Interstate 10 (I-10)/Cherry Valley Boulevard Interchange Project

CITY OF CALIMESA, RIVERSIDE COUNTY, CALIFORNIA
DISTRICT 8 – RIV – 10 (PM R2.1/R3.8)
08-0G170/0800000190

Initial Study with (Proposed) Mitigated Negative Declaration/ Environmental Assessment

Prepared by the
State of California Department of Transportation
and the City of Calimesa

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

December 2021

Caltrans

General Information About This Document

What's in this document:

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has prepared this Initial Study/Environmental Assessment (IS/EA) prepared, which examines the potential environmental impacts of the alternatives being considered for the proposed project located in the City of Calimesa, Riverside County, California. Caltrans is the lead agency under the Natural 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.

What you should do:

- Please read this document.
- Copies of this document and the related technical studies are available for review at the following locations:

- Caltrans District 8, 464 West 4th Street, San Bernardino, California 92401
- City of Calimesa, City Hall, 908 Park Avenue, Calimesa, California 92320
- Calimesa Library, 974 Calimesa Boulevard, Calimesa, California 92320

- This document may be downloaded at the following website: https://rcprojects.org/
- Participate in the virtual public hearing to be held on January 13, 2022 from 5:00 PM to 7:00 PM, accessed through the following link: https://us06web.zoom.us/j/85829724839.
- We would like to hear what you think. If you have any comments about the proposed project, please attend the public hearing and/or send your written comments to Caltrans by the deadline.
- Send comments via postal mail to: Shawn Oriaz, Senior Environmental Planner at Caltrans District 8, 464 W. 4th Street, 6th floor, MS-827, San Bernardino, CA 92401
- Send comments via email to: CherryValleyInterchange@dot.ca.gov
- Send comments by the deadline: January 24, 2022

What happens next:

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

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please write to or call Terri Kasinga, Chief, Public and Media Affairs, 464 W. 4th Street, 6th floor, San Bernardino, CA 92401-1400; (909) 383-4646; or use the California Relay Service 1-800-735-2929 (TTY to Voice), 1-800-735-2922 (Voice to TTY), 1-800-855-3000 (Spanish TTY to Voice and Voice to TTY), 1-800-854-7784 (Spanish and English Speech-to-Speech), or 711.

SCH #____________
08-RIV-10-PM R2.1/R3.8
08-0G170
PN 0800000190

Construction of interchange improvements at Interstate 10 (I-10) and Cherry Valley Boulevard, located at Post Mile (PM) Revised (R) 3.5 between PM R2.1 and PM R3.8 on I-10 in the City of Calimesa, County of Riverside, California.

INITIAL STUDY
with (Proposed) Mitigated Negative Declaration/
ENVIRONMENTAL ASSESSMENT

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

THE STATE OF CALIFORNIA
Department of Transportation
and
Responsible Agencies: Riverside County Transportation Department and City of Calimesa

December 14, 2021
Date of Approval

Kurt Heidelberg
for David Bricker
Deputy District Director
District 8 Division of Environmental Planning
California Department of Transportation
CEQA/NEPA Lead Agency

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

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Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The City of Calimesa (City), in cooperation with the California Department of Transportation (Caltrans) and the County of Riverside (County), is proposing to upgrade and reconfigure the existing I-10/Cherry Valley Boulevard Interchange (project) from Post Mile (PM) R2.1 to R3.8, located in north-western Riverside County. The proposed project would upgrade and reconfigure Cherry Valley Boulevard at Interstate 10 (I-10) and realign Calimesa Boulevard to improve traffic flow within the project area. Cherry Valley Boulevard would be widened to two lanes in each direction within the project limits. Sidewalks and bicycle facilities would be provided along Cherry Valley Boulevard to allow pedestrian access along the corridor. Right-turn pockets would be provided approaching the westbound on-ramp and eastbound on-ramp. Channelized turning would also be added on Cherry Valley Boulevard to connect to Calimesa Boulevard, which would have a signalized stop control at Calimesa Boulevard turning onto Cherry Valley Boulevard. On- and off-ramps at the interchange would be realigned and reconstructed to multilane ramps. The entry ramps in both directions will accommodate California Highway Patrol (CHP) enforcement areas and ramp metering that reduce to a single lane entering the freeway. A 1,300 foot long auxiliary lane would be added to the eastbound off-ramp and a 3,400 foot long westbound on-ramp to provide additional storage.

Determination

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

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

The proposed I-10/Cherry Valley Boulevard Interchange Project would have no effect on the following resources: Mineral Resources, Land Use and Planning, and Recreation.

In addition, the proposed I-10/Cherry Valley Boulevard Interchange Project would have less than significant effects to: Aesthetics, Agriculture and Forest Resources, Air Quality, Cultural Resources, Energy, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Population and Housing, Public Services, Transportation, Tribal Cultural Resources, Utilities and Service Systems, and Wildfire.

With mitigation measures incorporated, the project would have less than significant effects to Biological Resources, Geology and Soils (paleontological resources), and Greenhouse Gas Emissions:

WET-1 The following regulatory approvals shall be obtained prior to commencement of any construction activities within the identified jurisdictional areas: 1) A determination from USACE via an Approved Jurisdictional Determination (AJD) or a Preliminary Jurisdictional Determination (PJD); 2) RWQCB CWA Section 401 Water Quality Certification (WQC) or a Waste Discharge Requirements (WDR); and 3) CDFW Section 1602 Streambed Alteration Agreement (SAA). As part of the regulatory approval process, permanent and temporary impacts on jurisdictional waters shall be mitigated at a minimum ratio of 1:1 at an approved mitigation bank, applicant-sponsored mitigation area, or on site, in consultation with the resource agencies.

PAL-2 Prior to the commencement of ground-disturbing activities, a Principal Paleontologist who meets the Caltrans qualification standards shall be retained to prepare and implement a Paleontological Mitigation Plan (PMP) for the project. The project's PMP shall develop mitigation measures based on the assigned sensitivity rankings as well as the proposed depths of ground disturbance throughout the project area, as surface and near-surface geologic units are well documented while geologic units at greater depths remain undocumented. Depending on the proposed project's excavation depths, the type of monitoring shall be one of the following:

- For areas categorized as High Potential: Full-time monitoring shall be required for disturbance at all depths in selected areas with intact sediments. In subareas of High Potential, monitoring efforts shall be reduced or eliminated at the discretion of the Principal Paleontologist if no fossil resources are encountered after 50 percent of the excavations are completed.
- For areas categorized as Low Potential: Spot-check monitoring is recommended for disturbance in particular areas at four feet or greater below ground surface (bgs) in intact sediments. If High Potential geologic units are encountered at depth in those particular locations during spot-check monitoring, those subareas shall be elevated to High Potential and monitoring shall be upgraded to full-time.

Monitoring shall not be required for excavations less than four feet bgs in subareas with Low Potential or within any subareas with artificial fill. Although monitoring is not typically required in subareas of Low Potential, spot-check monitoring shall be implemented at the discretion of the Principal Paleontologist to confirm the presence of subsurface

High Potential geologic units. In particular, deeper excavations of approximately 12 to 25 feet bgs for items such as bridge abutments, bent footings, and overhead sign foundations shall be spot-checked, as these construction activities may impact High Potential geologic units at depth.

All monitoring shall include the visual inspection of excavated or graded areas, trench sidewalls, spoils, and any other disturbed sediment. In the event that a paleontological resource is discovered, either the Principal Paleontologist or approved on-site paleontological monitor shall have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance and collected. Additionally, test samples of sediments from geologic units with High Potential shall be collected and screened on site to determine the presence of fossils in the small grain-size fractions. If significant small-fraction fossils are discovered during the test sampling, larger bulk samples of sediments may be collected for further processing in the laboratory. The recommended sampling shall follow best practice procedures in mitigation paleontology.

CC-1 The project will incorporate facilities to promote mobility for pedestrians and bicyclists, including sidewalks, crosswalks, and bicycle buffers.

CC-2 A Transportation Management Plan (TMP) will be prepared during the final design phase to minimize traffic delays and idling during construction.

CC-3 The project will incorporate the use of energy-efficient lighting, such as LED traffic signals, to help reduce the project's CO_2 emissions.

CC-4 The project will incorporate complete streets components, specifically pedestrian sidewalks and turn-lane bicycle buffers along Cherry Valley Boulevard.

CC-5 The project will implement landscaping as determined during final design in coordination with the City of Calimesa and the Caltrans District Landscape Architect. This landscaping will include energy- and water-efficient irrigation systems and native plants as appropriate, to conserve energy and help offset any potential CO_2 emissions increase.

CC-6 The project will recycle construction debris as practicable.

CC-7 Tree removals required for project implementation will be subject to tree removal permit(s) associated requirements for replacement consistent with the City of Calimesa Zoning Code, Chapters 18.70 and 18.80.

CC-8 Idling is limited to five minutes for delivery and dump trucks and other diesel-powered equipment (with some exceptions).

GHG-1 According to the Caltrans' Standard Specifications, the contractor must comply with all local Air Pollution Control District's (APCD) rules, ordinances, and regulations for air quality restrictions. This includes CARB's anti-idling rule (Section 2489 of the California Code of Regulations) and South Coast Air Quality Management District's (SCAQMD) Rule 2449 (In-Use Mobile Source Emission Reduction Programs).

GHG-2 According to the Caltrans Standard Specifications, idling time for lane closure during construction will be limited to 10 minutes in each direction. In addition, the contractor will comply with all SCAQMD rules, ordinances, and regulations regarding air quality restrictions.

GHG-3 The project will maintain equipment in proper tune and working condition. Construction equipment fleets will be in compliance with Best Available Control Technology requirements.

GHG-4 Bids will be solicited that include use of energy and fuel-efficient fleets in accordance with current practices.

GHG-5 The project will use cement blended with the maximum feasible amount of fly ash or other materials that reduce GHG emissions from cement production.

GHG-6 The project will incorporate design measures to reduce GHG emissions from solid waste management through solid waste reduction, recycling, and reuse.

GHG-7 The project will utilize energy- and fuel-efficient vehicles and equipment that meet and exceed U.S. EPA/NHTSA/CARB standards relating to fuel efficiency and emission reduction.

GHG-8 The project will use the minimum feasible amount of GHG-emitting construction materials.

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David Bricker
Deputy District Director
District 8 Division of Environmental Planning
California Department of Transportation

Date of Approval

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Chapter 1 Proposed Project

National Environmental Policy Act Assignment

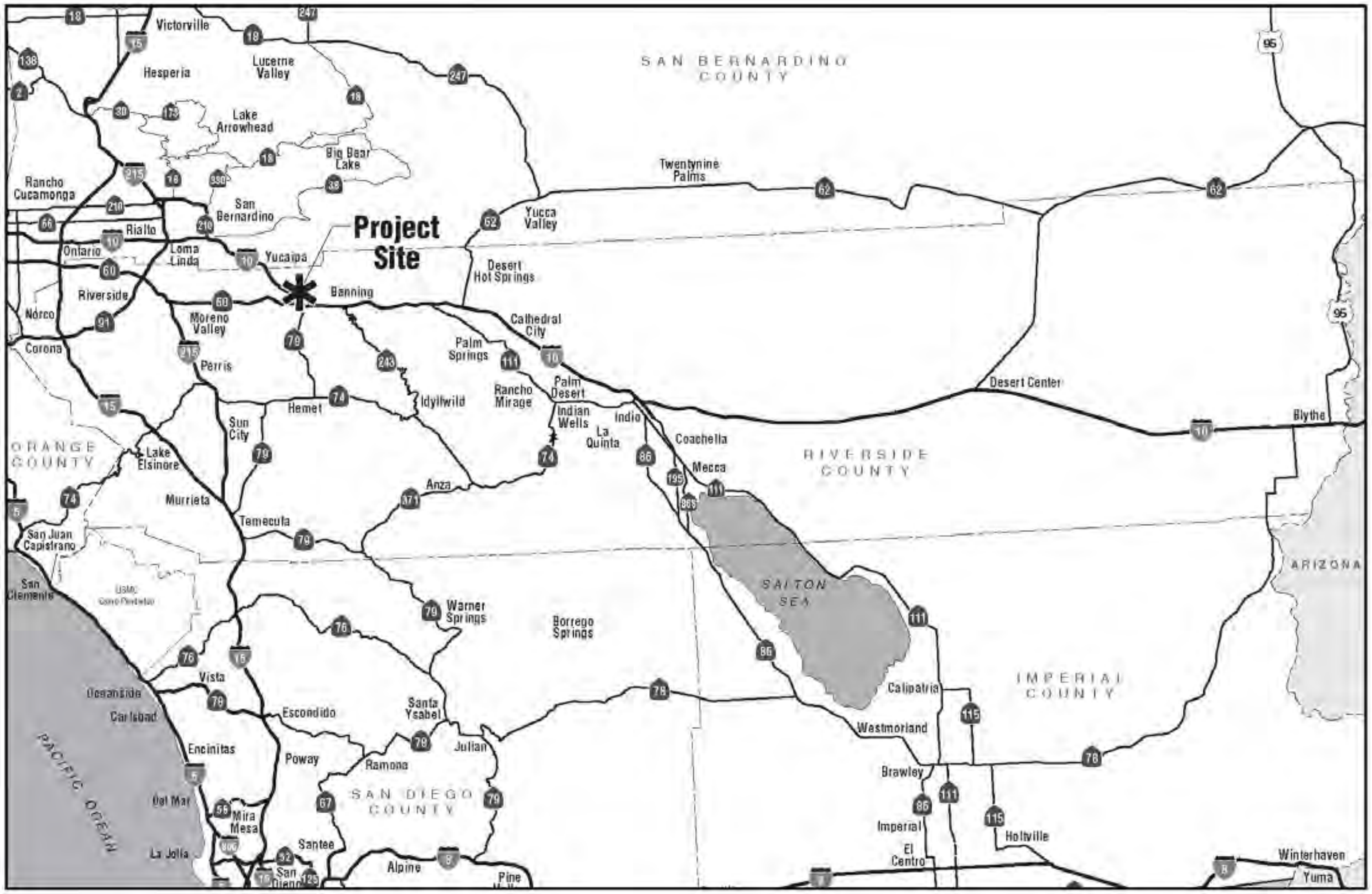
California participated in the “Surface Transportation Project Delivery Pilot Program” (Pilot Program) pursuant to 23 United States Code (USC) 327, for more than five years, beginning July 1, 2007, and ending September 30, 2012. MAP-21 (P.L. 112-141), signed by President Obama on July 6, 2012, amended 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 pursuant to 23 USC 327 (National Environmental Policy Act [NEPA] Assignment Memorandum of Understanding [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 five 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 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

1.1 Introduction

Caltrans, as assigned by the FHWA, is the lead agency under the NEPA. Caltrans is also the lead agency under the California Environmental Quality Act (CEQA). The City of Calimesa (City), in cooperation with Caltrans and the Riverside County Transportation Department (RCTD), proposes to upgrade and reconfigure Cherry Valley Boulevard at Interstate 10 (I-10) to improve traffic flow within the project area. The proposed Cherry Valley Boulevard interchange would be located on I-10 at Post Mile (PM) R3.5, between PM R2.1 and PM R3.8, in the City of Calimesa, within Riverside County. The existing I-10/Cherry Valley Boulevard interchange is located on I-10 between Singleton Road and Oak Valley Parkway; refer to Figure 1-1, Regional Vicinity, and Figure 1-2, Site Vicinity.

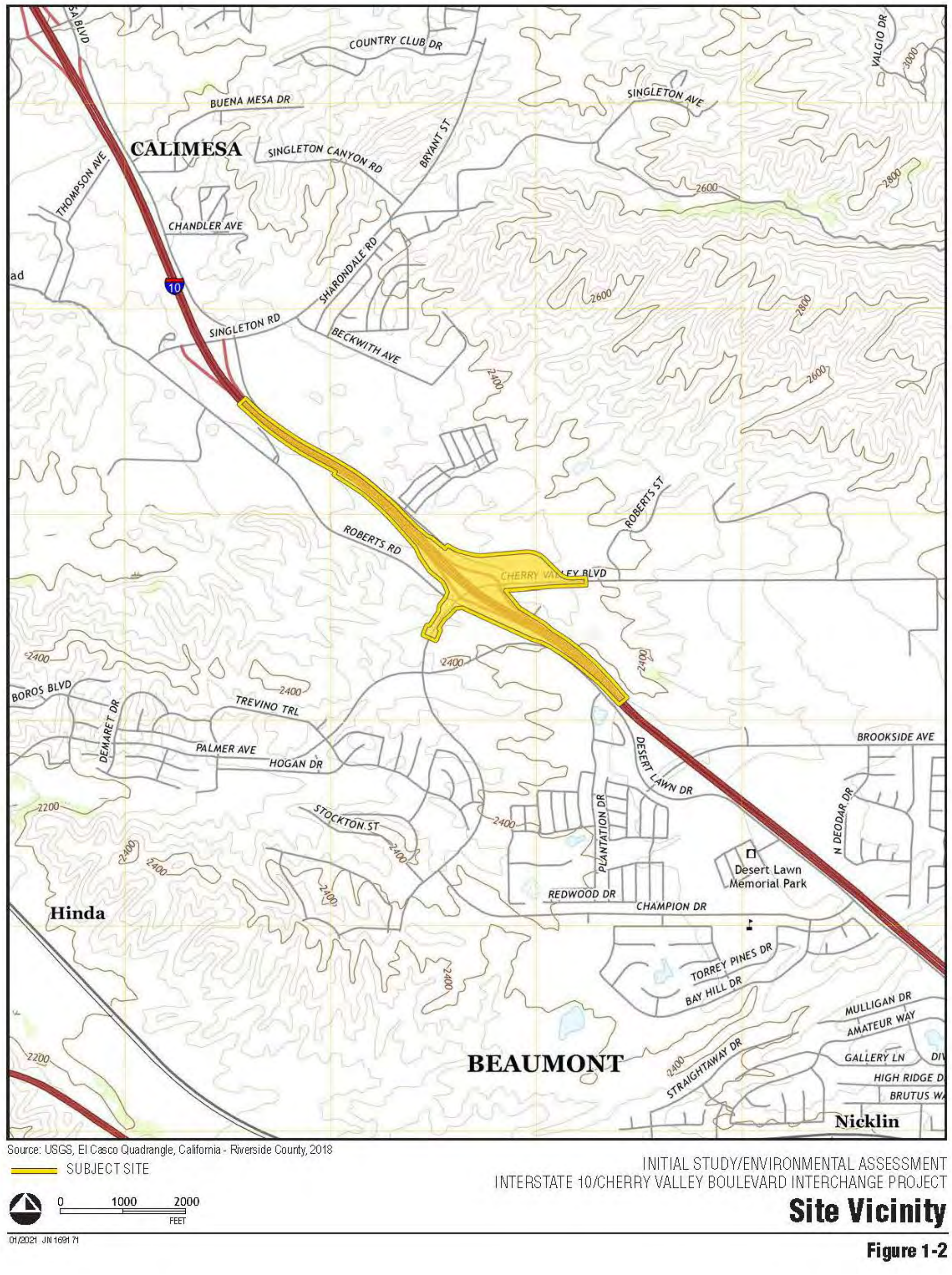
The I-10/Cherry Valley Boulevard interchange is a major access point for existing and proposed residential and commercial development. The existing configuration is a diamond interchange, with all-way stop control at the ramp termini. The on- and off-ramps at the interchange consist of one lane.

Figure 1-1: Regional Vicinity



INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
INTERSTATE 10/CHERRY VALLEY BOULEVARD INTERCHANGE PROJECT
Regional Vicinity
NOT TO SCALE
Figure 1-1

Figure 1-2: Site Vicinity



1.1.1 Existing Facilities

Interstate 10

Within the project area, I-10 is a six-lane divided freeway with three 12-foot-wide, mixed flow lanes in each direction, and 16-foot-wide inside and 12-foot-wide outside shoulders. A concrete barrier separates the eastbound and westbound lanes of traffic. The existing right-of-way (ROW) width is 200 to 300 feet with access control on either side, where applicable.

I-10 is included in the National Highway System (NHS), the Rural and Single Interstate Routing System (RSIRS), and the Strategic Highway Corridor Network (STRAHNET). It is also a Surface Transportation Assistance Act (STAA) Route for use by oversized trucks. The segment within the project limits is functionally classified as an Urbanized Freeway.

I-10 is a major transportation route that connects the City of Calimesa to Los Angeles and San Bernardino counties to the west, and the State of Arizona to the east. It is functionally classified as an Interstate and is included in the State Freeway and Expressway System. Based on historic aerials of the project site, the portion of I-10 within the project limits was constructed prior to 1954.

The 2017 I-10 Transportation Concept Report (TCR) shows that six lanes (which includes both directions) are required on I-10 through the project limits to attain a Level of Service (LOS) “E” rating. The project is consistent with the identified goals of the TCR and is recognized as one of the strategies to achieve the corridor concept.

