW: This is absolutely needed!

-----Original Message-----
From: Scott Cop
Sent: Tuesday, November 15, 2016 9:44 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: This is absolutely needed!

Please help all of us that travel his route frequently, pay for express lane access, and have to go through general purpose lanes to utilize the services we are paying to participate in and maintain! This is a fair and logical fix. Please get started right away! P-24-1

- Scott

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Lisa Williams

Subject: FW: ATTN: 241-91 DSEIR/ Comment Period

From: Simon Godot
Sent: Wednesday, November 30, 2016 6:20 AM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: ATTN: 241-91 DSEIR/ Comment Period

Dear Ms. Desphande

Regretfully, I was unable to attend the meeting in person as I was on the 91 Express Lanes on my way home to Corona as this meeting began.

I have traveled the 91, 91 Express Lanes and 241 in this area for the past 15 years.

I offer my perspective of the proposed project: P-25-1

1. This project is piggybacking on the improvements built by the Riverside CIP program scheduled for completion Summer 2017. This projects stated improvements would not occur without the expanded capacity currently being built.

2. This project will increase eastbound congestion in the 91 eastbound express lanes between the 55 freeway and the proposed connector, creating more congestion on the 91 East Express Lanes and resulting in longer commute times for current express lane commuters. It would provide 241 eastbound commuters a few minutes improvement in their commute times. P-25-2

3. There is no need for a westbound connector, freeway speeds during peak times will remain acceptable for years to come. P-25-3

4. The proposed project benefits sound very good to anyone who hasn't driven this section of road on a regular basis. They are however, not based in fact. The stated weaving across lanes does not occur in the 2 miles between the 241 eastbound ramp and 91 express lanes entrance, it occurs in the .85 miles between the eastbound 91 express lanes exit and the Green River Road off ramp. Getting on the 91 Express Lanes is easy, getting off and across to Green River Road, not so much. P-25-4

5. A better use of funds would be the connection of La Palma Avenue and Green River Road. A single artery between Anaheim and Corona is one of the reasons for the ridiculous congestion this area suffers. Furthermore, a better use of funds to increase safety would be to build direct on and off ramps from Green River Road to the 91 Express Lanes. P-25-5

In short, this is an unnecessary project, with overstated benefits. Use the funds to connect an alternate to the 91 for residents of Orange and Riverside Counties. P-25-6

Regards,

Tony Richardson

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P-26

Lisa Williams

Subject: FW: (no subject)

From:
Sent: Friday, November 11, 2016 9:04 AM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: (no subject)

It's about time!! I sincerely hope that construction goes faster than that of the 5 & 91, they are moving at snail pace!!

San Clemente resident,
Turi Daniels

P-26-1

PS
I have ALWAYS been in favor of the extension!!!!!!

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P-27

Carmen Lo

To: D12 SR241-91ELC@DOT
Subject: RE: 241/91 Express Connector

From: Don Paul
Sent: Thursday, December 08, 2016 4:55 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: 241/91 Express Connector

Smita Deshpande
Generalist Branch Chief
Caltrans-District 12
ATTN:241-91 DSEIR/EIS Comment Period
1750 East Fourth Street, Suite 100
Santa Ana, CA 92705

Smita

I frequently drive from our home in Newport Beach to Corona & Riverside. The proposed "Express Connector" is a ***NO BRAINER*** which should have been a part of the 241 Toll Road when it was built !!!

This "Express Connector" would also:

1. decrease traffic congestion
2. enhance safety by reducing weaving across lanes
3. improve toll lane access in Orange and Riverside Counties
4. increase 241 Toll Road usage since people like me coming from South O.C. avoid the 241 since the current JAM at the 241 / 91 interchange negates most of our time savings using the 241 vs. using the 91 Express Lanes to avoid the 241 / 91 JAM

P-27-1

Thanks!

Don Paul
Broker Associate
Ashwill Associates
commercial real estate
sales, leasing & investments

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Carmen Lo

To: D12 SR241-91ELC@DOT
Subject: RE: Toll roads project

-----Original Message-----
From: Bob Hughes
Sent: Friday, December 09, 2016 7:34 AM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: Toll roads project

Please keep the jobs building this new project to United States citizens only.
Hire U.S.