Cherry Valley Boulevard

Cherry Valley Boulevard begins at the Noble Street intersection, approximately four miles east of I-10, which then travels westerly through the City of Calimesa, and travels southwest, west of I-10, and ends at the Fairways residential community. Within the project area, Cherry Valley Boulevard is a two-lane roadway, one lane in each direction, with a posted speed limit of 35 miles per hour west of the interchange and a posted speed limit of 55 miles per hour east of the interchange. Per the City of Calimesa’s General Plan, dated August 4, 2014, Cherry Valley Boulevard is classified as a Major Arterial. The Cherry Valley Boulevard Overcrossing (OC) (PM R3.05, Bridge Number 56-0481) is a four-span, concrete-girder bridge constructed in 1965 and is approximately 273 feet long, 47 feet wide, and crosses six lanes of traffic over I-10.

1.1.2 Project Programming

The project will be locally funded with Transportation Uniform Mitigation Funds (TUMF) administered by the Western Riverside Council of Governments. Federal funding is being considered for this project via Congestion Mitigation and Air Quality Improvement (CMAQ) funds. At this time, no State funding has been identified for this project. The estimated project cost for Build Alternative 3 is $60,432,000 and for Build Alternative 4 is

$63,854,000. The project is included in the Southern California Association of Governments (SCAG)'s 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) [Project ID RIV060116], as well as the 2021 Federal Transportation Improvement Program (FTIP) [Project ID RIV060116]. The project entry in the 2021 FTIP identifies the following scope of work: "I-10/Cherry Valley Blvd. ("Boulevard") IC ("Interchange"): Replacement of existing curved overcrossing extending 500 linear feet from Roberts Road (south) to approximately 1,000 ft ("feet") E/O ("east of") Calimesa Blvd. Associated project improvements include realignment of Calimesa Blvd. and ramp realignment/widening for all four ramps (CMAQ PM 2.5 Benefits Project)."

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the project is to:

- Relieve congestion and improve traffic operations at the Interstate 10 (I-10)/Cherry Valley Boulevard interchange;
- Address increased travel associated with existing and planned development anticipated in the City of Calimesa and surrounding areas; and
- Improve existing interchange geometry.

1.2.2 Need

Due to expected continuing increases in traffic volumes associated with planned development in the project area, the interchange is expected to not satisfy applicable operational performance standards by the design horizon year of 2045. Additionally, the existing gaps in pedestrian and bicycle infrastructure across the interchange break the multi-modal connection between communities and businesses on either side of I-10. Lastly, the existing ramp alignments, ramp intersections, and Cherry Valley Boulevard contain nonstandard geometric features. Without the project, the operation of the interchange will continue to deteriorate unacceptable levels of service, resulting in increased congestion, delays, energy consumption, and air pollution.

Transportation Demand and Safety

Project alternatives were analyzed within the Traffic Operations Analysis Report (dated November 2020) prepared for the project under the existing year (2019), opening year (2025), and design year (2045) conditions. The study scenarios for traffic operations analysis include the following:

- Existing (2019) Conditions
- Opening Year (2025) No-Build Alternative

- Opening Year (2025) Build Alternative 3 - Diverging Diamond
- Opening Year (2025) Build Alternative 4 - Partial Cloverleaf
- Design Year (2045) No-Build Alternative
- Design Year (2045) Build Alternative 3 - Diverging Diamond
- Design Year (2045) Build Alternative 4 - Partial Cloverleaf

A full description of the No-Build Alternative, Build Alternative 3, and Build Alternative 4 is included in Section 1.4, Alternatives.

Capacity and Level of Service

This section describes the existing and forecast traffic data for intersection, roadway segment, and expressway traffic operational conditions, and accident review. Traffic forecasts were developed for study facilities as part of the Interstate 10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA 0G170) Traffic Operations Analysis Report (see Appendix C of the Traffic Operations Analysis Report [Traffic Report] for the project, dated December 2020). The study area consists of study intersections along Cherry Valley Boulevard (between Palmer Avenue to the south and Calimesa Boulevard to the north), the I-10 mainline eastbound and westbound segments between Singleton Road and Oak Valley Parkway, and I-10 ramp intersections at Singleton Road, Cherry Valley Boulevard, and Oak Valley Parkway; refer to Figure 2.1.9-1, Traffic Study Area. The study facilities are identified below and were evaluated during the weekday AM (7:00 AM to 9:00 AM) and PM (4:00 PM to 6:00 PM) peak hours at study intersections and mainline/ramp locations and on a weekday basis for study arterial roadway segments.

Study Intersections

The following intersections were studied:

- I-10 Eastbound On-Ramp / Singleton Road
- I-10 Westbound Off-Ramp / Singleton Road
- Cherry Valley Boulevard / Palmer Avenue / Desert Lawn Drive
- Cherry Valley Boulevard / Roberts Road
- I-10 Eastbound Off/On-Ramps / Cherry Valley Boulevard
- I-10 Westbound Off/On-Ramps / Cherry Valley Boulevard
- Cherry Valley Boulevard / Calimesa Boulevard
- I-10 Eastbound Off/On-Ramps / Oak Valley Parkway
- I-10 Westbound Off/On-Ramps / Oak Valley Parkway

I-10 Mainline Segments

The following I-10 eastbound mainline segments were studied:

- I-10 Merge from Singleton Road

- I-10 Mainline between Singleton Road and Cherry Valley Boulevard
- I-10 Diverge to Cherry Valley Boulevard
- I-10 Mainline between Cherry Valley Boulevard and Oak Valley Parkway
- I-10 Diverge to Oak Valley Parkway

The following I-10 westbound mainline segments were studied:

- I-10 Merge from Oak Valley Parkway
- I-10 Mainline between Oak Valley Parkway and Cherry Valley Boulevard
- I-10 Diverge to Cherry Valley Boulevard
- I-10 Merge from Cherry Valley Boulevard
- I-10 Mainline between Cherry Valley Boulevard and Singleton Road

Intersection Operations

Analysis Methodology

The Highway Capacity Manual (HCM) Sixth Edition methodology for signalized intersections estimates the average control delay for vehicles at the intersection while the methodology for unsignalized intersections estimates the worst-case movement control delay for two-way stop-controlled intersections and the average control delay for all-way stop controlled intersections. After the quantitative delay estimates are complete, the methodology assigns a qualitative letter grade that represents the operations of the intersection. These grades range from LOS A (minimal delay) to LOS F (congested conditions). LOS E represents at-capacity operations. Descriptions of the LOS letter grades for both signalized and unsignalized intersections are provided in Table 1-1, Intersection LOS.

Table 1-1: Intersection LOS

LOS	Description	Signalized Intersections (Average Stopped Delay per Vehicle [seconds per vehicle])	Unsignalized Intersections (Average Control Delay [seconds per vehicle])
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	<10.0	<10.0
B	Operations with low delay occurring with good progression and/or short cycle length.	>10.0 to 20.0	>10.0 to 15.0
C	Operations with average delays resulting from fair progression and or/longer cycle lengths. Individual cycle failures begin to appear.	>20.0 to 35.0	>15.0 to 25.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	>35.0 to 55.0	>25.0 to 35.0
E	Operations with high delay values indicating poor progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	>55.0 to 80.0	>35.0 to 50.0

LOS	Description	Signalized Intersections (Average Stopped Delay per Vehicle [seconds per vehicle])	Unsignalized Intersections (Average Control Delay [seconds per vehicle])
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	>80.0	>50.0

Notes: 1. Volume over capacity greater than or equal to one (V/C > 1) is considered LOS F.
Source: Transportation Research Board 2016.

Future Traffic Demand Forecast

According to SCAG's 2020-2045 RTP/SCS, the SCAG region's population which encompasses Riverside, Imperial, San Bernardino, Orange, Los Angeles, and Ventura Counties is projected to grow to 22,504,000 by 2045, an increase of 2,986,000 from 2020. According to SCAG's 2020-2045 RTP/SCS, population in the SCAG region increased by 2,944,000 people between 2000 and 2020; this represents an increase of approximately 17.7 percent. Riverside County grew by 60.11 percent during the same period (SCAG 2020). The SCAG region is expected to have a 0.6 percent annual growth rate between 2020 and 2045, which corresponds to about 114,000 new residents annually, or nearly three million new residents between 2020 and 2045 (SCAG 2020).

According to the 2020-2045 RTP/SCS, the population of Riverside County more than doubled from 663,166 in 1980 to 1,545,387 in 2000, and more than tripled to 2,493,000 in 2020 (SCAG 2020). Furthermore, and according to the U.S. Census, American Community Survey, the population of Riverside County as of 2018 was 2,450,758, which is a 11.9 percent increase from 2010.

SCAG's 2020-2045 RTP/SCS indicates that there will be a deconcentration trend toward more growth of population and employment in Riverside and San Bernardino Counties. The share of both Riverside and San Bernardino Counties' population in the SCAG region is projected to increase 27.9 percent from 2020 to 2040, while the share of both Riverside and San Bernardino Counties' employment in the SCAG region is projected to increase 30.7 percent from 2020 to 2040. As indicated in the 2020-2045 RTP/SCS, the recent growth trend experienced in Riverside County's expansion is due to new communities that began to emerge during the housing boom. Four additional cities have incorporated since 2006 (Wildomar, Menifee, Eastvale, and Jurupa Valley), increasing the total number of local jurisdictions in the SCAG region to 197. Many areas in Riverside and San Bernardino Counties were appealing for development due to the availability of lower-priced land, which attracted new residents looking for lower-priced housing. However, jobs and employment did not follow in proportion to housing unit growth in these communities and residents had to travel longer distances on average than other Southern California county residents to reach their workplace.

Based on the 2020-2045 RTP/SCS, recently the annual population growth in the SCAG region has slowed, from about 0.85 percent in 2020 and projected to be about 0.45 percent by 2045, a trend similar to that of the State as a whole. These changes are driven by declines in fertility, high housing costs and lack of affordability, and an aging population. If the region continues to experience faster employment growth in Riverside and San Bernardino Counties, where an abundant labor force is available, the region's transportation and air quality problems may be reduced due to more balanced county distribution of population and employment.

According to SCAG's 2020-2045 RTP/SCS, population, households, and employment growth in the City of Calimesa will dramatically increase in the next 25 years. More specifically, the City's population is projected to increase from 8,500 people in 2016, to 20,600 in 2045. Households will increase from 3,400 in 2016 to 10,400 in 2045, and employment will increase from 1,600 in 2016 to 4,100 in 2045. Overall, the County's population is expected to increase from 2,493,000 people in 2020 to approximately 3,252,000 in 2045, an increase of approximately 30 percent.

Intersection Analysis

Tables 1-2a through 1-2g, summarize the LOS for study area intersections without the project and with the project (Build Alternatives 3 and 4) for Existing (2019), Opening Year (2025), and Design Year (2045) scenarios.

As shown in Table 1-2a, the I-10 westbound off-ramp/Singleton Road side-street stop controlled intersection, Old Roberts Road/Cherry Valley Boulevard all-way stop controlled intersection, and I-10 westbound off- and on-ramps/Cherry Valley Boulevard all-way stop controlled intersection currently operates at an LOS E condition under the AM peak hour. The I-10 westbound and eastbound off and on-ramps/Oak Valley Parkway all-way stop controlled intersections currently operate at a worst-case movement/approach LOS F condition under the AM peak hour. All other intersections currently operate at acceptable LOS C or better conditions.

As shown in Table 1-2b, under the Opening Year (2025) No-Build scenario, five study intersections are projected to operate at deficient LOS E or F during the AM peak hour: Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive, Cherry Valley Boulevard/Roberts Road, I-10 eastbound off/on-ramps/Cherry Valley Boulevard, I-10 westbound off/on-ramps/Cherry Valley Boulevard, and Calimesa Boulevard/Cherry Valley Boulevard. Three intersections are projected to operate at deficient LOS F during the PM peak hour: Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive, Cherry Valley Boulevard/Roberts Road, and I-10 eastbound off/on-ramps/Cherry Valley Boulevard. All other intersections are projected operate at acceptable LOS C or better conditions.

Build Alternative 3 (Diverging Diamond) and Build Alternative 4 (Partial Cloverleaf) are projected to perform similarly under the Opening Year (2025). As shown in Tables 1-2c and 1-2d, all intersections are projected to operate acceptably based on LOS and the delay at all the study intersections. The deficient intersections associated with the existing conditions (Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive, Cherry Valley Boulevard/Roberts Road, I-10 eastbound off/on-ramps/Cherry Valley Boulevard, I-10 westbound off/on-ramps/Cherry Valley Boulevard, and Calimesa Boulevard/Cherry Valley Boulevard) are projected to improve to LOS C or better during the AM and PM peak hours under both build alternatives and all other intersections are projected to continue to operate at acceptable LOS C or better conditions.

As shown in Table 1-2e, under the Design Year (2045) No-Build scenario, six study intersections are projected to operate at deficient LOS E or F under the during the AM peak hour: I-10 westbound off/on-ramps/Singleton Road, Cherry Valley Boulevard/ Palmer Avenue/Desert Lawn Drive, Cherry Valley Boulevard/Roberts Road, I-10 eastbound off/on-ramps/Cherry Valley Boulevard, I-10 westbound off/on-ramps/Cherry Valley Boulevard, and I-10 westbound off/on-ramps/Oak Valley Parkway. Six intersections are projected to operate at deficient LOS E or F during the PM peak hour: I-10 eastbound off/on-ramps/Singleton Road, I-10 westbound off/on-ramps/Singleton Road, Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive, Cherry Valley Boulevard/Roberts Road, I-10 eastbound off/on-ramps/Cherry Valley Boulevard, and I-10 westbound off/on-ramps/Cherry Valley Boulevard. All other intersections are projected operate at acceptable LOS C or better conditions.

Build Alternative 3 (Diverging Diamond) and Build Alternative 4 (Partial Cloverleaf) are projected to perform similarly under the Opening Year (2025). As shown in Tables 1-2f and 1-2g, all intersections are projected to operate acceptably (LOS C or better), with the exception of the following intersections: I-10 eastbound off/on-ramps/Singleton Road (PM peak hour for both Build Alternatives 3 and 4), I-10 westbound off/on-ramps/Singleton Road (AM peak hour for both Build Alternatives 3 and 4 and PM peak hour for Build Alternative 4 only), and Cherry Valley Boulevard/Roberts Road (PM peak hour for both Build Alternatives 3 and 4). The remaining deficient intersections associated with the existing conditions (Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive, I-10 eastbound off/on-ramps/Cherry Valley Boulevard, I-10 westbound off/on-ramps/Cherry Valley Boulevard, and I-10 westbound off/on-ramps/Oak Valley Parkway) are projected to improve to LOS C or better during the AM and PM peak hours under both build alternatives and all other intersections are projected to continue to operate at acceptable LOS C or better conditions.

Table 1-2a: Intersection Operations - Existing (2019) Conditions

No.	Study Intersection	Control Type	AM Peak Hour Delay (sec/veh)	AM Peak Hour LOS	PM Peak Hour Delay (sec/veh)	PM Peak Hour LOS
1	I-10 EB On-Ramp/Singleton Road	Uncontrolled	0.7 (WBL)	A	0.6 (WBL)	A
2	I-10 WB Off-Ramp/Singleton Road	Side-street Stop	**36.8 (NBL)**	**E**	7.6 (NBR)	A
3	Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive	Signal	34.9	C	8.3	A
4a	Cherry Valley Boulevard/Roberts Road	Signal	13 (NBT)	B	7.6 (NBL)	A
4b	Old Roberts Road/Cherry Valley Boulevard	All-way Stop	**36.4**	**E**	2.5	A
5	I-10 EB Off/On-Ramps/Cherry Valley Boulevard	All-way Stop	8.8	A	22.6	C
6	I-10 WB Off/On-Ramps/Cherry Valley Boulevard	All-way Stop	**39.3**	**E**	5	A
7	Calimesa Boulevard/Cherry Valley Boulevard	Side-street Stop	18.5 (SBL)	C	11.1	B
8	I-10 EB Off/On-Ramps/Oak Valley Parkway	All-way Stop	**99.5**	**F**	22.9	C
9	I-10 WB Off/On-Ramps/Oak Valley Parkway	All-way Stop	**88.3**	**F**	20.3	C

Notes: 1. Sec/Veh = Seconds per Vehicle, LOS = Level of Service, EB = Eastbound, WB = Westbound, WBL = Westbound Left, NBL = Northbound Left, NBR = Northbound Right, NBT = Northbound Through, SBL = Southbound Left.
2. For signal and all-way stop control, the overall intersection LOS and average delay (in seconds per vehicle) are reported.
3. For side street control, the worst movement LOS and delay are reported with the worst movement listed in parentheses.
4. Bold font indicates LOS D (for City of Calimesa intersections), E or F conditions (for Caltrans intersections).
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA OG170) Traffic Operations Analysis Report, March 2020.

Table 1-2b: Intersection Operations - Opening Year (2025) No-Build Conditions

No.	Study Intersection	Control Type	AM Peak Hour Delay (sec/veh)	AM Peak Hour LOS	PM Peak Hour Delay (sec/veh)	PM Peak Hour LOS
1	I-10 EB Off/On-Ramps/Singleton Road	Uncontrolled	9.9 (SBR)	A	12.6 (SBL)	B
2	I-10 WB Off/On-Ramps/Singleton Road	Side-street Stop	8.0 (NBL)	A	11.1 (NBR)	B
3	Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive	Signal	**499.7**	**F**	**378.1**	**F**
4a	Cherry Valley Boulevard/Roberts Road	Signal	**166.5**	**F**	**318.6**	**F**
4b	Old Roberts Road/Cherry Valley Boulevard	--	--	--	--	--
5	I-10 EB Off/On-Ramps/Cherry Valley Boulevard	Signal	**70.4**	**E**	**125.8**	**F**
6	I-10 WB Off/On-Ramps/Cherry Valley Boulevard	Signal	**57.4**	**E**	27.1	C
7	Calimesa Boulevard/Cherry Valley Boulevard	Side-street Stop/ Signal	**146.4 (WBT)**	**F**	14.2 (SBL)	C
8	I-10 EB Off/On-Ramps/Oak Valley Parkway	Signal	11.1	B	17.1	B
9	I-10 WB Off/On-Ramps/Oak Valley Parkway	Signal	8.4	A	11.0	B

Notes: 1. Sec/Veh = Seconds per Vehicle, LOS = Level of Service, EB = Eastbound, WB = Westbound, SBR = Southbound Right, SBL = Southbound Left, NBL = Northbound Left, NBR = Northbound Right, WBT = Westbound Through
2. For signal and all-way stop, the overall intersection LOS and average delay (in seconds per vehicle) are reported.
3. For side street stop control, the worst movement LOS and delay are reported with the worst movement listed in parentheses.
4. Bold font indicates LOS D (for City of Calimesa intersections), E or F conditions (for Caltrans intersections).
5. Intersection 4B is closed under Opening Year (2025) Conditions.
6. Intersections 5 and 6 are signalized under No-Build, Diverging Diamond, and Partial Cloverleaf scenarios.
7. Intersection 6 becomes an uncontrolled on-ramp, and the off-ramp and loop on-ramp are aligned with Intersection 7 under the Partial Cloverleaf Alternative.
8. Intersection 7 is side-street stop-controlled under the No-Build scenario, and is signalized under all other scenarios.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA OG170) Traffic Operations Analysis Report, March 2020.

Table 1-2c: Intersection Operations – Opening Year (2025) Build Alternative 3 (Diverging Diamond) Conditions

No.	Study Intersection	Control Type	AM Peak Hour Delay (sec/veh)	AM Peak Hour LOS	PM Peak Hour Delay (sec/veh)	PM Peak Hour LOS
1	I-10 EB Off/On-Ramps/Singleton Road	Uncontrolled	10.3 (SBL)	B	11.4 (SBL)	B
2	I-10 WB Off/On-Ramps/Singleton Road	Side-street Stop	9.0 (NBL)	A	14.4 (NBL)	B
3	Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive	Signal	27.7	C	22.1	C
4a	Cherry Valley Boulevard/Roberts Road	Signal	13.5	B	19.0	B
4b	Old Roberts Road/Cherry Valley Boulevard	--	--	--	--	--
5	I-10 EB Off/On-Ramps/Cherry Valley Boulevard	Signal	22.0	C	14.7	B
6	I-10 WB Off/On-Ramps/Cherry Valley Boulevard	Signal	7.1	A	5.7	A
7	Calimesa Boulevard/Cherry Valley Boulevard	Side-street Stop/ Signal	22.0	C	9.5	A
8	I-10 EB Off/On-Ramps/Oak Valley Parkway	Signal	11.1	B	17.4	B
9	I-10 WB Off/On-Ramps/Oak Valley Parkway	Signal	8.6	A	10.9	B

Notes: 1. Sec/Veh = Seconds per Vehicle, LOS = Level of Service, EB = Eastbound, WB = Westbound, SBL = Southbound Left, NBL = Northbound Left
2. For signal and all-way stop, the overall intersection LOS and average delay (in seconds per vehicle) are reported.
3. For side street stop control, the worst movement LOS and delay are reported with the worst movement listed in parentheses.
4. Bold font indicates LOS D (for City of Calimesa intersections), E or F conditions (for Caltrans intersections).
5. Intersection 4B is closed under Opening Year (2025) Conditions.
6. Intersections 5 and 6 are signalized under No-Build, Diverging Diamond, and Partial Cloverleaf scenarios.
7. Intersection 6 becomes an uncontrolled on-ramp, and the off-ramp and loop on-ramp are aligned with Intersection 7 under the Partial Cloverleaf Alternative.
8. Intersection 7 is side-street stop-controlled under the No-Build scenario, and is signalized under all other scenarios.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA OG170) Traffic Operations Analysis Report, March 2020.