P-28-1

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Carmen Lo

To: D12 SR241-91ELC@DOT; Lisa Williams
Cc: Deshpande, Smita R@DOT; Valarie McFall
Subject: RE: 214 NORTH CONNECTOR TO 91 FREEWAY

From: t b |
Sent: Sunday, December 11, 2016 6:01 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Cc: t b
Subject: 214 NORTH CONNECTOR TO 91 FREEWAY

Hello - after review part of the documents provided on the proposed project, please find my thoughts/comments/suggestions below:

- Reasons against the project: P-29-1
    - the purpose of the current 91 expansion project is to alleviate traffic congestion; no need for an additional project that will cause more of a long-term inconvenience to current residents
    - Corona has recently been made attractive as a transplant city for Orange County residents; decreasing traffic would make the city even more attractive and ultimately cause more congestion than any proposed traffic-reducing project will resolve. P-29-2

- if the connector project is approved, I propose there be an optional lane to continue on the non-tolled general purpose lanes (similar to the current 55 North to 91 West connector split) so anyone not wanting to use the new lanes will not be forced to pay an extra toll; an optional non-tolled lane would also serve as an alternate when there is a tie-up and/or accident in the Express Lanes P-29-3
- have the new proposed connector lane be an HOV access lane only so everyone is not forced to pay an additional toll P-29-4
- open a street exit route before Green River so traffic could migrate off and around the freeway P-29-5
- Metrolink to create a non-stop express route from Tustin station to Corona to attract more riders; the current schedule has many stops from the Riverside to Orange County area and does not save time due the frequent stops P-29-5

Thank you.

TR Barnes

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P-30

Carmen Lo

To: D12 SR241-91ELC@DOT; Lisa Williams
Cc: Deshpande, Smita R@DOT; McFall, Valarie
Subject: RE: 241/91 Express Connector

From: Hatem Tadros
Sent: Tuesday, December 13, 2016 3:09 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: 241/91 Express Connector

Smita,

As a resident of Yorba Linda east of Gypsum Canyon Rd, I thought it necessary to provide comment related to the proposed Express connector project.

Residents of my area of Yorba Linda will no doubt be subject to the greatest degree of inconvenience and delays during construction of this proposed project. Though this inconvenience by itself is not reason to support the "no build" option, I would expect to know in detail what steps are going to be taken to minimize closures and detours of Gypsum Canyon Rd in particular. P-30-1

Just as importantly, as a current daily user of the 241 North to 91 West connector, I have observed every day first hand the congestion, delays, and frankly the dangerous conditions caused by disparity of traffic flow between the 241 North to 91 East vs. 91 west connectors. P-30-2

Can you clarify how the project will address the following points:

1. Will there be a raised divider / permanent separator between the lanes leading to the existing 241 North to 91 East connector and the 241 North to 91 West connector? This separator is vital and needs to extend from the toll booth, spanning as far north as the 91 freeway to prevent the last minute weaving of stopped traffic into lanes of fast moving westbound 91 motorists. Allowing last minute merging between these lanes has caused severe slowing of 241 lanes leading to westbound 91. P-30-3
2. Will the project decrease or hold constant the number of lanes for the current connectors? If the impact of the project will be to reduce the number of lanes available for non 91 express lane users, I along with broad groups of residents would vehemently oppose this project. P-30-4
3. Will this project create any means of bypass of the 241-to-91 connectors to allow right of way directly to Gypsum Canyon Rd from the 241 road? At present, it is required that drivers use the 241 north / 91 west connector to exit Yorba Linda / Weir Canyon Rd., and then backtrack east to reach Gypsum Canyon Road. Will this project (and can this project) include a direct access link from the 241 to Gypsum Canyon Road to further alleviate traffic and allow additional access to eastern Yorba Linda? P-30-5

The most critical question remains question 1. The lack of a permanent separator between the two sets of lanes on the 241 N remains a serious risk to motorists. P-30-6

I look forward to your reply.