Table 1-2d: Intersection Operations – Opening Year (2025) Build Alternative 4 (Partial Cloverleaf) Conditions

No.	Study Intersection	Control Type	AM Peak Hour Delay (sec/veh)	AM Peak Hour LOS	PM Peak Hour Delay (sec/veh)	PM Peak Hour LOS
1	I-10 EB Off/On-Ramps/Singleton Road	Uncontrolled	10.7 (SBL)	B	11.2 (SBL)	B
2	I-10 WB Off/On-Ramps/Singleton Road	Side-street Stop	10.2 (NBL)	B	11.3 (NBR)	B
3	Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive	Signal	25.8	C	20.8	C
4a	Cherry Valley Boulevard/Roberts Road	Signal	12.3	B	19.0	B
4b	Old Roberts Road/Cherry Valley Boulevard	--	--	--	--	--
5	I-10 EB Off/On-Ramps/Cherry Valley Boulevard	Signal	11.4	B	13.4	B
6	I-10 WB Off/On-Ramps/Cherry Valley Boulevard	Signal	--	--	--	--
7	Calimesa Boulevard/Cherry Valley Boulevard	Side-street Stop/ Signal	20.6	C	15.2	B
8	I-10 EB Off/On-Ramps/Oak Valley Parkway	Signal	11.6	B	17.0	B
9	I-10 WB Off/On-Ramps/Oak Valley Parkway	Signal	8.9	A	11.1	B

Notes: 1. Sec/Veh = Seconds per Vehicle, LOS = Level of Service, EB = Eastbound, WB = Westbound, SBL = Southbound Left, NBL = Northbound Left, NBR = Northbound Right
2. For signal and all-way stop, the overall intersection LOS and average delay (in seconds per vehicle) are reported.
3. For side street stop control, the worst movement LOS and delay are reported with the worst movement listed in parentheses.
4. Bold font indicates LOS D (for City of Calimesa intersections), E or F conditions (for Caltrans intersections).
5. Intersection 4B is closed under Opening Year (2025) Conditions.
6. Intersections 5 and 6 are signalized under No-Build, Diverging Diamond, and Partial Cloverleaf scenarios.
7. Intersection 6 becomes an uncontrolled on-ramp, and the off-ramp and loop on-ramp are aligned with Intersection 7 under the Partial Cloverleaf Alternative.
8. Intersection 7 is side-street stop-controlled under the No-Build scenario, and is signalized under all other scenarios.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA OG170) Traffic Operations Analysis Report, March 2020.

Table 1-2e: Intersection Operations –Design Year (2045) No-Build Conditions

No.	Study Intersection	Control Type	AM Peak Hour Delay (sec/veh)	AM Peak Hour LOS	PM Peak Hour Delay (sec/veh)	PM Peak Hour LOS
1	I-10 EB Off/On-Ramps/Singleton Road	Signal	29.3	C	**143.6**	**F**
2	I-10 WB Off/On-Ramps/Singleton Road	Signal	**60.8**	**E**	**150.5**	**F**
3	Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive	Signal	**994.6**	**F**	**171.4**	**F**
4a	Cherry Valley Boulevard/Roberts Road	Signal	**264.8**	**F**	**174.7**	**F**
4b	Old Roberts Road/Cherry Valley Boulevard	--	--	--	--	--
5	I-10 EB Off/On-Ramps/Cherry Valley Boulevard	Signal	**108.9**	**F**	**103.8**	**F**
6	I-10 WB Off/On-Ramps/Cherry Valley Boulevard	Signal	**100.0**	**F**	**64.6**	**E**
7	Calimesa Boulevard/Cherry Valley Boulevard	Side-street Stop/ Signal	20.5 (SBL)	C	21.1 (SBL)	C
8	I-10 EB Off/On-Ramps/Oak Valley Parkway	Signal	15.4	B	18.4	B
9	I-10 WB Off/On-Ramps/Oak Valley Parkway	Signal	**56.0**	**E**	12.0	B

Notes: 1. Sec/Veh = Seconds per Vehicle, LOS = Level of Service, EB = Eastbound, WB = Westbound, SBL = Southbound Left
2. For signal and all-way stop, the overall intersection LOS and average delay (in seconds per vehicle) are reported.
3. For side street stop control, the worst movement LOS and delay are reported with the worst movement listed in parentheses.
4. Bold font indicates LOS D (for City of Calimesa intersections), E or F conditions (for Caltrans intersections).
5. Intersection 4B is closed under Design Year (2045) Conditions.
6. Intersections 5 and 6 are signalized under No-Build, Diverging Diamond, and Partial Cloverleaf scenarios.
7. Intersection 6 becomes an uncontrolled on-ramp, and the off-ramp and loop on-ramp are aligned with Intersection 7 under the Partial Cloverleaf Alternative.
8. Intersection 7 is side-street stop-controlled under the No-Build scenario, and is signalized under all other scenarios.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA OG170) Traffic Operations Analysis Report, March 2020.

Table 1-2f: Intersection Operations –Design Year (2045) Build Alternative 3 (Diverging Diamond) Conditions

No.	Study Intersection	Control Type	AM Peak Hour Delay (sec/veh)	AM Peak Hour LOS	PM Peak Hour Delay (sec/veh)	PM Peak Hour LOS
1	I-10 EB Off/On-Ramps/Singleton Road	Signal	29.1	C	**57.2**	**E**
2	I-10 WB Off/On-Ramps/Singleton Road	Signal	**71.2**	**E**	53.8	D
3	Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive	Signal	25.9	C	18.2	B
4a	Cherry Valley Boulevard/Roberts Road	Signal	26.1	C	**63.8**	**E**
4b	Old Roberts Road/Cherry Valley Boulevard	--	--	--	--	--
5	I-10 EB Off/On-Ramps/Cherry Valley Boulevard	Signal	24.3	C	16.9	B
6	I-10 WB Off/On-Ramps/Cherry Valley Boulevard	Signal	11.3	B	8.9	A
7	Calimesa Boulevard/Cherry Valley Boulevard	Side-street Stop/ Signal	22.1	C	9.3	A
8	I-10 EB Off/On-Ramps/Oak Valley Parkway	Signal	14.3	B	31.2	C
9	I-10 WB Off/On-Ramps/Oak Valley Parkway	Signal	10.8	B	12.7	B

Notes: 1. Sec/Veh = Seconds per Vehicle, LOS = Level of Service, EB = Eastbound, WB = Westbound
2. For signal and all-way stop, the overall intersection LOS and average delay (in seconds per vehicle) are reported.
3. For side street stop control, the worst movement LOS and delay are reported with the worst movement listed in parentheses.
4. Bold font indicates LOS D (for City of Calimesa intersections), E or F conditions (for Caltrans intersections).
5. Intersection 4B is closed under Design Year (2045) Conditions.
6. Intersections 5 and 6 are signalized under No-Build, Diverging Diamond, and Partial Cloverleaf scenarios.
7. Intersection 6 becomes an uncontrolled on-ramp, and the off-ramp and loop on-ramp are aligned with Intersection 7 under the Partial Cloverleaf Alternative.
8. Intersection 7 is side-street stop-controlled under the No-Build scenario, and is signalized under all other scenarios.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA OG170) Traffic Operations Analysis Report, March 2020.

Table 1-2g: Intersection Operations –Design Year (2045) Build Alternative 4 (Partial Cloverleaf) Conditions

No.	Study Intersection	Control Type	AM Peak Hour Delay (sec/veh)	AM Peak Hour LOS	PM Peak Hour Delay (sec/veh)	PM Peak Hour LOS
1	I-10 EB Off/On-Ramps/Singleton Road	Signal	29.1	C	**56.1**	**E**
2	I-10 WB Off/On-Ramps/Singleton Road	Signal	**69.0**	**E**	**57.0**	**E**
3	Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive	Signal	23.8	C	17.2	B
4a	Cherry Valley Boulevard/Roberts Road	Signal	23.4	C	**66.5**	**E**
4b	Old Roberts Road/Cherry Valley Boulevard	--	--	--	--	--
5	I-10 EB Off/On-Ramps/Cherry Valley Boulevard	Signal	10.4	B	19.7	B
6	I-10 WB Off/On-Ramps/Cherry Valley Boulevard	Signal	--	--	--	
7	Calimesa Boulevard/Cherry Valley Boulevard	Side-street Stop/ Signal	25.5	C	18.6	B
8	I-10 EB Off/On-Ramps/Oak Valley Parkway	Signal	14.5	B	32.4	C
9	I-10 WB Off/On-Ramps/Oak Valley Parkway	Signal	11.0	B	13.0	B

Notes: 1. Sec/Veh = Seconds per Vehicle, LOS = Level of Service, EB = Eastbound, WB = Westbound
2. For signal and all-way stop, the overall intersection LOS and average delay (in seconds per vehicle) are reported.
3. For side street stop control, the worst movement LOS and delay are reported with the worst movement listed in parentheses.
4. Bold font indicates LOS D (for City of Calimesa intersections), E or F conditions (for Caltrans intersections).
5. Intersection 4B is closed under Design Year (2045) Conditions.
6. Intersections 5 and 6 are signalized under No-Build, Diverging Diamond, and Partial Cloverleaf scenarios.
7. Intersection 6 becomes an uncontrolled on-ramp, and the off-ramp and loop on-ramp are aligned with Intersection 7 under the Partial Cloverleaf Alternative.
8. Intersection 7 is side-street stop-controlled under the No-Build scenario, and is signalized under all other scenarios.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA OG170) Traffic Operations Analysis Report, March 2020.

Freeway Mainline Operations
Methodology

Freeway mainline and ramps were evaluated using a Highway Capacity Software (HCS) equivalent tool which applies methodologies contained in the Highway Capacity Manual, Sixth Edition (HCM) (Transportation Research Board, 2016). The LOS was calculated for each study facility based on density in number of vehicles per hour per lane. Table 1-3, Freeway Mainline and Ramp Junction/Weave Section LOS Threshold, describes the LOS thresholds for freeway sections identified in the HCM 2016.

Table 1-3: Freeway Mainline and Ramp Junction/Weave Section LOS Threshold

Level of Service	Description	Multilane (Basic) Density (vplpm)	Mainline (Weave) Density (vplpm)	Ramp/Merge/ Diverge Density (vplpm)
A	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	$\leq$11	$\leq$10	$\leq$10
B	Free-flow speeds are maintained. The ability to maneuver with the traffic stream is only slightly restricted.	>11 to 18	>10 to 20	>10 to 20
C	Flow with speeds at or near free-flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.	>18 to 26	>20 to 28	>20 to 28
D	Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.	>16 to 35	>28 to 35	>28 to 35
E	Operation at capacity. There are virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing.	>35 to 45	>35 to 43	>35 to 45[2]
F	Represents a breakdown in flow.	Density >45 or volume over capacity greater than or equal to one (V/C≥1)	Density >43 or volume over capacity greater than or equal to one (V/C≥1)	Density >45 or volume over capacity greater than or equal to one (V/C≥1)

Notes: 1. Density is reported in vehicles per lane per mile (vplpm).
2. The maximum density for ramp junctions and merge/diverge sections under LOS E is not defined in the HCM. The maximum density for basic segments of 45 vplpm was assumed to apply to ramp junctions and weaving sections.
3. Volume over capacity greater than or equal to one (V/C ≥ 1) will be considered LOS F.
Source: Transportation Research Board, Highway Capacity Manual, 2016.

Freeway Mainline Analysis

Tables 1-4a through 1-4n show the density and LOS for the study freeway mainline segments and ramp junctions along I-10 for the eastbound and westbound direction without and with the project (Build Alternatives 3 and 4) for Existing (2019), Opening Year (2025), and Design Year (2045) scenarios.

As shown in Table 1-4a, all the study segments along eastbound I-10 currently operate at LOS C or better during both the AM and PM peak hours.

As shown in Tables 1-4b, all westbound segments south of Cherry Valley Boulevard currently operate at LOS C or better during both the AM and PM peak hours, and all westbound segments north of Cherry Valley Boulevard currently operate at a deficient LOS F during the AM peak hour, but operate at LOS C or better during the PM peak hour.

As shown in Table 1-4c, all I-10 eastbound mainline segments are projected to operate at LOS B or better for the Opening Year (2025) No-Build scenario, with the exception of the Singleton on-ramp segment (PM peak hour) and the Cherry Valley Boulevard off-ramp segment (PM peak hour).

Table 1-4a: Freeway Mainline Operations – Existing (2019) I-10 Eastbound Conditions

Facility Type (Mainline Segment)	Facility Type	AM Delay (sec/veh)	AM LOS	PM Delay (sec/veh)	PM LOS
North of Singleton Road	Basic	12.9	B	18.2	C
Singleton On-Ramp	Merge	11.1	B	15.4	B
Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	13.0	B	18.1	C
Cherry Valley Boulevard Off-Ramp	Diverge	13.8	B	20.2	C
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	13.3	B	13.5	B
Cherry Valley Boulevard On-Ramp	Merge	9.6	A	15.3	B
Cherry Valley Boulevard On-Ramp to Oak Valley Parkway Off-Ramp	Basic	13.7	B	16.5	B
Oak Valley Parkway Off-Ramp	Diverge	13.6	B	16.7	B
South of Oak Valley Parkway	Basic	14.3	B	15.1	B

Notes: 1. Sec/Veh = Seconds per Vehicle, LOS = Level of Service
2. The LOS and density (in vehicles per lane per mile) are reported.
3. Bold font indicates LOS E or F conditions.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA OG170) Traffic Operations Analysis Report, March 2020.

Table 1-4b: Freeway Mainline Operations – Existing (2019) I-10 Westbound Conditions

Facility Type (Mainline Segment)	Facility Type	AM Delay (sec/veh)	AM LOS	PM Delay (sec/veh)	PM LOS
South of Oak Valley Parkway	Basic	17.6	B	18.2	C
Oak Valley Parkway Off-Ramp	Diverge	17.9	B	19.1	C
Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp	Basic	15.0	B	15.1	B
Oak Valley Parkway On-Ramp	Merge	15.7	B	13.6	B
Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	18.8	C	17.2	B
Cherry Valley Boulevard Off-Ramp	Diverge	33.2	D	17.3	B
Cherry Valley Boulevard Off-Ramp to Cherry Valley Boulevard On-Ramp	Basic	**86.9**	**F**	15.1	B
Cherry Valley Boulevard On-Ramp	Merge	**117.0**	**F**	15.2	B
Cherry Valley Boulevard On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	**112.9**	**F**	18.5	C
Singleton Off-Ramp	Diverge	**116.8**	**F**	19.3	C
North of Singleton	Basic	**114.8**	**F**	17.3	B

Notes: 1. Sec/Veh = Seconds per Vehicle, LOS = Level of Service
2. The LOS and density (in vehicles per lane per mile) are reported.
3. Bold font indicates LOS E or F conditions.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA OG170) Traffic Operations Analysis Report, March 2020.

Table 1-4c: Freeway Mainline Operations – Opening Year (2025) I-10 Eastbound No-Build Conditions

Facility Type (Mainline Segment)	Facility Type	AM Delay (sec/veh)	AM LOS	PM Delay (sec/veh)	PM LOS
North of Singleton Road	Basic	10.1	B	14.2	B
Singleton On-Ramp	Merge	11.4	B	**33.9**	**D**
Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	12.0	B	19.0	B
Cherry Valley Boulevard Off-Ramp	Diverge	13.8	B	**<u>43.2</u>**	**<u>F</u>**
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	11.4	B	13.5	B
Cherry Valley Boulevard On-Ramp	Merge	8.8	A	6.7	A
Cherry Valley Boulevard On-Ramp to Oak Valley Parkway Off-Ramp	Basic	12.1	B	13.7	B
Oak Valley Parkway Off-Ramp	Diverge	11.4	B	13.2	B
Oak Valley Off-Ramp to On-Ramp	Basic	10.3	B	10.4	B
Oak Valley On-Ramp	Merge	10.4	B	10.5	B
South of Oak Valley Parkway	Basic	12.4	B	12.5	B

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
2. Bold font indicates LOS D conditions, bold and underline font indicate LOS E or F conditions.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA OG170) Traffic Operations Analysis Report, March 2020.

Build Alternatives 3 and 4 are projected to perform similarly for Opening Year (2025) based on LOS and volume densities. As shown in Tables 1-4d and 1-4e, all I-10 eastbound mainline segments are projected to operate at LOS B or better for the Opening Year (2025) Build Alternatives 3 and 4 scenarios. The projected deficient eastbound mainline segments associated with the No-Build Alternative are projected to improve to acceptable conditions under both build alternatives.

Table 1-4d: Freeway Mainline Operations – Opening Year (2025) I-10 Eastbound Build Alternative 3 (Diverging Diamond) Conditions

Facility Type (Mainline Segment)	Facility Type	AM Delay (sec/veh)	AM LOS	PM Delay (sec/veh)	PM LOS
North of Singleton Road	Basic	13.6	B	15.5	B
Singleton On-Ramp	Merge	10.7	B	17.0	B
Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	12.6	B	17.3	B
Cherry Valley Boulevard Off-Ramp	Diverge	9.7	B	13.6	B
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	11.2	A	13.3	B
Cherry Valley Boulevard On-Ramp	Merge	10.2	B	11.7	B
Cherry Valley Boulevard On-Ramp to Oak Valley Parkway Off-Ramp	Basic	12.2	B	14.6	B
Oak Valley Parkway Off-Ramp	Diverge	11.5	B	15.5	B
Oak Valley Off-Ramp to On-Ramp	Basic	10.4	B	11.1	B
Oak Valley On-Ramp	Merge	10.3	B	8.9	A
South of Oak Valley Parkway	Basic	12.4	B	12.1	B

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
2. Bold font indicates LOS D conditions, bold and underline font indicate LOS E or F conditions.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA OG170) Traffic Operations Analysis Report, March 2020.

Table 1-4e: Freeway Mainline Operations – Opening Year (2025) I-10 Eastbound Build Alternative 4 (Partial Cloverleaf) Conditions

Facility Type (Mainline Segment)	Facility Type	AM Delay (sec/veh)	AM LOS	PM Delay (sec/veh)	PM LOS
North of Singleton Road	Basic	10.7	B	15.0	B
Singleton On-Ramp	Merge	11.5	B	16.8	B
Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	12.6	B	17.2	B
Cherry Valley Boulevard Off-Ramp	Diverge	9.7	A	14.3	B
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	11.2	B	13.0	B
Cherry Valley Boulevard On-Ramp	Merge	10.2	B	11.6	B
Cherry Valley Boulevard On-Ramp to Oak Valley Parkway Off-Ramp	Basic	12.2	B	14.4	B
Oak Valley Parkway Off-Ramp	Diverge	11.8	B	15.0	B
Oak Valley Off-Ramp to On-Ramp	Basic	10.3	B	11.0	B
Oak Valley On-Ramp	Merge	10.4	B	9.0	A
South of Oak Valley Parkway	Basic	12.3	B	12.1	B

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
2. Bold font indicates LOS D conditions, bold and underline font indicate LOS E or F conditions.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA OG170) Traffic Operations Analysis Report, March 2020.

As shown in Table 1-4f, two mainline segments (Cherry Valley Boulevard on-ramp to the Singleton Road off-ramp and Singleton Road off-ramp) are projected to operate at an unacceptable LOS D for the Opening Year (2025) No-Build scenario along westbound I-10 during the AM peak hour. All other westbound segments are projected to operate at an acceptable LOS C or better during both the AM and PM peak hours.

As shown in Tables 1-4g and 1-4h, one segment (westbound I-10 North of Singleton Road Off-Ramp) associated with Build Alternatives 3 and 4 are projected to operate at LOS D during the AM peak hour. All other I-10 westbound mainline segments are projected to operate at LOS C or better for the Opening Year (2025) Build Alternatives 3 and 4 scenarios for both the AM and PM peak hours. The deficient eastbound mainline segments associated with the No-Build Alternative are projected to improve to acceptable conditions under both build alternatives.

Table 1-4f: Freeway Mainline Operations – Opening Year (2025) I-10 Westbound No-Build Conditions

Facility Type (Mainline Segment)	Facility Type	AM Delay (sec/veh)	AM LOS	PM Delay (sec/veh)	PM LOS
South of Oak Valley Parkway	Basic	215	C	20.0	B
Oak Valley Parkway Off-Ramp	Diverge	20.1	C	19.2	B
Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp	Basic	18.1	B	16.2	B
Oak Valley Parkway On-Ramp	Merge	20.6	C	16.8	B
Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	25.3	C	20.8	C
Cherry Valley Boulevard Off-Ramp	Diverge	25.0	C	19.0	B
Cherry Valley Boulevard Off-Ramp to Cherry Valley Boulevard On-Ramp	Basic	22.8	C	18.8	B
Cherry Valley Boulevard On-Ramp	Merge	25.0	C	17.1	B
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Basic	**28.7**	**D**	22.3	C
Singleton Road Off-Ramp	Diverge	**29.4**	**D**	21.5	C
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Weave	--	--	--	--
North of Singleton Road	Basic	27.7	C	20.8	C

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
2. Bold font indicates LOS D conditions, bold and underline font indicate LOS E or F conditions.
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes ‐ indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Build Alternative 4. This segment is from the Westbound I-10 Cherry Valley Boulevard Off-Ramp to Westbound I-10 Cherry Valley Boulevard Loop On-Ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA OG170) Traffic Operations Analysis Report, March 2020.