Hatem Tadros
Yorba Linda Resident

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P-31

Carmen Lo

To: D12 SR241-91ELC@DOT; Lisa Williams
Cc: Deshpande, Smita R@DOT; Valarie McFall
Subject: RE: Comment on 241-91 Express Connector

From: Jeff Gros
Sent: Thursday, December 15, 2016 8:05 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: Comment on 241-91 Express Connector

Dear Sir or Madam,

At around 6 pm on 12/9 I spent over an hour going north on the 241 attempting to transition to the 91-West. Had I been going to the 91-East, this would be understandable. For going west spending this is completely unacceptable. I feel like I've been cheated.

When I finally inched my way to where I would transition to the 91-West, I saw the problem. People were selfishly trying to cut into the east bound traffic at the last minute with no regard to people behind them trying to go westbound. P-31-1

This is not an uncommon problem and can make using the toll road to go west bound very difficult.

I don't think your express connector is going to be very effective in **reducing Orange County traffic**. You cannot fix traffic going east to Riverside. It's like scooping water out of a sinking boat with a thimble. P-31-2

As an agency of Orange County, it is your responsibility to reduce traffic in Orange County. Riverside County traffic is not your charter. P-31-3

I think the best solution is to isolate Riverside county traffic on the toll roads as much as possible. Put up a divider that runs the entire length of the 241 from where the 133 meets it. This simple fix would keep Orange County bound traffic flowing smoothly. P-31-4

Sincerely,

Jeff Gros

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P-32

Carmen Lo

To: D12 SR241-91ELC@DOT
Subject: RE: Public Comment

From: Chaz Perrigoue
Sent: Friday, December 16, 2016 12:27 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: Public Comment

Hello,

Thank you for the opportunity to comment on the proposed 91/241 direct connector. I am a resident of South Orange county (Ladera Ranch.) Additionally I am a frequent user of the current connector. For the reasons stated in your "meeting" video I strongly support the construction of the proposed connector. The reduction of traffic, creation of jobs, and improvement of our infrastructure are laudable goals which this project directly supports. Excellent work TCA! P-32-1

Please feel free to contact me with any questions.

Best Regards,

Charles Perrigoue

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P-33

Carmen Lo

To: D12 SR241-91ELC@DOT; Lisa Williams
Cc: Deshpande, Smita R@DOT; Valarie McFall
Subject: RE: Comment On The 241/91 Express Connector

Sent: Wednesday, December 21, 2016 5:49 AM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: Comment On The 241/91 Express Connector

Comment On The 241/91 Express Connector To be Added ;;

P-33-1

The amount of traffic that would actually use this ; Added Connector would be to minimal as to construct.

Regards
Gary Hickenbottom

Sent from my iPhone

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P-34

Carmen Lo

To: D12 SR241-91ELC@DOT; Lisa Williams
Cc: Deshpande, Smita R@DOT; Valarie McFall
Subject: RE: why make it worse

From: Adrian K
Sent: Thursday, December 22, 2016 10:18 AM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: why make it worse

Smita Desphande, Generalist Branch Chief
Caltrans District 12
Attn: 241-91 DSEIR/EIS Comment Period

I am writing to ask why would state and private entities mask to reduce traffic when you are actually creating more traffic by adding toll lanes. You want to take "freeway" lanes and make them toll roads. It only eases traffic for those that can afford them and not for many of the public who does have to travel through this miserable highway. I am not a law maker, nor an engineer, but I can see that this is all about money masked as a solution to heavy traffic. All of you should be ashamed of yourselves. P-34-1

Adrian Koval
Fed up concerned citizen

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P-35

Carmen Lo

To: D12 SR241-91ELC@DOT
Subject: RE: 241/91 Express Connector Project

Sent: Monday, December 26, 2016 1:50 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: 241/91 Express Connector Project

We support this proposal.

We were once stuck on the 241 northbound to the 91 eastbound for 90 minutes. We literally crawled that last mile.