Table 1-4g: Freeway Mainline Operations – Opening Year (2025) I-10 Westbound Build Alternative 3 (Diverging Diamond) Conditions

Facility Type (Mainline Segment)	Facility Type	AM Delay (sec/veh)	AM LOS	PM Delay (sec/veh)	PM LOS
South of Oak Valley Parkway	Basic	21.3	C	20.0	C
Oak Valley Parkway Off-Ramp	Diverge	21.5	C	20.3	C
Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp	Basic	18.0	B	16.3	B
Oak Valley Parkway On-Ramp	Merge	20.9	C	17.5	B
Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	27.9	C	22.4	C
Cherry Valley Boulevard Off-Ramp	Diverge	18.8	B	13.7	B
Cherry Valley Boulevard Off-Ramp to Cherry Valley Boulevard On-Ramp	Basic	24.1	C	20.2	C
Cherry Valley Boulevard On-Ramp	Merge	--	--	--	--
Cherry Valley Boulevard On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	--	--	--	--
Singleton Road Off-Ramp	Diverge	--	--	--	--
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Weave	22.8	C	17.7	C
North of Singleton Road	Basic	**29.9**	**D**	22.0	C

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
2. Bold font indicates LOS D conditions, bold and underline font indicate LOS E or F conditions.
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Build Alternative 4. This segment is from the Westbound I-10 Cherry Valley Boulevard Off-Ramp to Westbound I-10 Cherry Valley Boulevard Loop On-Ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA OG170) Traffic Operations Analysis Report, March 2020.

Table 1-4h: Freeway Mainline Operations – Opening Year (2025) I-10 Westbound Build Alternative 4 (Partial Cloverleaf) Conditions

Facility Type (Mainline Segment)	Facility Type	AM Delay (sec/veh)	AM LOS	PM Delay (sec/veh)	PM LOS
South of Oak Valley Parkway	Basic	21.3	C	19.6	B
Oak Valley Parkway Off-Ramp	Diverge	21.3	C	20.0	C
Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp	Basic	18.0	B	16.0	B
Oak Valley Parkway On-Ramp	Merge	20.8	C	17.0	B
Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	27.6	C	21.8	C
Cherry Valley Boulevard Off-Ramp	Diverge	17.8	B	13.3	B
Cherry Valley Boulevard Off-Ramp to Cherry Valley Boulevard On-Ramp	Basic	21.9[5]	C	18.6[5]	B
Cherry Valley Boulevard On-Ramp	Merge	16.6	B	11.4	B
Cherry Valley Boulevard On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	26.0	C	18.7	B
Singleton Road Off-Ramp	Diverge	24.9	C	18.6	B
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Weave	--	--	--	--
North of Singleton Road	Basic	**33.4**	**D**	23.6	C

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
2. Bold font indicates LOS D conditions, bold and underline font indicate LOS E or F conditions.
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes - indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Build Alternative 4. This segment is from the Westbound I-10 Cherry Valley Boulevard Off-Ramp to Westbound I-10 Cherry Valley Boulevard Loop On-Ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA OG170) Traffic Operations Analysis Report, March 2020.

As shown in Table 1-4i, under the Design Year (2045) No-Build scenario, one eastbound study mainline segment is projected to operate at deficient LOS D (I-10 eastbound, north of Singleton Road) and three segments are projected to operate at deficient F (Singleton on-ramp, Singleton Road on-ramp to Cherry Valley Boulevard off-ramp, and Cherry Valley Boulevard off-ramp) under the during the PM peak hour. All other mainline segments are projected operate at acceptable LOS C or better conditions during both the AM and PM peak hours.

Table 1-4i: Freeway Mainline Operations – Design Year (2045) I-10 Eastbound No-Build Conditions

Facility Type (Mainline Segment)	Facility Type	AM Delay (sec/veh)	AM LOS	PM Delay (sec/veh)	PM LOS
North of Singleton Road	Basic	15.9	B	**35.0**	**D**
Singleton Road On-Ramp	Merge	17.1	B	**<u>105.8</u>**	**<u>F</u>**
Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	17.5	B	**<u>48.0</u>**	**<u>F</u>**
Cherry Valley Boulevard Off-Ramp	Diverge	17.9	B	**<u>120.0</u>**	**<u>F</u>**
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	17.2	B	12.2	B
Cherry Valley Boulevard On-Ramp	Merge	11.8	B	7.9	A
Cherry Valley Boulevard On-Ramp to Oak Valley Parkway Off-Ramp	Basic	17.9	B	13.4	B
Oak Valley Parkway Off-Ramp	Diverge	17.6	B	14.4	B
Oak Valley Parkway Off-Ramp to On-Ramp	Basic	14.8	B	9.3	A
Oak Valley Parkway On-Ramp	Merge	14.0	B	7.0	A
South of Oak Valley Parkway	Basic	17.4	B	10.3	B

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
2. Bold font indicates LOS D conditions, bold and underline font indicate LOS E or F conditions.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA OG170) Traffic Operations Analysis Report, March 2020.

Table 1-4j: Freeway Mainline Operations – Design Year (2045) I-10 Eastbound Build Alternative 3 (Diverging Diamond) Conditions

Facility Type (Mainline Segment)	Facility Type	AM Delay (sec/veh)	AM LOS	PM Delay (sec/veh)	PM LOS
North of Singleton Road	Basic	16.3	B	**29.7**	**D**
Singleton Road On-Ramp	Merge	17.3	B	25.6	C
Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	18.6	B	25.4	C
Cherry Valley Boulevard Off-Ramp	Diverge	14.3	B	19.6	B
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	16.9	B	18.4	B
Cherry Valley Boulevard On-Ramp	Merge	15.0	B	17.3	B
Cherry Valley Boulevard On-Ramp to Oak Valley Parkway Off-Ramp	Basic	19.0	B	22.3	C
Oak Valley Parkway Off-Ramp	Diverge	17.7	B	**<u>44.0</u>**	**<u>E</u>**
Oak Valley Parkway Off-Ramp to On-Ramp	Basic	15.4	B	15.8	B
Oak Valley Parkway On-Ramp	Merge	14.2	B	9.7	A
South of Oak Valley Parkway	Basic	18.0	B	15.8	B

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
2. Bold font indicates LOS D conditions, bold and underline font indicate LOS E or F conditions.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA OG170) Traffic Operations Analysis Report, March 2020.

Table 1-4k: Freeway Mainline Operations – Design Year (2045) I-10 Eastbound Build Alternative 4 (Partial Cloverleaf) Conditions

Facility Type (Mainline Segment)	Facility Type	AM Delay (sec/veh)	AM LOS	PM Delay (sec/veh)	PM LOS
North of Singleton Road	Basic	15.4	B	26.0	C
Singleton Road On-Ramp	Merge	17.3	B	25.9	C
Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	18.6	B	25.1	C
Cherry Valley Boulevard Off-Ramp	Diverge	12.9	B	19.2	B
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	16.9	B	18.3	B
Cherry Valley Boulevard On-Ramp	Merge	14.9	B	17.2	B
Cherry Valley Boulevard On-Ramp to Oak Valley Parkway Off-Ramp	Basic	18.9	B	22.0	C
Oak Valley Parkway Off-Ramp	Diverge	17.8	B	**<u>40.6</u>**	**<u>E</u>**
Oak Valley Parkway Off-Ramp to On-Ramp	Basic	15.4	B	15.6	B
Oak Valley Parkway On-Ramp	Merge	14.4	B	9.9	A
South of Oak Valley Parkway	Basic	18.0	B	15.8	B

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
2. Bold font indicates LOS D conditions, bold and underline font indicate LOS E or F conditions.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA OG170) Traffic Operations Analysis Report, March 2020.

Under the Design Year (2045) Build Alternatives 3 and 4 scenarios, the I-10 eastbound study segments would operate at an acceptable LOS C or better with the exception of the I-10 eastbound segments located north of Singleton Road, which would continue to operate at an LOS D during the PM peak hour for Build Alternative 3 only, and the diverge at Oak Valley Parkway off-ramp, which is projected to operate at LOS E during the PM peak hour under both build alternatives; refer to Tables 1-4j and 1-4k.

The build alternatives would improve the deficient eastbound mainline segments associated with No-Build Alternative (Singleton on-ramp, Singleton Road on-ramp to Cherry Valley Boulevard off-ramp, and Cherry Valley Boulevard off-ramp) from an unacceptable LOS F to an acceptable LOS C or better.

As shown in Table 1-4l, under the Design Year (2045) No-Build scenario, all westbound study mainline segments are projected to operate at an unacceptable LOS D or worse with the exception of following westbound I-10 segments: Oak Valley Parkway off-ramp (PM peak hour), Cherry Valley Boulevard off-ramp to Cherry Valley Boulevard on-ramp (AM peak hour), and I-10 north of Singleton (PM peak hour).

Table 1-4l: Freeway Mainline Operations – Design Year (2045) I-10 Westbound No-Build Conditions

Facility Type (Mainline Segment)	Facility Type	AM Delay (sec/veh)	AM LOS	PM Delay (sec/veh)	PM LOS
South of Oak Valley Parkway	Basic	**105.5**	**F**	**49.9**	**F**
Oak Valley Parkway Off-Ramp	Diverge	**121.0**	**F**	25.4	C
Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp	Basic	**100.2**	**F**	**71.4**	**F**
Oak Valley Parkway On-Ramp	Merge	**108.5**	**F**	**87.8**	**F**
Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	**94.3**	**F**	**56.5**	**F**
Cherry Valley Boulevard Off-Ramp	Diverge	**98.5**	**F**	**96.0**	**F**
Cherry Valley Boulevard Off-Ramp to Cherry Valley Boulevard On-Ramp	Basic	27.4	C	**29.7**	**D**
Cherry Valley Boulevard On-Ramp	Merge	**28.8**	**D**	**29.2**	**D**
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Basic	**32.5**	**D**	**34.5**	**D**
Singleton Road Off-Ramp	Diverge	**33.8**	**D**	**34.6**	**D**
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Weave	--	--	--	--
North of Singleton Road	Basic	**28.5**	**D**	26.5	C

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
2. Bold font indicates LOS D conditions, bold and underline font indicate LOS E or F conditions.
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes - indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Build Alternative 4. This segment is from the Westbound I-10 Cherry Valley Boulevard Off-Ramp to Westbound I-10 Cherry Valley Boulevard Loop On-Ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA OG170) Traffic Operations Analysis Report, March 2020.

As shown in Tables 1-4m and 1-4n, under both build conditions, four of the six failed I-10 westbound segments associated with the No-Build Alternative are projected to improve to LOS D or better (south of Oak Valley Parkway, Oak Valley Parkway off-ramp, Oak Valley Parkway off-ramp to Oak Valley Parkway on-ramp, and Oak Valley Parkway on-ramp). The I-10 westbound at Cherry Valley Boulevard off-ramp segment would improve during the PM peak hour for both build alternatives. The I-10 westbound at Cherry Valley Boulevard off-ramp to Cherry Valley Boulevard on-ramp, Cherry Valley Boulevard on-ramp, Cherry Valley Boulevard on-ramp to Cherry Valley Boulevard off-ramp, and Singleton off-ramp westbound segments would also improve during the PM peak hour for Build Alternative 4. The I-10 westbound segment at Oak Valley Parkway on-ramp to Cherry Valley Boulevard off-ramp would continue to operate at a deficient LOS E or worse.

Three I-10 westbound segments that operate acceptably under the No-Build conditions are projected to deteriorate to deficient LOS D or worse under both build alternatives (Cherry Valley Boulevard off-ramp to Cherry Valley Boulevard on-ramp during the AM peak hour, Cherry Valley Boulevard on-ramp to Singleton off-ramp during the AM peak hour, North of Singleton during both the PM peak hour). The I-10 westbound at Cherry Valley Boulevard on-ramp to Singleton off-ramp, Singleton off-ramp, and north of Singleton segments would continue to deteriorate during the AM peak hour with implementation of the build alternatives.

Table 1-4m: Freeway Mainline Operations – Design Year (2045) I-10 Westbound Build Alternative 3 (Diverging Diamond) Conditions

Facility Type (Mainline Segment)	Facility Type	AM Delay (sec/veh)	AM LOS	PM Delay (sec/veh)	PM LOS
South of Oak Valley Parkway	Basic	**28.9**	**D**	27.5	C
Oak Valley Parkway Off-Ramp	Diverge	27.9	C	27.4	C
Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp	Basic	24.3	C	22.4	C
Oak Valley Parkway On-Ramp	Merge	21.7	C	27.5	C
Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	**<u>40.0</u>**	**<u>E</u>**	**<u>36.3</u>**	**<u>E</u>**
Cherry Valley Boulevard Off-Ramp	Diverge	**<u>48.8</u>**	**<u>F</u>**	25.1	C
Cherry Valley Boulevard Off-Ramp to Cherry Valley Boulevard On-Ramp	Basic	**<u>36.1</u>**	**<u>E</u>**	**30.8**	**D**
Cherry Valley Boulevard On-Ramp	Merge	--	--	--	--
Cherry Valley Boulevard On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	--	--	--	--
Singleton Road Off-Ramp	Diverge	--	--	--	--
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Weave	**<u>44.6</u>**	**<u>F</u>**	26.0	C
North of Singleton Road	Basic	**<u>72.9</u>**	**<u>F</u>**	**30.5**	**D**

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
2. Bold font indicates LOS D conditions, bold and underline font indicate LOS E or F conditions.
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes - indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Build Alternative 4. This segment is from the Westbound I-10 Cherry Valley Boulevard Off-Ramp to Westbound I-10 Cherry Valley Boulevard Loop On-Ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA OG170) Traffic Operations Analysis Report, March 2020.

Table 1-4n: Freeway Mainline Operations – Design Year (2045) I-10 Westbound Build Alternative 4 (Partial Cloverleaf) Conditions

Facility Type (Mainline Segment)	Facility Type	AM Delay (sec/veh)	AM LOS	PM Delay (sec/veh)	PM LOS
South of Oak Valley Parkway	Basic	**29.1**	**D**	27.4	C
Oak Valley Parkway Off-Ramp	Diverge	27.8	C	27.4	C
Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp	Basic	24.0	C	22.3	C
Oak Valley Parkway On-Ramp	Merge	22.6	C	27.5	C
Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	**<u>47.9</u>**	**<u>F</u>**	**<u>35.7</u>**	**<u>E</u>**
Cherry Valley Boulevard Off-Ramp	Diverge	**32.3**	**D**	23.7	C
Cherry Valley Boulevard Off-Ramp to Cherry Valley Boulevard On-Ramp	Basic	**34.4**[4]	**D**	24.1[4]	C
Cherry Valley Boulevard On-Ramp	Merge	**30.4**	**D**	19.6	B
Cherry Valley Boulevard On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	**<u>63.8</u>**	**<u>F</u>**	29.2	C
Singleton Road Off-Ramp	Diverge	**<u>66.0</u>**	**<u>F</u>**	27.1	C
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Weave	--	--	--	--
North of Singleton Road	Basic	**<u>81.8</u>**	**<u>F</u>**	**32.0**	**D**

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
2. Bold font indicates LOS D conditions, bold and underline font indicate LOS E or F conditions.
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes - indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Build Alternative 4. This segment is from the Westbound I-10 Cherry Valley Boulevard Off-Ramp to Westbound I-10 Cherry Valley Boulevard Loop On-Ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document (EA OG170) Traffic Operations Analysis Report, March 2020.

Freeway Mainline Collision Analysis

Traffic Accident Surveillance and Analysis System – Transportation Systems Network (TASAS – TSN) data was provided by Caltrans for collisions reported on the mainline, on-ramps and off-ramps at the existing Cherry Valley Boulevard and I-10 interchange for the three-year period between October 1, 2017 and September 30, 2020. Tables 1-5a and 1-5b, below, summarizes the Fatal and Fatal plus Injury collision rates for the Actual Collision Rates and Statewide Average Collision Rates. Table 1-6 summarizes the collision types for the interchange.

Table 1-5a: Collision Summary – Actual Collision Rate

Location	Post Mile	Fatal[1]	Fatal + Injury[1]	Total[1]
I-10 Mainline from Singleton Road to Oak Valley Parkway	R2.1 to R3.8	0.000	0.21	0.75
I-10 Eastbound Off-Ramp to Cherry Valley Boulevard	R2.867	0.000	0.13	0.38
I-10 Eastbound On-Ramp from Cherry Valley Boulevard	R3.189	0.000	0.00	**0.68**
I-10 Westbound Off-Ramp to Cherry Valley Boulevard	R3.246	0.000	0.00	0.00
I-10 Westbound On-Ramp from Cherry Valley Boulevard	R2.896	0.000	0.12	0.25

Notes: Bold text indicates that actual collision rate is greater than statewide average collision rate.
1. Ramp collisions are per Million Vehicle (MV). Mainline collisions are per Million Vehicle Miles (MVM).

Table 1-5b: Collision Summary – Statewide Average Collision Rate

Location	Post Mile	Fatal[1]	Fatal + Injury[1]	Total[1]
I-10 Mainline from Singleton Road to Oak Valley Parkway	R2.1 to R3.8	0.004	0.28	0.87
I-10 Eastbound Off-Ramp to Cherry Valley Boulevard	R2.867	0.008	0.39	1.03
I-10 Eastbound On-Ramp from Cherry Valley Boulevard	R3.189	0.002	0.23	0.63
I-10 Westbound Off-Ramp to Cherry Valley Boulevard	R3.246	0.008	0.39	1.03
I-10 Westbound On-Ramp from Cherry Valley Boulevard	R2.896	0.002	0.23	0.63

Notes: Bold text indicates that actual collision rate is greater than statewide average collision rate.
1. Ramp collisions are per Million Vehicle (MV). Mainline collisions are per Million Vehicle Miles (MVM).

As shown in Table 1-6, collision data shows that rear end (50 percent) and side swipe (22.2 percent) are the majority of collisions along I-10. Majority of the collisions along the eastbound off-ramp are side swipe (66.7 percent), while the eastbound on-ramp are hit object (100 percent). Majority of the collisions along the westbound on-ramp are hit object (50 percent) and overturn (50 percent), while the westbound off-ramp had no collisions recorded. No pedestrian collisions were reported under the current stop-controlled configuration according to TASAS and TIMS (Transportation Injury Mapping System) data in the past three years, from October 1, 2017 to September 30, 2020.

Table 1-6: Ramp Collision Types

Location	Head-On	Side Swipe	Rear End	Broadside	Hit Object	Overturn	Auto-Pedestrian	Other
I-10 Mainline from Singleton Road to Oak Valley Parkway	1.2%	22.2%	50.0%	1.2%	19.8%	3.1%	0.0%	2.5%
I-10 Eastbound Off-Ramp to Cherry Valley Boulevard	0.0%	66.7%	0.0%	0.0%	33.3%	0.0%	0.0%	0.0%
I-10 Eastbound On-Ramp from Cherry Valley Boulevard	0.0%	0.0%	0.0%	0.0%	100%	0.0%	0.0%	0.0%
I-10 Westbound Off-Ramp to Cherry Valley Boulevard	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
I-10 Westbound On-Ramp from Cherry Valley Boulevard	0.0%	0.0%	0.0%	0.0%	50.0	50.0%	0.0%	0.0%

Notes: 1. Represents a total of 12 ramp collisions during this time period.

Table 1-7, below, summarizes the primary collision factors for the interchange. Collision data shows that majority of the collision factors along I-10 are speeding (48.8 percent) and other violations (17.9 percent). Majority of the collision factors along the eastbound off-ramp (66.7 percent) and on-ramp (100 percent) are improper turns. Majority of the collisions along the westbound on-ramp are influence of alcohol (50 percent) and improper turns (50 percent), while the westbound off-ramp had no collision factors.

Table 1-7: Primary Collision Factors

Location	HBD	FTC	FTY	IT	SPD	OV	ID	OTD	UNK	FA	NS
I-10 Mainline from Singleton Road to Oak Valley Parkway	6.8%	1.2%	0.0%	18.5%	48.8%	17.9%	0.0%	4.9%	1.2%	0.0%	0.0%
I-10 Eastbound Off-Ramp to Cherry Valley Boulevard	0.0%	0.0%	0.0%	66.7%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%
I-10 Eastbound On-Ramp from Cherry Valley Boulevard	0.0%	0.0%	0.0%	100%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
I-10 Westbound Off-Ramp to Cherry Valley Boulevard	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
I-10 Westbound On-Ramp from Cherry Valley Boulevard	50.0 %	0.0%	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Notes: HBD = Influence of Alcohol; FTC = Following Too Closely; FTY = Failure to Yield; ID = Improper Driving; IT = Improper Turn; SPD = Speeding; OV = Other Violations; NS = Not Stated; OTD = Other Than Driver; UNK = Unknown; FA = Fell Asleep

Based on the available collision data and proposed project improvements, it is expected that the number and severity of collisions will decrease after the project is constructed. The proposed project would enhance safety on the mainline by adding dedicated acceleration and deceleration lanes at the Cherry Valley Boulevard westbound and eastbound on- and off-ramps and an auxiliary lane between the project limits. These lanes will provide a dedicated lane for exiting and merging vehicles, separate from the mainline through traffic. This is likely to enhance weaving maneuverability and reduce the collision frequency and severity of sideswipe and rear-end type collisions, which are primary collision types on I-10.

Collision data shows that a high percentage of ramp incidents were sideswipe, hit object, and overturn type collisions. The proposed project is expected to reduce the frequency and severity of these collision types on the interchange ramps by re-aligning the Cherry Valley Boulevard ramps, signalizing the ramp intersections, and providing proper sight distance. The project will implement the latest Caltrans signing and striping for improved visibility.

The proposed project is expected to reduce the frequency and severity of hit object type collisions, at the interchange, by moving roadside objects outside the clear recovery area, making the objects breakable, or shielding the objects with a standard barrier in accordance with the latest Caltrans design standards.

Bicycle and Pedestrian Facilities

Within the project vicinity, sidewalk is located at the I-10/Cherry Valley Boulevard overcrossing, eastbound Cherry Valley Boulevard, and along Roberts Road. There are currently no designated bicycle lanes or facilities on-site. Based on the Calimesa General Plan, bicycle lanes are planned along Cherry Valley Boulevard, south of Roberts Road, along Roberts Road, west of Cherry Valley Boulevard, and along Palmer Avenue/Desert Lawn Drive, east and west of the Cherry Valley Boulevard and Palmer Avenue/Desert Lawn Drive intersection within the project area. The Riverside County General Plan does not identify proposed bicycle or pedestrian facilities within the project area. Project implementation would improve pedestrian and bicycle movement within the area by replacing existing facilities and including additional pedestrian and bicycle facilities to promote connectivity. Additionally, there are no anticipated bicycle or pedestrian improvement/rehabilitation projects that would occur within the project site, and the project would not impact any future bicycle/pedestrian improvement projects planned by the City or County.

Transit

According to the Riverside County General Plan, the public transit system within the County includes fixed route public transit systems (Riverside Transit Agency, SunLine Transit Agency), bus carriers (Greyhound Bus Lines), AMTRAK, Metrolink, and other local agency transit and paratransit services (carpooling, van pooling, taxi service, and dial-a-ride programs).

Based on the Calimesa General Plan, Yucaipa Dial-A-Ride provides on-call transit services in portions of the City. The service is provided on a space-available basis, with priority given to Americans with Disabilities Act (ADA)-certified individuals. There are no existing bus stops or turn outs within project boundaries, and none are proposed as part of the Build Alternatives.

Roadway Deficiencies

Improvements to I-10 in the study area are critical to the operations for all modes of travel not only for regional traffic, but also for local traffic. Key deficiencies that affect traffic in the study area include the following:

- Insufficient pedestrian sidewalk widths and multi-modal facilities (no bike lanes),
- Non-standard curb ramps,
- Existing bridge structure will be over 50 years old by the project's estimated opening year (2025),
- Existing bridge structure does not include protective screening over I-10,
- Existing ramps are single lane and exceed 1,000 feet without ramp metering,
- Intersection spacing is less than the preferred minimum 500 feet,
- Non-standard superelevations, and
- Non-standard Midwest Guardrail Systems.

Social Demands or Economic Development

Land use development in the City of Calimesa is creating a greater demand for travel on I-10. For this reason, local road connections and extensions are a high priority. The I-10 corridor is part of a transportation network that accommodates all aspects of travel in the region, including commuters, shoppers, public transit patrons, trucks, and emergency personnel. I-10 is also used as a major goods movement facility. West and east of the I-10 within the project vicinity, large residential and retail developments are currently under construction or planned within the near future. Future development of this portion of the City is expected to result in direct and indirect population increases in the City. As growth continues on a local, Statewide, and regional basis, the need for more efficient transportation in the corridor will increase.

Modal Interrelationships and System Linkages

As discussed above, I-10 is included in the NHS, RSIRS, STRAHNET, and STAA. The segment within the project limits is functionally classified as an Urbanized Freeway. I-10 provides regional access in the project area, traversing the State of California in a west-east orientation. I-10 originates in Santa Monica, California, and extends eastward to its terminus in Jacksonville, Florida. As an interstate facility, I-10 serves as a major corridor for goods movement through the project area and areas west and east via the freeway.

As noted above, large residential and retail developments are currently under construction or planned within the project area. Future development of this portion of the City is expected to result in direct and indirect population increases. The project would provide enhanced mobility and connectivity to accommodate planned development within the region.

The project would also include facilities intended to promote connectivity for system linkages related to pedestrian and bicycle movement. The project includes sidewalks and bicycle buffers along Cherry Valley Boulevard, where no such facilities currently exist. These facilities would promote connectivity for system linkages related to pedestrian and bicycle movement. Six-foot bicycle lanes would be included along Cherry Valley Boulevard, between Roberts Road and the Overcrossing as well as Calimesa Boulevard and the Overcrossing.

Air Quality Improvements

The proposed project would provide sidewalks and turn lane bicycle buffers along Cherry Valley Boulevard, where none exist today. These facilities would promote alternative modes of transportation and help to reduce air quality impacts.

Independent Utility and Logical Termini

FHWA regulations (23 Code of Federal Regulations 771.111[f]) require that the action evaluated shall:

1. Connect logical termini and be of sufficient length to address environmental matters on a broad scope.
2. Have independent utility or independent significance (i.e., be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made).
3. Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

The proposed project’s termini allow for an evaluation of potential environmental effects for a project large enough to address the defined operational enhancements specifically related to the interchange area as discussed above. No subsequent transportation improvements in the area would be needed to optimize the operation of the I-10/Cherry Valley Boulevard interchange, consistent with applicable Caltrans design standards. Accordingly, the project is considered to have independent utility.

Further, the proposed project would not restrict consideration of alternatives for other reasonably foreseeable local transportation improvements adjacent and/or in proximity to the I-10/Cherry Valley Boulevard interchange.

1.3 Project Description

The project proposes to upgrade and reconfigure the existing I-10/Cherry Valley Boulevard Interchange (project) from PM R2.1 to R3.8. The I-10/Cherry Valley Boulevard interchange is located on I-10 between Singleton Road and Oak Valley Parkway. The I-10/Cherry Valley Boulevard interchange is a major access point for existing and proposed residential and commercial development. The existing configuration is a diamond interchange, with stop control at the ramp termini. The on- and off-ramps at the interchange consist of one lane. Within the project area, Cherry Valley Boulevard is a two-lane roadway with a posted speed limit of 35 miles per hour west of the interchange and a posted speed limit of 55 miles per hour east of the interchange. Per the City of Calimesa's General Plan, Cherry Valley Boulevard is classified as a Major Arterial. The Cherry Valley Boulevard Overcrossing (OC) (PM R3.05, Bridge Number 56-0481) is a four-span, concrete-girder bridge constructed in 1965 and is approximately 273 feet long, 47 feet wide, and crosses six lanes of traffic over I-10.

1.4 Alternatives

1.4.1 Project Alternatives

This section describes the proposed action and the project alternatives that were developed to meet the identified purpose and need of the project. The criteria used for alternative evaluation included operational benefits, provisions for bicycle and pedestrian mobility, and environmental impacts. A No-Build Alternative and two Build Alternatives were studied for the I-10/Cherry Valley Boulevard Interchange Project.

- Alternative 1 (No-Build Alternative): Refer to Figure 1-3, Alternative 1 (No-Build);
- Build Alternative 3 (Diverging Diamond) (Preferred Alternative): Refer to Figure 1-4 (a key map), and Figures 1-4a through 1-4e, Build Alternative 3 (Diverging Diamond); and
- Build Alternative 4 (Partial Cloverleaf): Refer to Figure 1-5 (a key map), and Figures 1-5a through 1-5e, Build Alternative 4 (Partial Cloverleaf).

1.4.2 Common Design Features of the Build Alternatives

Calimesa Boulevard

The Build Alternatives propose to realign Calimesa Boulevard located north of the I-10/Cherry Valley Boulevard interchange along Cherry Valley Boulevard.

Cherry Valley Boulevard

Under both Build Alternatives, Cherry Valley Boulevard would be widened to two lanes in each direction within the project limits.

Figure 1-3: Alternative 1 (No-Build)

Source: Google Earth Pro, March, 2020

NOT TO SCALE

01/2021 JN 169171

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
INTERSTATE 10/CHERRY VALLEY BOULEVARD INTERCHANGE PROJECT

Alternative 1 (No-Build)

Figure 1-3

Figure 1-4: Build Alternative 3 (Diverging Diamond)

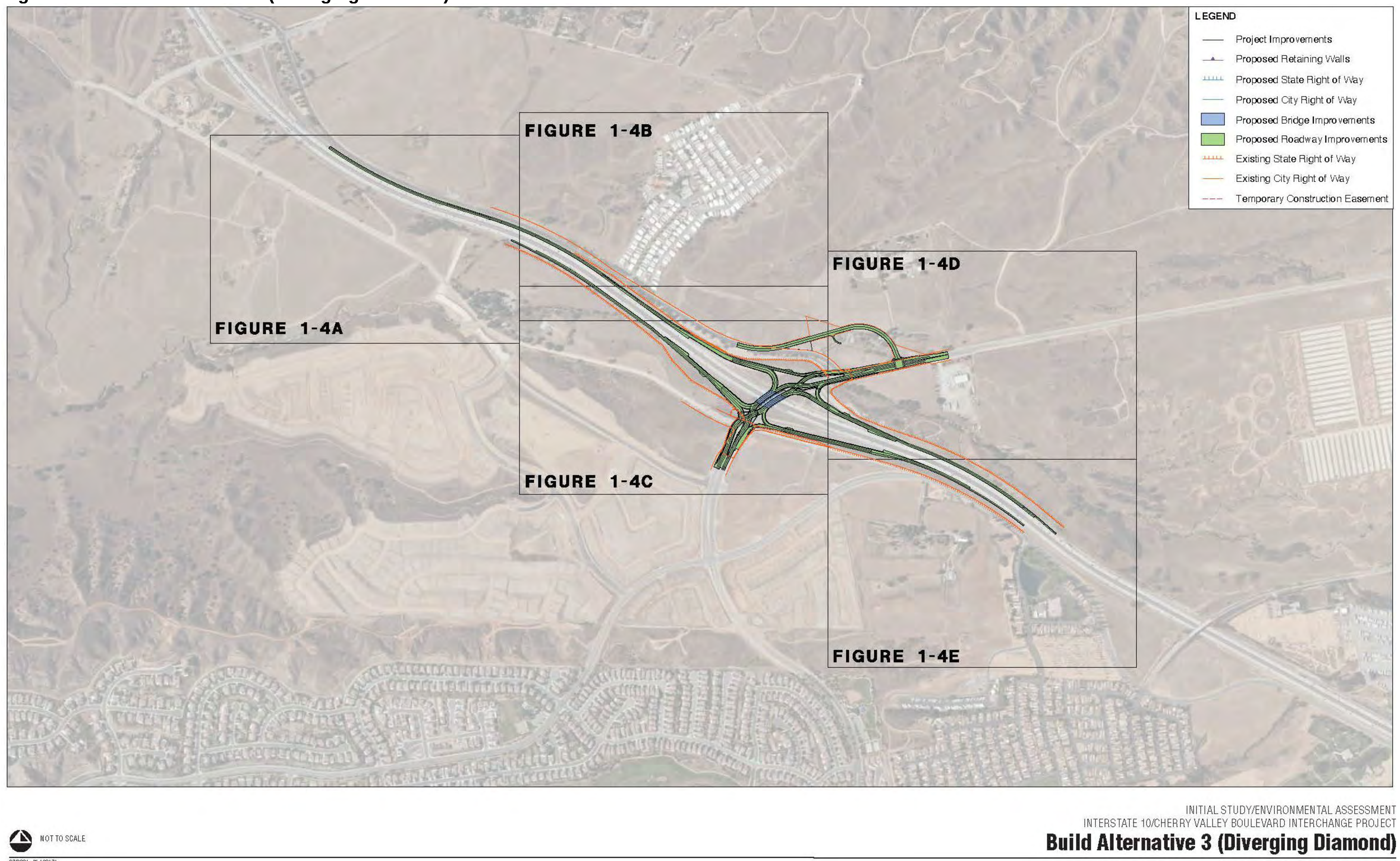


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Figure 1-4a: Build Alternative 3 (Diverging Diamond)

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
INTERSTATE 10/CHERRY VALLEY BOULEVARD INTERCHANGE PROJECT

Build Alternative 3 (Diverging Diamond)

Figure 1-4a

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Figure 1-4b: Build Alternative 3 (Diverging Diamond)

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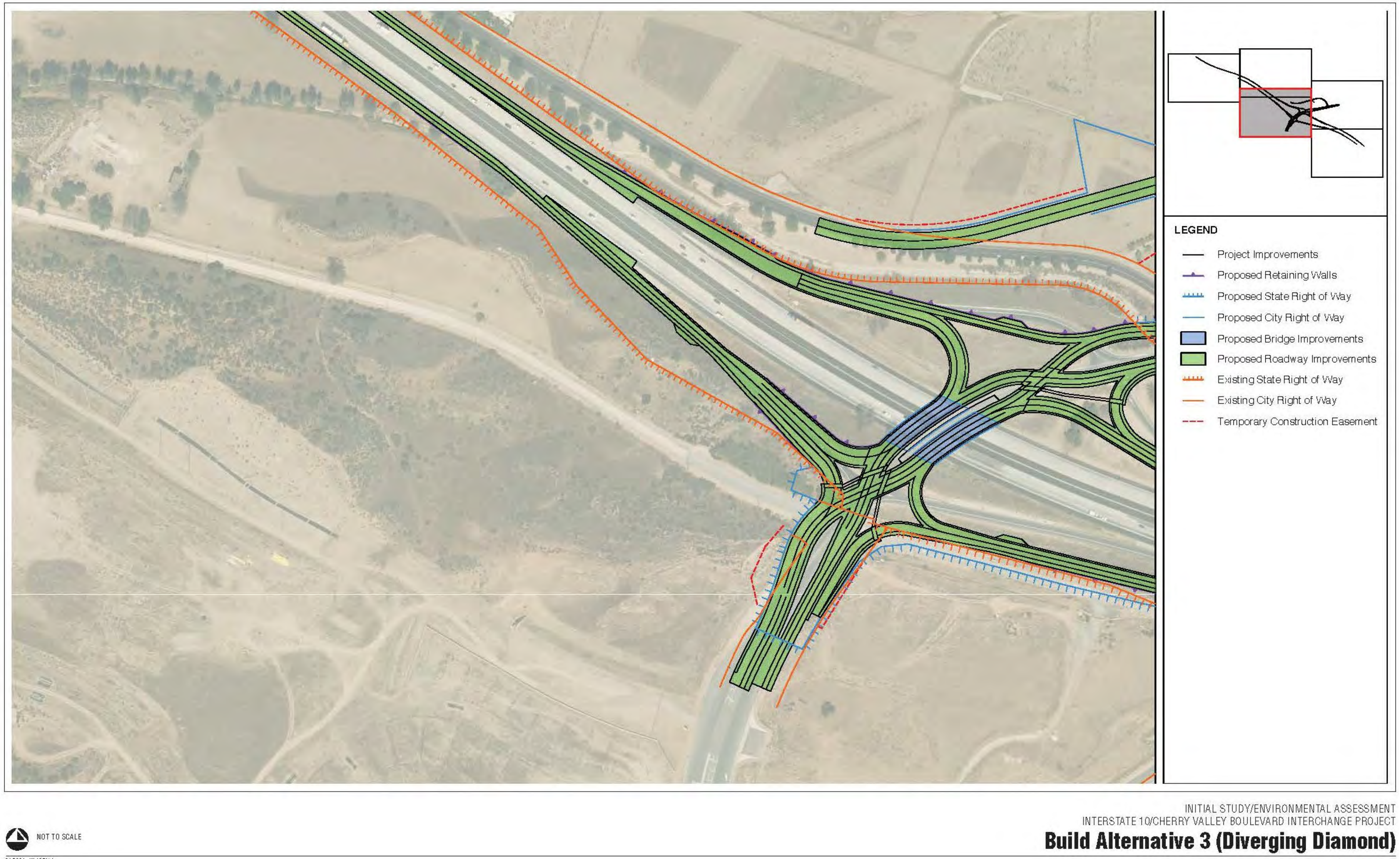
Figure 1-4c: Build Alternative 3 (Diverging Diamond)



INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
INTERSTATE 10/CHERRY VALLEY BOULEVARD INTERCHANGE PROJECT
Build Alternative 3 (Diverging Diamond)
Figure 1-4c

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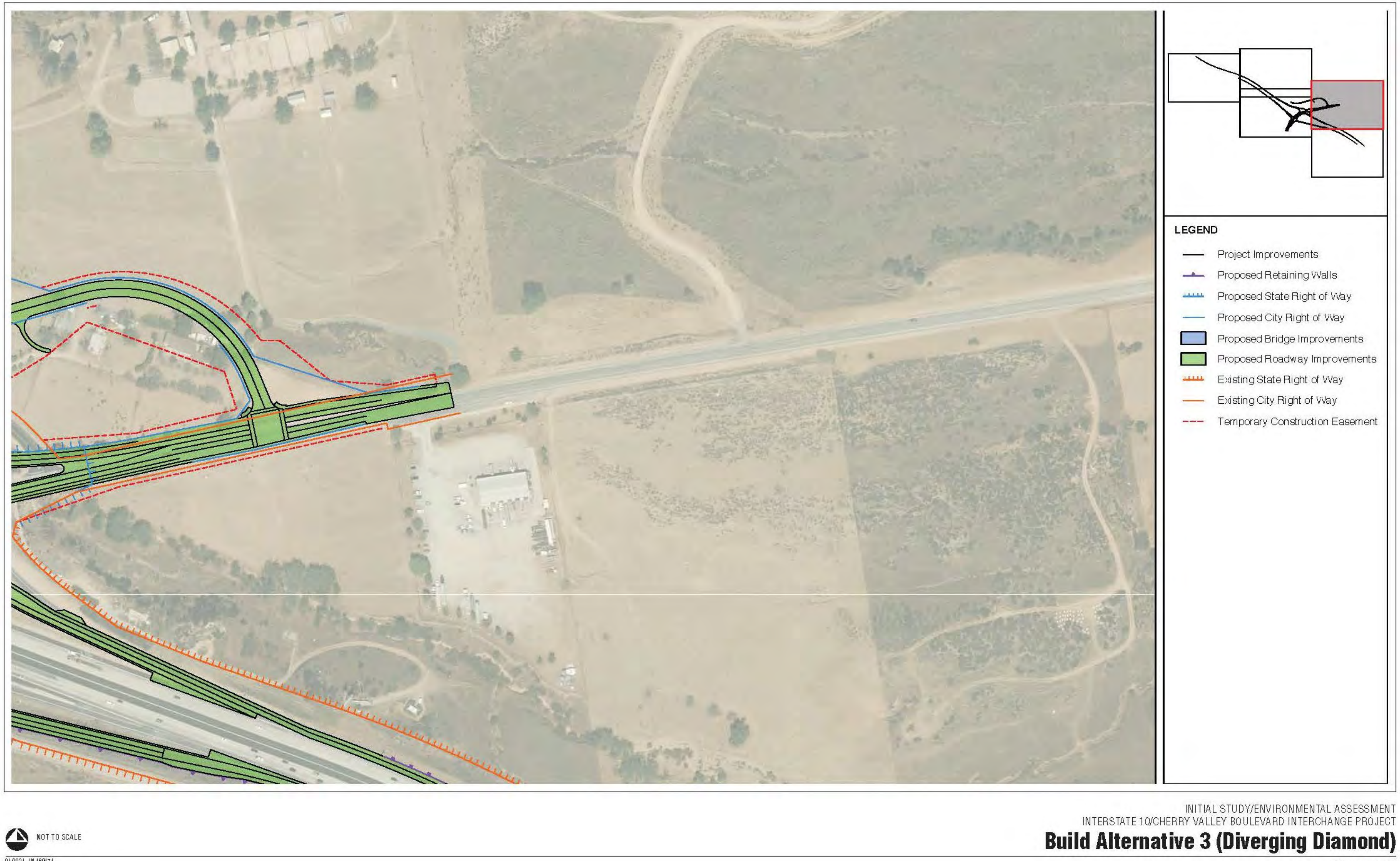
Figure 1-4d: Build Alternative 3 (Diverging Diamond)



INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
INTERSTATE 10/CHERRY VALLEY BOULEVARD INTERCHANGE PROJECT

Build Alternative 3 (Diverging Diamond)

Figure 1-4d

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Figure 1-4e: Build Alternative 3 (Diverging Diamond)