We currently live in Highland and will be moving to San Clemente next year. We will be traveling the 241 to the 91 at least once a week for business and to be active grandparents for our granddaughter living in Norco. We have been lamenting the drive. So happy to read about this proposal!

P-35-1

Thank you!
Norm & Linda Williams

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P-36

Carmen Lo

To: D12 SR241-91ELC@DOT
Subject: RE: Connect 241 to 91 Express Lanes

-----Original Message-----
From: Norman Williams
Sent: Monday, December 26, 2016 4:19 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: Connect 241 to 91 Express Lanes

This is an idea that is long over due. Such a transition would relieve a major part of the bottle neck as you travel east on the 91 into Corona. P-36-1

Rev. Dr. Norman L. Williams
PSWR Disaster Recovery Ministry

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P-37

Carmen Lo

To: D12 SR241-91ELC@DOT; Lisa Williams
Cc: Deshpande, Smita R@DOT; Valarie McFall
Subject: RE: Toll Road Expansion

From: McDowell, Jonathan H.
Sent: Sunday, January 08, 2017 11:25 AM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: Toll Road Expansion

Hello,

I would like to go on record saying that I believe the 241/91 express connector would be a great project.

I use the 241 to get to the 91 quite often. There are countless times that the current connector is backed up. I would love to be able to get right into the 91 express lane heading east and shorten my commute time. P-37-1

Thanks,

Jonathan H. McDowell QEI NAESA
Operations Manager, New Installation
ET-AMS/FLD

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P-38

Carmen Lo

To: D12 SR241-91ELC@DOT; Lisa Williams
Cc: Deshpande, Smita R@DOT; Valarie McFall
Subject: RE: Comment

From: Roy Center
Sent: Monday, January 09, 2017 9:28 AM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: Comment

I am in full support of the connector but you should also consider a direct connector from the Greenriver overpass to and from the west bound 91 fast track lanes, Thank you, Roy Center P-38-1

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P-39

Carmen Lo

To: D12 SR241-91ELC@DOT
Subject: RE: 241/91 Express Connector Project

From: Diana Hearn
Sent: Monday, January 09, 2017 9:19 AM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: 241/91 Express Connector Project

We wholeheartedly support this project. It would greatly enhance travel between southeastern Orange County and the 91 freeway. P-39-1
Edwin and Diana Hearn
Carlsbad

From DDH iPad

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Carmen Lo

To: D12 SR241-91ELC@DOT; Lisa Williams
Cc: Deshpande, Smita R@DOT; Valarie McFall
Subject: RE: 241/91 Toll Road Comments

From: On Behalf Of Sean Bryant
Sent: Monday, January 09, 2017 8:57 AM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: 241/91 Toll Road Comments

My wife and I travel to Orange County weekly for work. We absolutely approve of this expansion. We think it's vital to reducing traffic to and from Orange County and improving the area we live in (Corona) in general.

We wish the timeline was sooner/faster as it's such a small bridge that needs to be created. My only concern is making sure the money is properly budgeted and scheduling isn't abnormally buffered.

P-40-1

--
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P-41

Carmen Lo

To: D12 SR241-91ELC@DOT; Lisa Williams
Cc: Deshpande, Smita R@DOT; Valarie McFall
Subject: RE: SR 241 to 91

From: William Lopez
Sent: Monday, January 09, 2017 8:25 AM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: SR 241 to 91

Will the existing ramps be left alone?
I would suggest that they should be left there.

The challenge that I see is that the existing Fastrack lanes will already have a steady flow of traffic. Now add two more lanes from the 241 and you will get congestion.
Even if flow from green river towards riverside is clear, adding two lanes to the existing two will slow things down. P-41-1

Also.....

Have you considered putting barriers further up the 241 to prevent last minute mergers from fast lanes onto the eastbound flowing lanes. P-41-2
Thank you,
William Lopez

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Carmen Lo

To: D12 SR241-91ELC@DOT; Lisa Williams
Cc: Deshpande, Smita R@DOT; Valarie McFall
Subject: RE: Reverting to the public

From: Xico Salazar
Sent: Monday, January 09, 2017 2:41 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: Reverting to the public

Was not there the provision for the toll roads revert to free after 30 years? P-42-1

After TCA bought out the operators of the toll portion of the 91 freeway fees shot up to punishing heights never charged before and now fluctuate hourly reaching sometimes one dollar per mile.

Will there be additional fees after the connector? P-42-2
Will they be as brutal?
How long will the tolls be collected?

Xico Salazar
Corona, CA

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Carmen Lo

P-43

To: D12 SR241-91ELC@DOT; Lisa Williams
Cc: Deshpande, Smita R@DOT; Valarie McFall
Subject: RE: Comment

From: Melinda Alvarez
Sent: Monday, January 09, 2017 2:51 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: Comment

Hello,

I think this project is a great idea, however a permanent barrier needs to be established at the top of the hill at the 241 dividing the on ramps to the 91 east and 91 west. We are paying good money to use the 241, so people who take the 91 west should not sit in traffic because of the 91 east traffic. Signs can be placed as drivers are going up the hill, and the toll booth should be split and a permanent structure (cement island, etc.) should be put in place to direct traffic in both directions on the 91 freeway well before the fork. P-43-1 P-43-2

Thank you for your time and consideration.

Melinda Alvarez

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P-44

Carmen Lo

To: D12 SR241-91ELC@DOT; Lisa Williams
Cc: Deshpande, Smita R@DOT; Valarie McFall
Subject: RE: No build

From: patrick dreis
Sent: Monday, January 09, 2017 8:06 PM
To: D12 SR241-91ELC@DOT <D12.SR241-91ELC@dot.ca.gov>
Subject: No build

This proposal to build connectors to the 91 express from and to the 241 is a bad idea. The 91 is already at capacity. Add lanes to the 91 first, before you increase connections. P-44-1

Thank you.

Sent from my iPad

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Carmen Lo

To: D12 SR241-91ELC@DOT; Lisa Williams
Cc: Deshpande, Smita R@DOT; Valarie McFall
Subject: RE: 241-91 Connectors

From: John Boyd
Sent: Saturday, November 26, 2016 9:59 AM
To: D12 SR241-91ELC@DOT
Subject: 241-91 Connectors

All, please accept this email as a supporter of this process. This should have been considered and rights of way obtained as necessary prior to the completion of the 241 Toll Road. Transportation officials need to treat highway development the same way that private development is treated, i.e. contribution at the time of the development for existing and future infrastructure. Transportation officials need to project a ride-sharing and toll road systems that is seamless as possible and this has been a glaring example far too long of lack of coordination. Agency jurisdiction should never block or hinder cooperation and compromise. P-45-1

With all that said some suggestions:

1. 91 West/South to the 241 should be the easiest to construct but the congestion is more in the other direction. Priority should be for the 241Northbound-91 East/North. P-45-2
2. The transition 241Northbound-91 East/North should come from the 241 Northbound-91 West/South overpass already in existence to save costs and time of construction since the overpass is in place already. Your plan online doesn't provide details or scale. P-45-3
3. I assume the overpass necessary from the 91 Express Westbound will be shared for the 241 Northbound Connector, if not it should. P-45-4

Get it done.

Thanks.

John

John A. Boyd, Esq.|Partner
THOMPSON & COLEGATE LLP
ATTORNEYS AT LAW - ESTABLISHED 1915

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PHC-1 PUBLIC HEARING COMMENTS

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COMMENT CARD

PHC-1

Public Hearing Meeting on November 29, 2016

Name: Marty DeSollar

Email: MzdeSollar@gmail.com

Address: 27830 Mount Whitney Way Yorba Linda CA 92887

Phone: 7142991236 Affiliation: Resident

Comments:

① Thank you for the open house but would ask that you have more outreach to Yorba Linda residents. PHC-1-1

② I would also suggest that your information sheets have a more detail schematic of the project. Thanks! PHC-1-2

Submit comments by returning this postcard tonight. You may also mail the postcard or send an email to D12.SR241-91ELC@dot.ca.gov by Jan. 9, 2017.