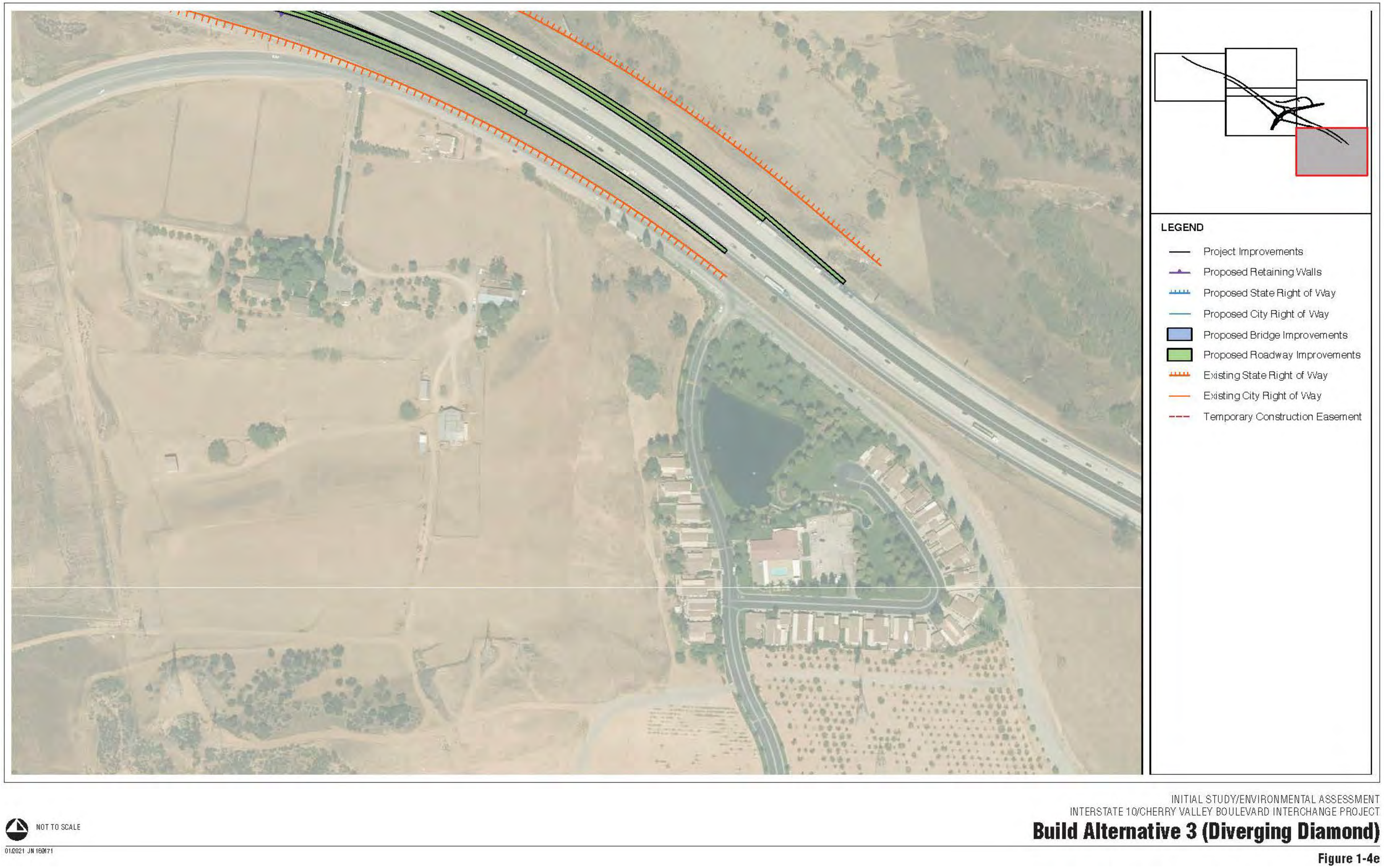

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Figure 1-5: Build Alternative 4 (Partial Cloverleaf)

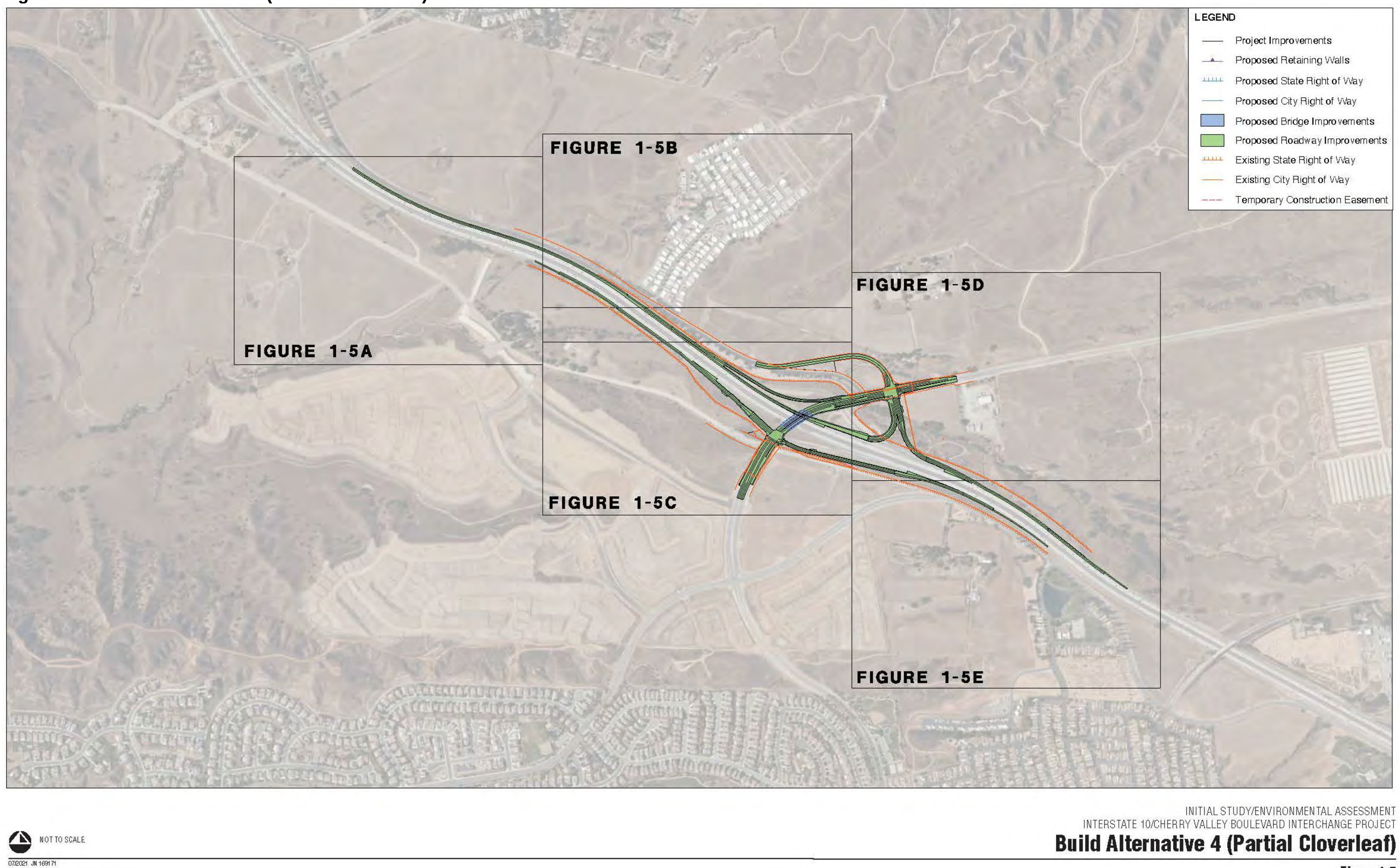

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Figure 1-5a: Build Alternative 4 (Partial Cloverleaf)

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Figure 1-5b: Build Alternative 4 (Partial Cloverleaf)

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Figure 1-5c: Build Alternative 4 (Partial Cloverleaf)

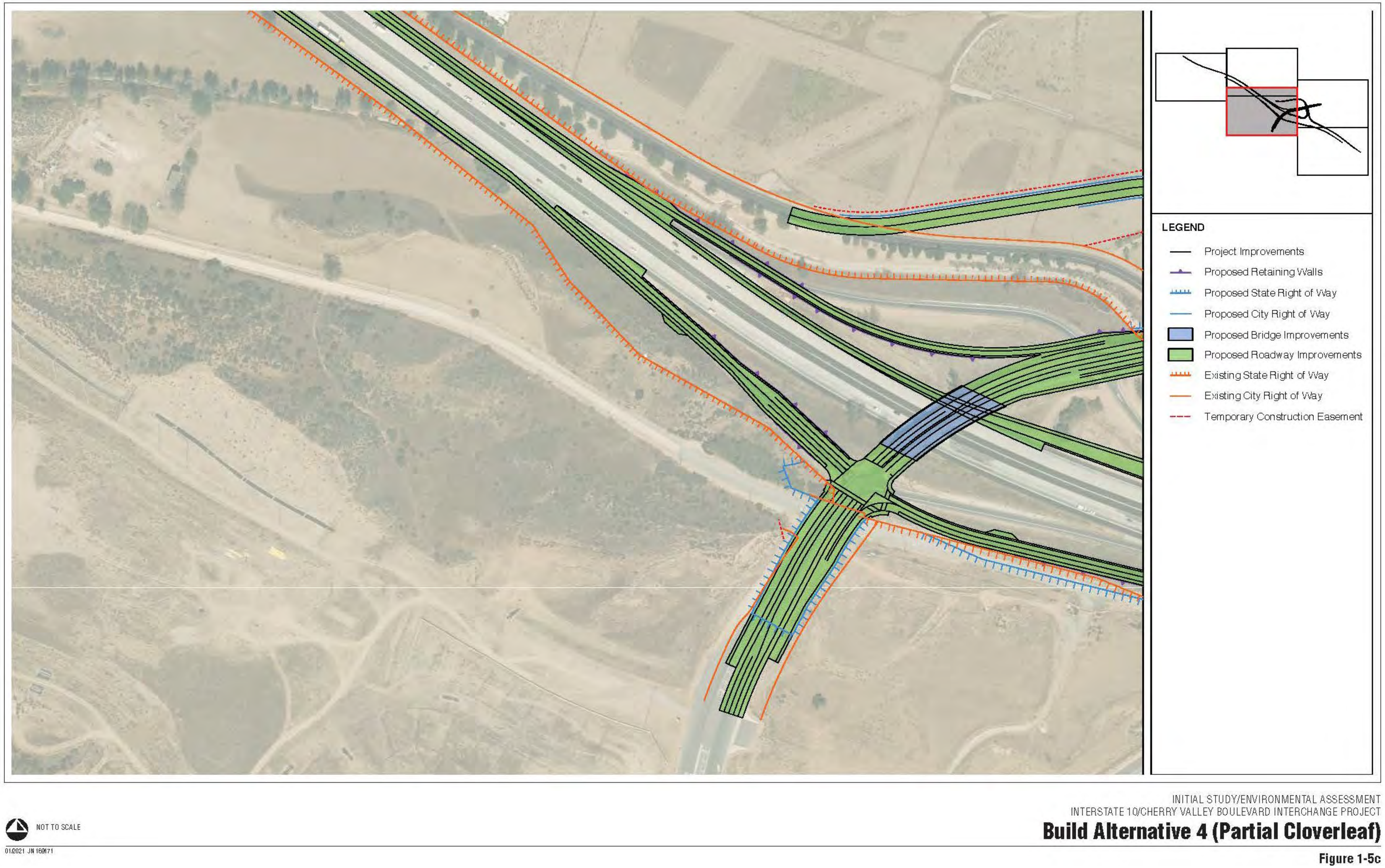

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Figure 1-5d: Build Alternative 4 (Partial Cloverleaf)

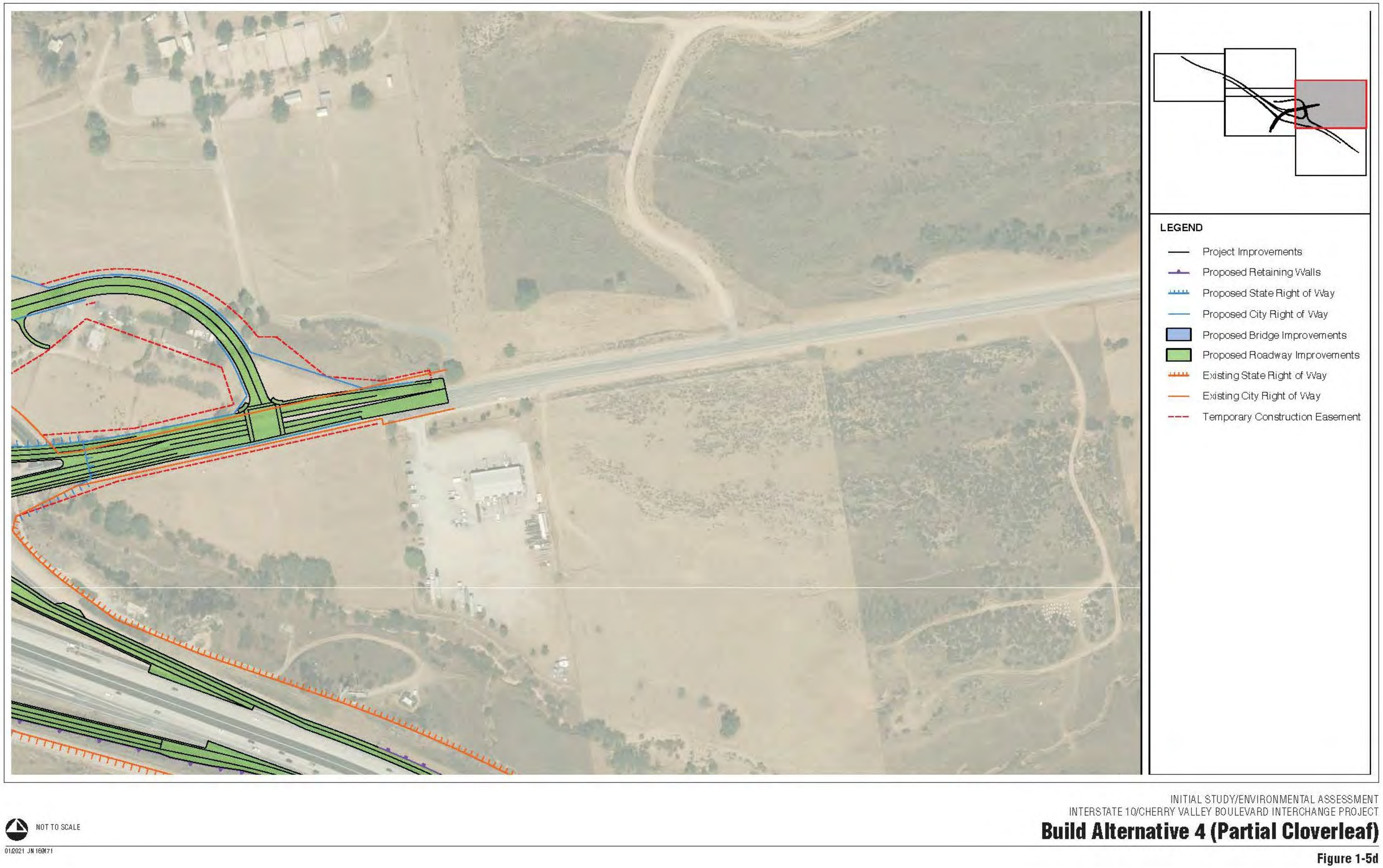

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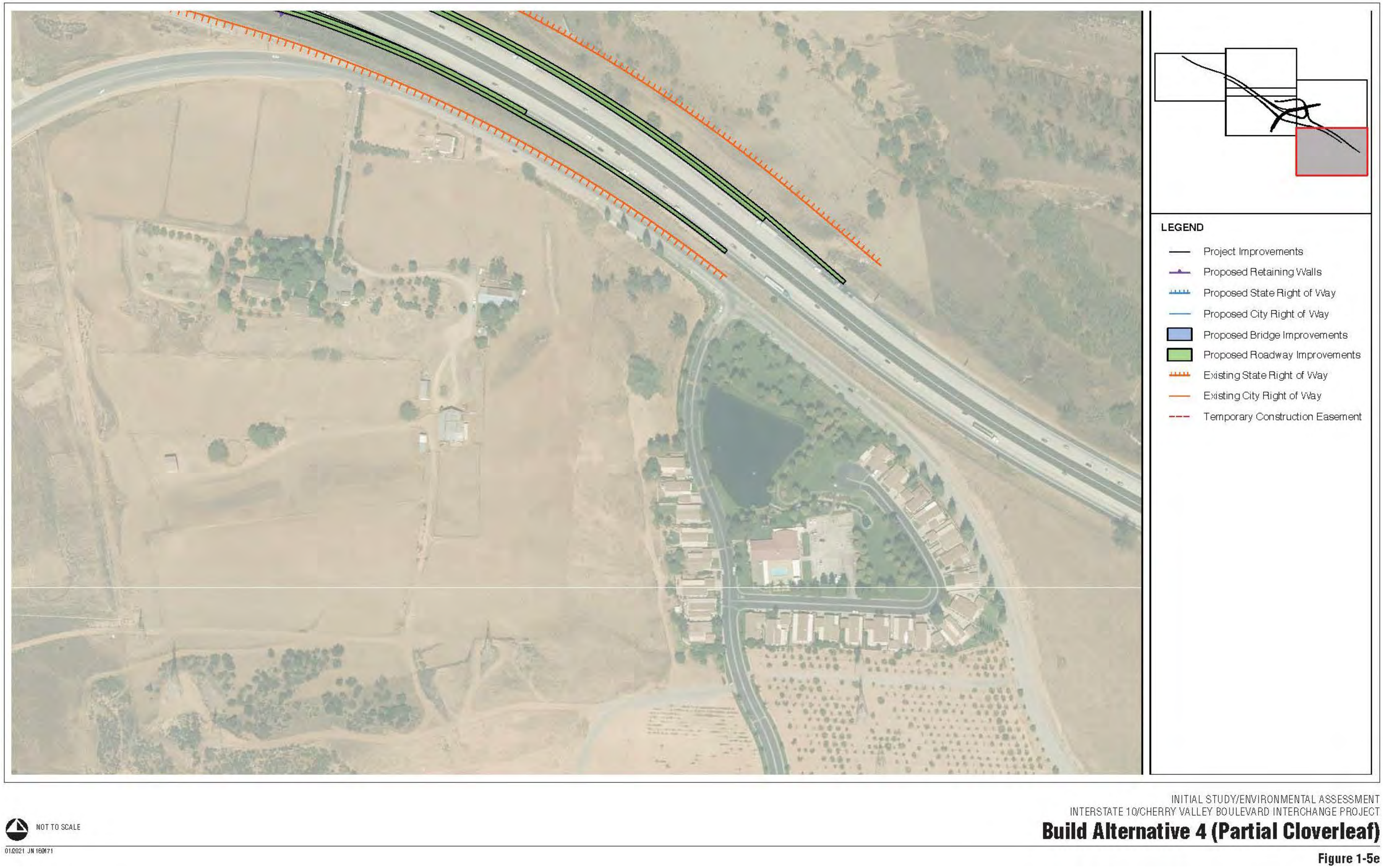
Figure 1-5e: Build Alternative 4 (Partial Cloverleaf)



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Right-Turn Pockets
The Build Alternatives would include right-turn pockets along Cherry Valley Boulevard approaching the westbound I-10 on-ramp and eastbound I-10 on-ramp.

Channelized Turning
Channelized turning would be installed on Cherry Valley Boulevard to connect to Calimesa Boulevard under both Build Alternatives.

Traffic Features
For both Build Alternatives, proposed traffic features will include new signals, traffic controller cabinets, signs, and pavement markings. A signalized stop control is proposed at Calimesa Boulevard and Cherry Valley Boulevard. The I-10 eastbound and westbound off- and on-ramps at Cherry Valley Boulevard are proposed to be signalized.

Roadside Design Features
For both Build Alternatives, new or reconstructed roadside design features will include Maintenance Vehicle Pullouts (MVP), Midwest Guardrail Systems (MGS) and dike where applicable.

California Highway Patrol Enforcement Areas
The entry ramps in both directions will accommodate California Highway Patrol (CHP) enforcement areas under both Build Alternatives.

Ramp Termini
The exit ramps in both directions will require reconstruction of the ramp termini.

Ramp Metering
Under both Build Alternatives, ramp metering is proposed at the westbound and eastbound I-10 on-ramps.

I-10 Auxiliary Lane
Both Build Alternatives would include an auxiliary lane added to the eastbound off-ramp and westbound on-ramp to provide additional storage.

High Occupancy Vehicle Lanes
Both Build Alternatives propose High Occupancy Vehicle (HOV) preferential lanes on each of the Cherry Valley Boulevard entrance ramps.

Retaining Walls
Retaining walls would be constructed along each on- and off-ramp under both Build Alternatives.

ADA Facilities
For both Build Alternatives, Americans with Disabilities Act (ADA) compliant curb ramps and crosswalks would be provided at all proposed pedestrian crossings on Cherry Valley Boulevard, where access is provided. All pedestrian crossings would be designed to the Permanent Pedestrian Facilities ADA Compliance Handbook prepared by Caltrans (dated 2018).