☒ Please add me to the project notification list.

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COMMENT CARD

PHC-2

Public Hearing Meeting on November 29, 2016

Name: Matt Olsen

Email: prismafx@gmail.com

Address: 1501 San Almada Rd. Corona, CA

Phone: 714-264-3409 Affiliation:

Comments:

I encourage TCA and other agencies to add travel time signage (travel with and without toll facility usage) at all ingress points. PHC-2-1

Also, please thoroughly communicate that connector users are locked in until I-15

Submit comments by returning this postcard tonight. You may also mail the postcard or send an email to D12.SR241-91ELC@dot.ca.gov by Jan. 9, 2017.

☒ Please add me to the project notification list.

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COMMENT CARD

PHC-3

Public Hearing Meeting on November 29, 2016

Name: Rich Gomez

Email: rgomez@swcarpenters.org

Address: 18558 San Felipe St. Fountain Valley, CA 92708

Phone: 714-448-6392 Affiliation: Carpenters Union

Comments:

This Connector should have been designed and implemented with 241 when it was first designed. It is long over due. As a Union Carpenter who worked on the original 241/261 Toll Roads. From start to the end We would love to be part of this Connector It would employee a lot of Local Carpenters who Live & Spend our Money in our Local Communities.

PHC-3-1

PHC-3-2

Submit comments by returning this postcard tonight. You may also mail the postcard or send an email to D12.SR241-91ELC@dot.ca.gov by Jan. 9, 2017.

☑ Please add me to the project notification list.

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COMMENT CARD

PHC-4

Public Hearing Meeting on November 29, 2016

Name: Sally Wurtenberg

Email: Sally7Lee@aol.com

Address: Resident in area

Phone: _____ Affiliation: _____

Comments:

I live off of Weir Canyon and I am not able to access the 91 Express Lanes at my on-ramp - Is there a way to help us that live in the area to access the 91 express lanes. Also the ramp to get on the 241 from Weir Canyon is blocked by 91 Freeway traffic lane so we are often locked up with that traffic and can't easily get on the 241.

PHC-4-1

PHC-4-2

Submit comments by returning this postcard tonight. You may also mail the postcard or send an email to D12.SR241-91ELC@dot.ca.gov by Jan. 9, 2017.

☐ Please add me to the project notification list.

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COMMENT CARD

PHC-5

Public Hearing Meeting on November 29, 2016

Name: Solomon Shapiro

Email: Solomon@LivingBetter101.com

Address: 2888 Camellia Ct. Corona 92882

Phone: 9099103417 Affiliation: Corona Community Volunteer

Comments:

I am highly in favor of this project and am satisfied with the info. presented tonight.

Please proceed full-speed ahead!

PHC-5-1

Submit comments by returning this postcard tonight. You may also mail the postcard or send an email to D12.SR241-91ELC@dot.ca.gov by Jan. 9, 2017.

☑ Please add me to the project notification list.

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Appendix O FHWA Air Quality Conformity Determination

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U.S. Department of Transportation
Federal Highway Administration

Federal Highway Administration
California Division

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001
(916) 498-5008 (fax)

May 3, 2017

In Reply Refer To:
HDA-CA

Ryan Chamberlain
Director
California Department of Transportation
District 12
1750 E., 4th St., Suite 100
Santa Ana, CA 92705

Attention: Paul Chang

SUBJECT: Project Level Conformity Determination for the SR-241/ SR-91 Express Lanes Connector Project (FTIP ID ORA111207)
Dear Mr. Chamberlain:

On April 5, 2017, the California Department of Transportation (Caltrans) submitted to the Federal Highway Administration (FHWA) a complete request for a project level conformity determination for the SR-241 / SR-91 Express Lanes Connector Project. The project is in an area that is designated Non-Attainment or Maintenance for Nitrogen Dioxide (NO_2), Carbon Monoxide (CO), 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 Southern California Association of Governments' (SCAG) 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 SR-241/ SR-91 Express Lanes Connector 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,

For: Vincent P. Mammano
Division Administrator