Highway Planting

Highway planting of disturbed areas is proposed with both Build Alternatives. Disturbed areas and slopes will be planted and irrigated for aesthetic, erosion control, and water quality purposes. Permanent Erosion Control, Irrigation, and Planting Plans will be approved by the Caltrans Landscape Architect and Maintenance representatives in coordination with project stakeholders during the final design phase of the project.

Drainage Features

Under both Build Alternatives, drainage features include new or reconstructed drainage inlets, pipes, culverts, and Best Management Practices (BMPs).

Utility Relocation

The utilities shown in Table 1-8 are anticipated to require relocation under Build Alternatives 3 and 4. Coordination with the identified utility companies will be carried out during the final design and construction phases of the project. The need for relocation of any lines will be confirmed during final design.

Table 1-8: Utility Relocation Summary

Utility Company/Owner	Utility Type	Relocation
Southern California Gas (SCG)	Gas – One six-inch medium pressure line along existing Calimesa Boulevard.	Utility will be realigned with the realignment of Calimesa Boulevard by approximately 1,500 linear feet relocation.
Yucaipa Valley Water District	Sewer – One six-inch line within State ROW outside of westbound I-10 shoulder.	Utility will be realigned within same vicinity of State ROW, approximately 3,000 linear feet to avoid bridge abutments and westbound I-10 ramp realignments.
Beaumont-Cherry Valley Water District (BCVWD)	Water – Three 24-inch lines (two potable and one non-potable) to be constructed with project.	Utility will be constructed with the project, along Cherry Valley Boulevard.
Southern California Edison (SCE)	Electric – Three lines; two overhead (one line running across and along existing Calimesa Boulevard and a second line running across Cherry Valley Boulevard south of the eastbound I-10 ramp intersection) and one underground transmission line running across and along Cherry Valley Boulevard.	The overhead utility line that runs along and across Calimesa Boulevard will be realigned with the realignment of Calimesa Boulevard by approximately 1,500 linear feet relocation. The overhead utility line that runs across Cherry Valley Boulevard will be relocated across Cherry Valley Boulevard by approximately 400 linear feet relocation. The underground utility line that runs along and across Cherry Valley Boulevard will be realigned along Cherry Valley Boulevard by approximately 700 linear feet relocation.
Charter	Communication – Overhead cable line running along existing Calimesa Boulevard.	Utility will be realigned with the realignment of Calimesa Boulevard by approximately 1,500 linear feet relocation.

Utility Company/Owner	Utility Type	Relocation
Frontier (Verizon)	Communication – Underground line running along existing Calimesa Boulevard.	Utility will be realigned with the realignment of Calimesa Boulevard by approximately 1,500 linear feet relocation.

Construction Phasing

Under both Build Alternatives, construction would occur in one phase and is anticipated to last approximately 24 months, or 315 working days.

Project Features

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

Geotechnical Investigations

Geotechnical investigations would be required during final design of the I-10 overcrossing and interchange improvements. Additional investigations would include the preparation of a Foundation Report, Final Materials Report and Final Geotechnical Design Report. Infiltration basins are proposed in the undeveloped areas between the on- and off-ramps and I-10. Approximately 50 exploratory borings will be required during final design. It is anticipated that approximately 40 potholes would be required during the PS&E phase.

1.4.3 Unique Features of Build Alternatives

Build Alternative 3 (Diverging Diamond Interchange)

Interchange Configuration

Build Alternative 3 would reconstruct the current interchange into a diverging diamond interchange (DDI). This interchange configuration crosses each direction of traffic to the opposite side, optimizing left-turn movements and reducing conflict points.

Overcrossing Structure

This alternative would utilize two separate overcrossing structures for each direction of Cherry Valley Boulevard. Vehicles traveling northbound along the Cherry Valley Boulevard overcrossing would use the western overcrossing structure and vehicles traveling southbound would use the eastern overcrossing structure. Pedestrian facilities are discussed below.

On- and off-ramps

All on- and off-ramps at the interchange would be signalized, realigned, and reconstructed to multilane ramps. The westbound I-10 on-ramp would reduce from three lanes to one lane. The eastbound on-ramp would reduce from two lanes to one lane. Refer to Section 2.1.9 for further detail regarding queuing at the ramp locations.

The westbound off-ramp would include a right-turn pocket for vehicles turning northbound onto Cherry Valley Boulevard and two left lanes for vehicles turning southbound onto Cherry Valley Boulevard. The eastbound off-ramp would include two lanes of traffic turning northbound and two lanes of travel turning southbound onto Cherry Valley Boulevard.

Pedestrian Facilities

Build Alternative 3 provides a sidewalk on each side of Cherry Valley Boulevard, excluding the overcrossing structures where a ten-foot sidewalk would be provided on the eastbound structure to serve both directions of pedestrian travel. Crosswalks would be oriented to connect the eastbound structure’s sidewalk to the sidewalk on both sides of Cherry Valley Boulevard. Right turn pockets would include a four-foot bicycle buffer and bypass the Cherry Valley Boulevard crossovers.

Right-of-Way

For Build Alternative 3, ROW required for acquisition includes approximately 3.64 acres of Temporary Construction Easement (TCE) and approximately 4.20 acres of permanent easements; refer to Tables 1-9 and 1-10, below. No residential or business relocations would occur as a result of Build Alternative 3.

Table 1-9: Potential Temporary Right-of-Way Acquisitions and Relocations – Build Alternative 3

APN	Address	Build Alternative 3 Impacts (Acres)	Relocation	Current Land Use
413-270-004	N/A	0.16	No	Commercial/Vacant Land
413-270-014	3607 Cherry Valley Boulevard	2.38	No	Commercial/Multiple SFR Structures
413-270-015	36240 Cherry Valley Boulevard	0.50	No	Residential/Residential
407-230-018	N/A	0.19	No	Commercial/Vacant Land
407-230-017	36015 Cherry Valley Boulevard	0.13	No	Commercial/Vacant Land
407-230-016	N/A	0.06	No	Commercial/Vacant Land
413-780-018	N/A	0.05	No	Commercial/Shopping Center
413-290-044	N/A	0.17	No	Commercial/Vacant Land

Source: Community Impact Assessment Technical Memorandum, January 2021.

Table 1-10: Potential Permanent Right-of-Way Acquisitions and Relocations – Build Alternative 3

APN	Address	Build Alternative 3 Impacts (Acres)	Relocation	Current Land Use
413-270-004	N/A	0.63	No	Commercial/Vacant Land
413-270-014	3607 Cherry Valley Boulevard	1.94	No	Commercial/Multiple SFR Structures
413-270-015	36240 Cherry Valley Boulevard	0.81	No	Residential/Residential
407-230-018	N/A	0.02	No	Commercial/Vacant Land
413-780-020	N/A	0.44	No	Commercial/Shopping Center
413-290-044	N/A	0.02	No	Commercial/Vacant Land
413-270-021	N/A	0.21	No	Commercial/Vacant Land
413-270-019	N/A	0.08	No	Commercial/Vacant Land
413-270-020	N/A	0.05	No	Residential/Vacant Land

Source: Community Impact Assessment Technical Memorandum, January 2021.

Table 1-11: Build Alternative 3 Cost Estimates (Escalated)

Roadway	Structures	Right of Way*	Total**
$35,646,192	$10,913,298	$13,874,900	$60,432,000

**Includes utility costs per Right of Way Data Sheets*
***Rounded cost per preliminary cost estimating guidance*

Build Alternative 4 (Partial Cloverleaf Interchange)

Interchange Configuration

Build Alternative 4 would reconstruct the current interchange into a partial cloverleaf configuration.

Overcrossing Structure

The I-10/Cherry Valley Boulevard overcrossing would be reconstructed to accommodate two through lanes in each direction, channelized left-turn lanes, and sidewalks.

On- and off-ramps

The westbound loop on- and off-ramps would be realigned and reconstructed. The proposed westbound loop on-ramp would serve eastbound vehicles on Cherry Valley Boulevard. The proposed westbound direct on-ramp and eastbound on- and off-ramps would be signalized, realigned, and widened to two-lane ramps. The westbound direct on-ramp would provide a free-flow movement for westbound vehicles on Cherry Valley Boulevard. The eastbound ramps would maintain their current tight diamond configuration.

Pedestrian Facilities

Under Build Alternative 4, Cherry Valley Boulevard would be widened to include sidewalk in the eastbound direction. The I-10/Cherry Valley Boulevard overcrossing would be reconstructed to include an eight-foot sidewalk. A six-foot bicycle buffer would be provided on all proposed right turn pockets within the project limits.

Right-of-Way

For Build Alternative 4, ROW required for acquisition includes approximately 3.19 acres of TCE and approximately 6.56 acres of Permanent Easement; refer to Tables 1-12 and 1-13, below. Two residential relocations would occur on APN 413-270-014. No business relocations would occur as a result Build Alternative 4.

Table 1-12: Potential Temporary Right-of-Way Acquisitions and Relocations – Build Alternative 4

APN	Address	Build Alternative 4 Impacts (Acres)	Relocation	Current Land Use
413-270-004	N/A	0.14	No	Commercial/Vacant Land
413-270-014	3607 Cherry Valley Boulevard	2.84	No	Commercial/Multiple SFR Structures
413-270-015	36240 Cherry Valley Boulevard	0.11	No	Residential/Residential
407-230-018	N/A	0.08	No	Commercial/Vacant Land
413-290-044	N/A	0.02	No	Commercial/Vacant Land

Source: Community Impact Assessment Technical Memorandum, January 2021.

Table 1-13: Potential Permanent Right-of-Way Acquisitions and Relocations – Build Alternative 4

APN	Address	Build Alternative 4 Impacts (Acres)	Relocation	Current Land Use
413-270-004	N/A	1.02	No	Commercial/Vacant Land
413-270-014	3607 Cherry Valley Boulevard	1.31	Yes	Commercial/Multiple SFR Structures
413-270-015	36240 Cherry Valley Boulevard	< 0.01	No	Residential/Residential
407-230-004	--	0.01	No	Commercial/Vacant Land
407-230-017	36015 Cherry Valley Boulevard	2.77	No	Commercial/Vacant Land
407-230-016	N/A	0.92	No	Commercial/Vacant Land
413-780-020	N/A	0.26	No	Commercial/Shopping Center
413-270-021	N/A	0.21	No	Commercial/Vacant Land
413-270-019	N/A	0.06	No	Commercial/Vacant Land
413-270-020	N/A	0.01	No	Residential/Vacant Land

Source: Community Impact Assessment Technical Memorandum, January 2021.

Nonstandard Features

Access Rights Opposite Ramp Terminals, HDM Index 504.8: Access rights shall be acquired on the opposite side of ramp terminals to preclude driveways or local roads within the ramp intersection. Build Alternative 4 proposes that the termini of the westbound off- and westbound loop on-ramps join at an intersection opposite Calimesa Boulevard. This configuration introduces nonstandard access control due to the presence of Calimesa Boulevard opposite the westbound ramps. Moving Calimesa Boulevard to provide standard access control opposite the westbound ramps would introduce additional design exceptions, ROW impacts, and construction costs.

Guidelines for the Location and Design of Curb Ramps, HDM Index 105.5: Dual curb ramps are required at each curb return with a (potential) pedestrian crossing. Single curb ramps are provided at both the eastbound and westbound ramps at various locations where additional pedestrian crossings could happen, but are not proposed. Installing dual curb ramps at these locations would encourage pedestrians to cross at unmarked crossings and, when used, would place pedestrians on the west side of the interchange where there are no sidewalks.

Cost

The escalated cost estimate for the Build Alternative is summarized in Table 1-14. Capital outlay support costs are estimated at $3,487,000 and are not included in these costs.

Table 1-14: Build Alternative 4 Cost Estimates (Escalated)

Roadway	Structures	Right of Way*	Total**
$36,553,277	$8,610,049	$18,690,488	$63,854,000

**Includes utility costs per Right of Way Data Sheets*
***Rounded cost per preliminary cost estimating guidance*

1.4.4 Transportation Demand Management (TDM), Transportation System Management (TSM), and Mass Transit Alternatives

Transportation System Management (TSM) strategies increase the efficiency of existing 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.

TDM focuses on regional means of reducing the number of vehicle trips and vehicle miles traveled as well as increasing vehicle occupancy. It 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. A typical activity would be providing funds to regional agencies that are actively promoting ridesharing, maintaining rideshare databases, and providing limited rideshare services to employers and individuals.

Although TSM, TDM, and mass transit measures alone could not satisfy the purpose and need of the proposed project, the following measures have been incorporated into the build alternative for this project:

- The project would provide sidewalk along Cherry Valley Boulevard and a four-foot to six-foot bicycle buffer at turn pockets. These features would improve mobility through the interchange for bicyclists and pedestrians.
- The project would provide two-lane ramp metered entrances at all interchange entrance ramps. This feature would improve mobility along I-10 within the project boundaries.
- The project would provide an auxiliary lane along I-10 westbound between the Cherry Valley Boulevard and Singleton Road. This feature would improve mobility along I-10 within the project boundaries.

1.4.5 Alternative 1 (No-Build Alternative)

The No-Build Alternative refers to the scenario/condition where no improvements are constructed at/through the study intersection with the exception of routine roadway maintenance and currently approved improvements.

1.4.6 Comparison of Alternatives

Table 1-15: Alternatives Comparison – Project Features and Design Standards

Evaluation Criteria	No-Build Alternative	Build Alternative 3	Build Alternative 4
Traffic Operations – Intersections	As shown in Table 1-2b, by the year 2025, the following intersections are projected to have a LOS D or worse: • Cherry Valley Boulevard/ Palmer Avenue/Desert Lawn Drive (AM and PM peak hour) • Cherry Valley Boulevard/ Roberts Road (AM and PM peak hour) • I-10 eastbound Off/On-Ramps/Cherry Valley Boulevard	As shown in Table 1-2c, by the year 2025, all analyzed intersections are projected to perform at an acceptable LOS C or better. As shown in Table 1-2f, by the year 2045 the following intersections are projected to have a LOS D or worse: • I-10 eastbound Off/On-Ramps/ Singleton Road (PM peak hour) • I-10 westbound Off/On-Ramps/ Singleton Road (AM peak hour) • Cherry Valley Boulevard/Roberts	As shown in Table 1-2c, by the year 2025, all analyzed intersections are projected to perform at an acceptable LOS C or better. As shown in Table 1-2g, by the year 2045 the following intersections are projected to have a LOS D or worse: • I-10 eastbound Off/On-Ramps/ Singleton Road (PM peak hour) • I-10 westbound Off/On-Ramps/ Singleton Road (AM and PM peak hour) • Cherry Valley Boulevard/Roberts

Evaluation Criteria	No-Build Alternative	Build Alternative 3	Build Alternative 4
	(AM and PM peak hour) • I-10 westbound Off/On-Ramps/ Cherry Valley Boulevard (AM peak hour) • Calimesa Boulevard/Cherry Valley Boulevard (westbound through) (AM peak hour) As shown in Table 1-2e, by the year 2045 the following intersections are projected to have a LOS D or worse: • I-10 eastbound Off/On-Ramps/Singleton Road (PM peak hour) • I-10 westbound Off/On-Ramps/Singleton Road (AM and PM peak hour) • Cherry Valley Boulevard/ Palmer Avenue/Desert Lawn Drive (AM and PM peak hour) • Cherry Valley Boulevard/Roberts Road (AM and PM peak hour) • I-10 eastbound Off/On-Ramps/Cherry Valley Boulevard (AM and PM peak hour) • I-10 westbound Off/On-Ramps/Cherry Valley Boulevard (AM and PM peak hour)	Road (PM peak hour)	Road (PM peak hour)

Evaluation Criteria	No-Build Alternative	Build Alternative 3	Build Alternative 4
	• I-10 westbound Off/On-Ramps/Oak Valley Parkway (AM peak hour)		
Traffic Operations – Mainline	As shown in Tables 1-4c and 1-4f, by the year 2025, the following mainline segments are projected to have a LOS D or worse: • Eastbound Singleton On-Ramp (PM peak hour) • Eastbound Cherry Valley Boulevard Off-Ramp (PM peak hour) • Westbound Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp (AM peak hour) • Westbound Singleton Road Off-Ramp (AM peak hour) As shown in Tables 1-4i and 1-4l, by the year 2045, the following mainline segments are projected to have a LOS D or worse: • Eastbound North of Singleton Road (PM peak hour) • Eastbound Singleton Road On-Ramp (PM peak hour) • Eastbound Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp (PM peak hour)	As shown in Tables 1-4d and 1-4g, by the year 2025, the following locations are projected to have a LOS D or worse: • Westbound North of Singleton Road (AM peak hour) As shown in Tables 1-4j through 1-4m, by the year 2045, the following mainline segments are projected to have a LOS D or worse: • Eastbound North of Singleton Road (PM peak hour) • Eastbound Oak Valley Parkway Off-Ramp (PM peak hour) • Westbound South of Oak Valley Parkway (AM peak hour) • Westbound Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp (AM and PM peak hour) • Westbound Cherry Valley Boulevard Off-Ramp (AM peak hour) • Westbound Cherry Valley Boulevard Off-Ramp to Cherry Valley Boulevard On-Ramp (AM and PM peak hour) • Westbound Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp (AM peak hour)	As shown in Table 1-4e and 1-4h, by the year 2045, the following locations are projected to have a LOS D or worse: • Westbound North of Singleton Road (AM peak hour) As shown in Tables 1-4k through 1-4n, by the year 2045, the following mainline segments are projected to have a LOS D or worse: • Eastbound Oak Valley Parkway Off-Ramp (PM peak hour) • Westbound South of Oak Valley Parkway (AM peak hour) • Westbound Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp (AM and PM peak hour) • Westbound Cherry Valley Boulevard Off-Ramp (AM peak hour) • Westbound Cherry Valley Boulevard Off-Ramp to Cherry Valley Boulevard On-Ramp (AM peak hour) • Westbound Cherry Valley Boulevard On-Ramp (AM peak hour) • Westbound Cherry Valley Boulevard On-Ramp to Cherry Valley Boulevard

Evaluation Criteria	No-Build Alternative	Build Alternative 3	Build Alternative 4
	• Eastbound Cherry Valley Boulevard Off-Ramp (PM peak hour) • Westbound South of Oak Valley Parkway (AM and PM peak hour) • Westbound Oak Valley Parkway Off-Ramp (PM peak hour) • Westbound Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp (AM and PM peak hour) • Westbound Oak Valley Parkway On-Ramp (AM and PM peak hour) • Westbound Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp (AM and PM peak hour) • Westbound Cherry Valley Boulevard Off-Ramp (AM and PM peak hour) • Westbound Cherry Valley Boulevard Off-Ramp to Cherry Valley Boulevard On-Ramp (PM peak hour) • Westbound Cherry Valley Boulevard On-Ramp (AM and PM peak hour) • Westbound Cherry Valley Boulevard On-	• Westbound North of Singleton Road (AM and PM peak hour)	Off-Ramp (AM peak hour) • Westbound Singleton Road Off-Ramp (AM peak hour) • Westbound North of Singleton Road (AM and PM peak hour)

Evaluation Criteria	No-Build Alternative	Build Alternative 3	Build Alternative 4
	Ramp to Singleton Road Off-Ramp (AM and PM peak hour) • Westbound Singleton Road Off-Ramp (AM and PM peak hour) • Westbound North of Singleton Road (AM peak hour)		
Traffic Operations –System-wide Performance	N/A.	Compared to the No-Build Alternative by the year 2025, the following performance measures would occur: • 75.5 seconds decrease in average delay per vehicle (AM peak hour) • 124.9 seconds decrease in average delay per vehicle (PM peak hour) • 11.4 miles per hour (mph) increase in average speed (AM peak hour) • 15.2 miles per hour (mph) increase in average speed (PM peak hour) • 219.1 hours decrease in vehicle hours travelled (AM peak hour) • 393.6 hours decrease in vehicle hours travelled (PM peak hour) Compared to the No-Build Alternative by the year 2045, the following performance measures would occur: • 269.7 seconds decrease in average delay per vehicle (AM peak hour)	Compared to the No-Build Alternative by the year 2025, the following performance measures would occur: • 78 seconds decrease in average delay per vehicle (AM peak hour) • 121.9 seconds decrease in average delay per vehicle (PM peak hour) • 11.3 miles per hour (mph) increase in average speed (AM peak hour) • 14.7 miles per hour (mph) increase in average speed (PM peak hour) • 203.2 hours decrease in vehicle hours travelled (AM peak hour) • 381.8 hours decrease in vehicle hours travelled (AM peak hour) Compared to the No-Build Alternative by the year 2045, the following performance measures would occur: • 269.3 seconds decrease in average delay per

Evaluation Criteria	No-Build Alternative	Build Alternative 3	Build Alternative 4
		• 282.2 seconds decrease in average delay per vehicle (PM peak hour) • 21.0 miles per hour (mph) increase in average speed (AM peak hour) • 21.7 miles per hour (mph) increase in average speed (PM peak hour) • 1,090.7 hours decrease in vehicle hours travelled (AM peak hour) • 1,053.4 hours decrease in vehicle hours travelled (PM peak hour)	vehicle (AM peak hour) • 282.8 seconds decrease in average delay per vehicle (PM peak hour) • 20.5 miles per hour (mph) increase in average speed (AM peak hour) • 21.6 miles per hour (mph) increase in average speed (PM peak hour) • 1,058.9 hours decrease in vehicle hours travelled (AM peak hour) • 1,046.6 hours decrease in vehicle hours travelled (PM peak hour)
Number of Signalized Intersections	7	7	7
Temporary Construction Easements	None	7 APNs for TCEs	5 APNs for TCEs
Permanent ROW Acquisition	None	8 APNs	22 APNs
Total Project Cost	None	$60,432,000	$63,854,000

Table 1-16, Environmental Impacts, provides a summary comparison of the environmental impacts between Build Alternatives 3 and 4 and the No-Build Alternative, which have been studied in conjunction with development of the proposed new interchange project. Impacts that are similar between Build Alternatives 3 and 4 are not discussed in Table 1-16. These impacts pertain to air quality, biological resources (natural communities, plant species, threatened and endangered species, and invasive species), community character, cultural resources, energy, environmental justice, hazardous waste/materials, hydrology and floodplain, land use, noise, visual/aesthetics, water quality and stormwater runoff, parks/recreation, paleontology, utilities, and Section 4(f) resources are not listed.

Table 1-16: Environmental Impacts

Evaluation Criteria	No-Build Alternative	Build Alternative 3	Build Alternative 4
Farmlands	No impact.	Project implementation of Build Alternative 3 would impact two properties (APN 413-270-004 and 413-270-014) located northwest of the I-10/Cherry Valley Boulevard Interchange. Project implementation would result in the direct conversion of approximately 11.24 acres of Farmland of Local Importance to non-agricultural use. With the implementation of Measure ROW-1, ROW will be acquired in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and property owners shall receive just compensation and fair market value for their property.	Project implementation of Build Alternative 4 would impact two properties (APN 413-270-004 and 413-270-014) located northwest of the I-10/Cherry Valley Boulevard Interchange. Project implementation would result in the direct conversion of approximately 9.44 acres of Farmland of Local Importance to non-agricultural use. With the implementation of Measure ROW-1, ROW will be acquired in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and property owners shall receive just compensation and fair market value for their property.
Relocations and Real Property Acquisition	No impact.	Temporary ROW acquisition of 3.64 acres and permanent ROW acquisition of 4.08 acres. No residential or business relocations would occur.	Temporary ROW acquisition of 3.19 acres and permanent ROW acquisition of 6.50 acres. Partial permanent of APN 413-270-014 would occur, resulting in the removal of two residential structures. With implementation of Measure ROW-1, ROW will be acquired in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and property owners will receive just compensation and fair market value for their property.
Wetlands and Other Waters	No impact.	Permanent Impacts would occur on approximately 0.02 acre (63 linear feet) of Regional Board jurisdiction (non-wetland waters of the State) and 0.03 acre (63 linear feet) of CDFW jurisdiction. Implementation of Measure WET-1 would	Permanent Impacts would occur on approximately 0.06 acre (221 linear feet) of Regional Board jurisdiction (non-wetland waters of the State) and 0.16 acre (221 linear feet) of CDFW jurisdiction. Implementation of Measure WET-1 would

Evaluation Criteria	No-Build Alternative	Build Alternative 3	Build Alternative 4
		require permits/approvals from the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW). Implementation of Measure WET-2 would require limits of construction to be clearly defined before construction activities would begin.	require permits/approvals from the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW). Implementation of Measure WET-2 would require limits of construction to be clearly defined before construction activities would begin.
Animal Species	No Impact.	Indirect impacts that would occur toward bat species [Yuma myotis (*Myotis yumanensis*), Mexican free-tailed bat (*Tadarida brasiliensis*), and big brown bat (*Eptesicus fuscus*)] would include the removal of suitable habitat, such as ornamental palm trees, eucalyptus trees, the Cherry Valley Boulevard Overcrossing bridge. Implementation of measure AS-1 would require a bat survey is conducted prior to commencement of project activities. Permanent impacts would occur to approximately 0.06 acres of suitable scrub oak chaparral habitat for the San Diegan tiger whiptail. Implementation of Measure AS-2 would require a qualified biological monitor be retained on-site during ground and habitat disturbance activities associated with the project. Temporary and permanent impacts would occur to approximately 7.11 acres and 16.02 acres, respectively, of suitable habitat for the Cooper's Hawk. Implementation of Measure NC-1 would require the implementation of a Workers Environmental Awareness Program	Indirect impacts that would occur toward bat species [Yuma myotis (*Myotis yumanensis*), Mexican free-tailed bat (*Tadarida brasiliensis*), and big brown bat (*Eptesicus fuscus*)] would include the removal of suitable habitat, such as ornamental palm trees, eucalyptus trees, the Cherry Valley Boulevard Overcrossing bridge. Implementation of measure AS-1 would require a bat survey is conducted prior to commencement of project activities. Permanent impacts would occur to approximately 0.36 acres of suitable scrub oak chaparral habitat for the San Diegan tiger whiptail. Implementation of Measure AS-2 would require a qualified biological monitor be retained on-site during ground and habitat disturbance activities associated with the project. Temporary and permanent impacts would occur to approximately 8.76 acres and 8.37 acres, respectively, of suitable habitat for the Cooper's Hawk. Implementation of Measure NC-1 would require the implementation of a Workers Environmental Awareness Program

Evaluation Criteria	No-Build Alternative	Build Alternative 3	Build Alternative 4
		(WEAP) for all contractors, subcontractors, and workers prior to construction activities. Temporary impacts would occur to approximately 0.06 acres of suitable foraging and nesting habitat for southern California rufous-crowned sparrow. Measure NC-1 would be implemented, and Measure AS-3 would require a pre-construction clearance survey of migratory birds. Temporary and permanent impacts would occur to approximately 6.09 acres and 15.13 acres, respectively, of suitable foraging and nesting habitat for the Burrowing Owl. Measure NC-1 would be implemented, and Measure AS-4 would require implementation of a pre-construction clearance survey specifically for the Burrowing Owl. Temporary and permanent impacts would occur to approximately 6.09 acres and 15.13 acres, respectively of suitable foraging and nesting habitat for the California horned lark. Measures NC-1 and AS-3 would be implemented. Permanent impacts would occur towards 0.36 acres of suitable habitat for the northwestern San Diego pocket mouse and the San Diego black-tailed jackrabbit. Measure NC-1 would be implemented.	(WEAP) for all contractors, subcontractors, and workers prior to construction activities. Temporary and permanent impacts would occur to approximately 0.20 acres and 0.36 acres, respectively, of suitable foraging and nesting habitat for southern California rufous-crowned sparrow. Measure NC-1 would be implemented, and Measure AS-3 would require a pre-construction clearance survey of migratory birds. Temporary and permanent impacts would occur to approximately 6.97 acres and 16.12 acres, respectively, of suitable foraging and nesting habitat for the Burrowing Owl. Measure NC-1 would be implemented, and Measure AS-4 would require a pre-construction clearance survey specifically for the Burrowing Owl. Temporary and permanent impacts would occur to approximately 6.97 acres and 16.12 acres, respectively of suitable foraging and nesting habitat for the California horned lark. Measures NC-1 and AS-3 would be implemented. Temporary and permanent impacts would occur towards 0.20 acres and 0.87 acres, respectively suitable habitat for the northwestern San Diego pocket mouse and the San Diego black-tailed jackrabbit. Measure NC-1 would be implemented.

After the public circulation period, all comments will be considered, Caltrans will select a preferred alternative and make the final determination of the project's effect on the environment. Under CEQA, if no unmitigable significant adverse impacts are identified, Caltrans will prepare a Negative Declaration (ND) or Mitigated ND.

Similarly, if Caltrans, as assigned by FHWA, determines the NEPA action does not significantly impact the environment, Caltrans will issue a Finding of No Significant Impact (FONSI).

1.4.7 Identification of a Locally Preferred Alternative

Build Alternative 3 was identified as the locally preferred alternative by Calimesa City Council on September 8, 2020. Although both Build Alternatives 3 and 4 would satisfy the project's purpose and need, Build Alternative 3 was selected by the Calimesa City Council for the following reasons:

- The number of permanent ROW acquisitions required for Build Alternative 3 would be less than Build Alternative 4. Accordingly, Build Alternative 3 would have less potential for permanent adverse effects.
- The total cost to construct Build Alternative 3 would be less than Build Alternative 4.

1.4.8 Alternatives Considered but Eliminated from Further Discussion

Reversible Lanes

Assembly Bill 2542 amended California Streets and Highways code to require, effective January 1, 2017, that the Department or a regional transportation planning agency demonstrate that reversible lanes were considered when submitting a capacity-increasing project or a major street or highway lane realignment project to the California Transportation Commission for approval (California Streets and Highways Code, Section 100.015). However, reversible lanes were not considered for the I-10/Cherry Valley Boulevard Interchange Improvement Project because it was programmed prior to January 1, 2017.

Alternative 2 (Roundabouts)

Build Alternative 2 (Roundabouts), from the approved Project Study Report-Project Development Support (PSR-PDS), would reconfigure the current diamond interchange and construct roundabouts at each of the existing ramp intersections. Each roundabout would include two lanes in each direction.

Cherry Valley Boulevard would be widened to two lanes in each direction with sidewalk in both directions. The I-10/Cherry Valley Boulevard overcrossing would be reconstructed to accommodate these additional lanes and sidewalk. Right turn pockets would be added on Cherry Valley Boulevard approaching each roundabout. A four-foot bicycle buffer would be provided for each of these right turn pockets. A left turn pocket would be added on Cherry Valley Boulevard to connect to Calimesa Boulevard, which would have a one-way stop control at Calimesa Boulevard turning onto Cherry Valley Boulevard. The eastbound on-ramp and off-ramp would be realigned and reconstructed to two and three lanes, respectively. The westbound on-ramp and off-ramp would be realigned and reconstructed to three and two lanes, respectively. An auxiliary lane would be added to the eastbound off-ramp to mitigate weaving along the mainline and ramp exit. All on-ramps would be improved to include HOV preferential lanes, ramp metering, and CHP enforcement areas. This alternative is not anticipated to require FHWA approval.

Alternative 2 (Roundabouts) was removed from further consideration during the March 11, 2020 Project Development Team (PDT) meeting due to its projected insufficient traffic operations. The results of the preliminary traffic analysis indicated that Alternative 2 fails operationally on the westbound I-10 side of the interchange due to heavy westbound on and off movements conflicting with westbound Cherry Valley Boulevard Interchange traffic. As a result, this alternative is not recommended and has been eliminated from further discussion.

1.5 Permits and Approvals Needed

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

Table 1-17: Permits, Licenses, Agreements and Certifications

Agency	Permit/Approval	Status
California Department of Fish and Wildlife (CDFW)	Section 1602 Streambed Alteration Agreement	Application for permit will be submitted to CDFW after approval of the final environmental document. Agreement will be acquired prior to completion of final design.
U.S. Army Corps of Engineers (USACE)	Section 404 Nationwide Permit (NWP), No. 14: Linear Transportation Projects	Application for NWP No. 14: Linear Transportation Projects will be submitted to USACE after approval of the final environmental document. Permit will be acquired prior to completion of final design.
Santa Ana Regional Water Quality Control Board (SARWQCB) and State Water Resources Control Board (SWRCB)	401 Water Quality Certification	Application for certification will be submitted to SARWQCB after approval of the final environmental document. Certificate will be acquired prior to completion of final design.
Santa Ana Regional Water Quality Control Board (SARWQCB) and State Water Resources Control Board (SWRCB)	Section 402 NPDES (National Pollutant Discharge Elimination System) (Construction Activity)/Caltrans NPDES Permit CAS000003 and CAS000002 (General Permit)	The current NPDES General Construction Permit would be applied for prior to project construction.
Beaumont Cherry Valley Water District (BCVWD)	Encroachment Permit	Will be required prior to completion of the final design specifications.
Federal Highway Administration (FHWA)	Air Quality Conformity Determination	FHWA's air quality conformity analysis determination letter will be obtained prior to approval of the final environmental document for the project.
Freeway Maintenance Agreement	County of Riverside and California Department of Transportation	Permit will be acquired prior to completion of final design.

Note: NPDES Permit Nos. CAS000003 & CAS000002 are issued and CAS000002 only requires a Notice of Intent (NOI) to be submitted during construction.

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

Environmental Issues With No Impacts

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.

- Coastal Zone - California's Coastal Zone generally extends 1,000 yards inland from the mean high tide line. The project area is situated in Riverside County and is not located within the Coastal Zone. Therefore, the project is not subject to the federal Coastal Zone Management Act of 1972 (CZMA) or to the California Coastal Act of 1976.
- Wild and Scenic Rivers - The project is not near any National Wild and Scenic Rivers.
- National Marine Fisheries Service (NMFS) - This project is located outside of National Marine Fisheries Service (NMFS) jurisdiction; therefore, an NMFS species list is not required and no effects to NMFS species are anticipated.
- Timberlands - There are no timberlands or timber harvesting uses in the project area.

2.1 Human Environment

2.1.1 Land Use

The proposed project is located in the City of Calimesa and unincorporated areas of Riverside County. The land use analysis is based predominately on information provided in the Community Impact Assessment Memorandum (CIA Memorandum) (dated January 26, 2021) prepared for the project, the City of Calimesa General Plan (General Plan) adopted in August 2014 and the County of Riverside General Plan adopted in December 2015.

Affected Environment

Existing Land Use

The Cherry Valley Boulevard interchange is located on I-10 at Post Mile (PM) 3.5, between PM 2.1 and PM 3.8, in the City of Calimesa and in unincorporated areas of Riverside County. The existing configuration for the I-10/Cherry Valley Boulevard Interchange is a diamond interchange with stop control at the ramp termini. The Interchange is anticipated to be a major access point for existing residential development and planned residential and commercial uses under the Summer wind Specific Plan, within the City of Calimesa.

The I-10/Cherry Valley Boulevard Interchange's existing land uses are predominately undeveloped open space and residential, with existing residences being characterized by older structures in a rural environment. Uses within project site boundaries can be characterized as primarily transportation facilities (I-10, Cherry Valley Boulevard, Calimesa Boulevard), and undeveloped open space. Two single-family residential structures exist within the northeasterly portion of the site, north of Cherry Valley Boulevard and east of Calimesa Boulevard. Areas surrounding the project site to the north generally include open space, the Rancho Calimesa Mobile Home Park (north of Calimesa Boulevard), and a single-family residential use (north of Cherry Valley Boulevard and west of Roberts Street); a truck repair facility and open space is located to the east; the Plantation on the Lake senior community, single-family residential, commercial/retail and residential uses associated with the Summerwind Specific Plan are located to the south; and open space and rural residential uses are located to the west.

There are currently no existing community facilities within the study area (services and institutions that the local population relies on for their health and welfare and as a means to interact with other members of the community, such as schools, religious institutions and/or places of worship, medical institutions, senior centers and community centers), nor are there any existing emergency service facilities (i.e., fire or police stations).

Future Land Use

Figure 2.1.1-1, General Plan Land Use Designations, depicts the land use designations within the study area, as defined in the Calimesa General Plan and the Riverside County General Plan. Under the Calimesa General Plan, Cherry Valley Boulevard is classified as a Major Arterial within City boundaries. The Riverside County General Plan classifies I-10 as a Major Highway and Cherry Valley Boulevard as a Collector Street within unincorporated Riverside County. Multiple land use and zoning designations are included within the study area, as shown in Table 2.1.1-1, General Plan and Specific/Community Plans Land Use Designations, below.

Figure 2.1.1-1: General Plan Land Use Designations

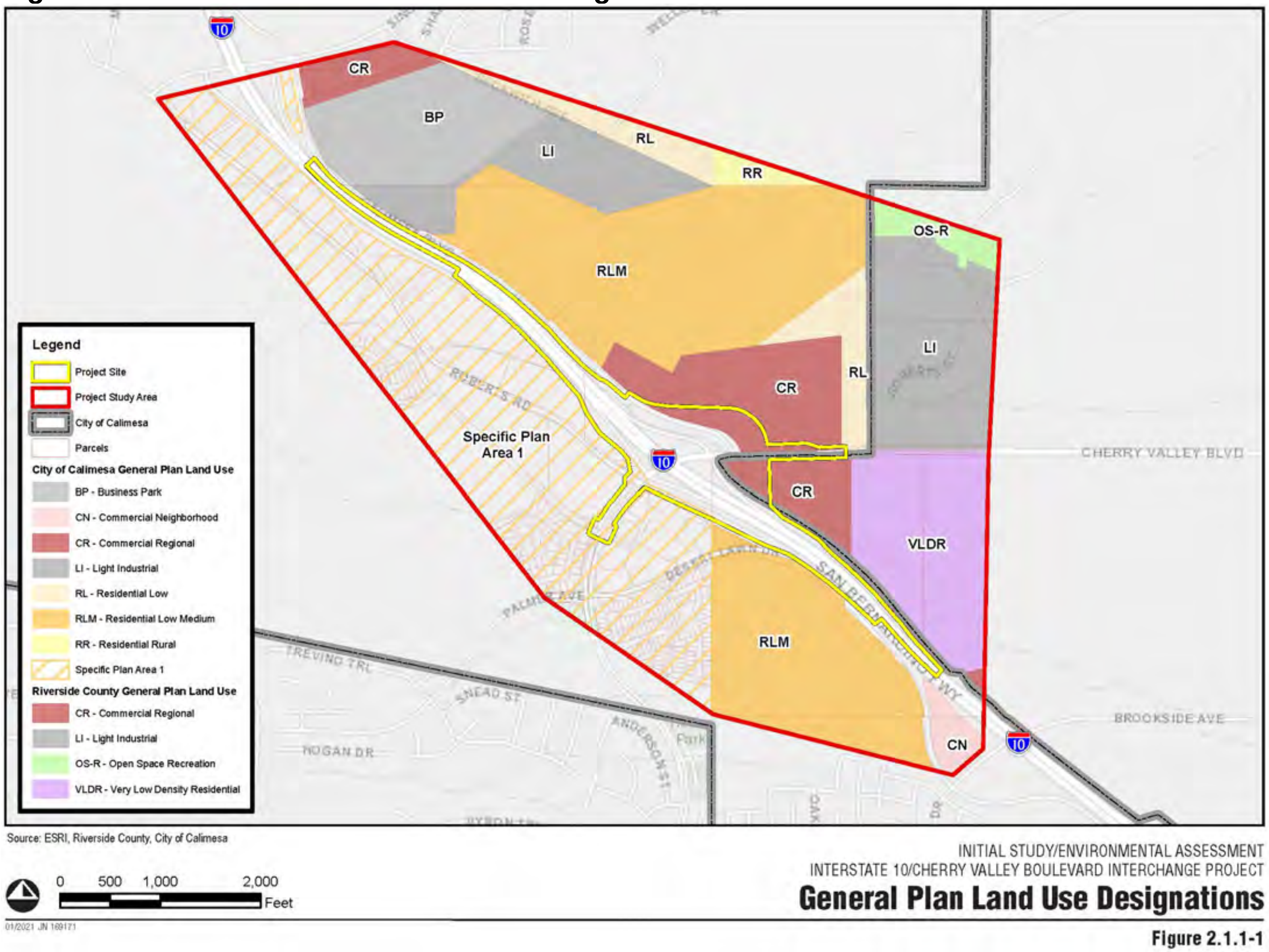


Table 2.1.1-1: General Plan and Specific/Community Plans Land Use Designations

Interchange Quadrant	Jurisdiction	Land Use	Zoning
Northwest	City of Calimesa	Specific Plan Area 1 (Summerwind Ranch Specific Plan)	Specific Plan Area 1 (SPA1)
Northeast	City of Calimesa	Regional Commercial (CR), Residential Low (RL), Residential Low Medium (RLM), Residential Rural (RR), Business Park (BP), Light Industrial (LI)	Regional Commercial (C-R), Residential Low/ Medium (R-L-M)
Northeast	Riverside County	Open Space Recreation (OS-R), Light Industrial (LI)	Industrial Park (I-P) Controlled Development Area (W-2
Southeast	Riverside County	Commercial Retail (CR), Very Low Density Residential (VLDR)	Scenic Highway Commercial (C-P-S) Residential Agricultural (R-A-1), Industrial Park (I-P)
Southwest	City of Calimesa	Specific Plan Area 1, Residential Low Medium (RLM) Commercial Neighborhood (CN)	Residential Low / Medium (R-L-M)

Source: City of Calimesa, City of Calimesa General Plan, August 2014.

Tables 2.1.1-2, Planned Projects in the City of Calimesa and 2.1.1-3, Planned Projects in the County of Riverside provides information regarding the planned development and transportation infrastructure projects within the vicinity of the project site based on information provided by the City of Calimesa and County of Riverside; these projects are also identified in Figure 2.1.1-2, Planned City and County Projects.

According to the CIA Memorandum, the City of Calimesa has remained largely undeveloped. Based on the Calimesa General Plan, the City's vision is to transition from a small rural City into a more populous community that welcomes new residents who will live in neighborhoods located within master-planned areas, while retaining the City's sense of community. Development trends in the City include industrial, residential, and commercial facilities that would be necessary to support the City's growing population.

Figure 2.1.1-2: Planned City and County Projects

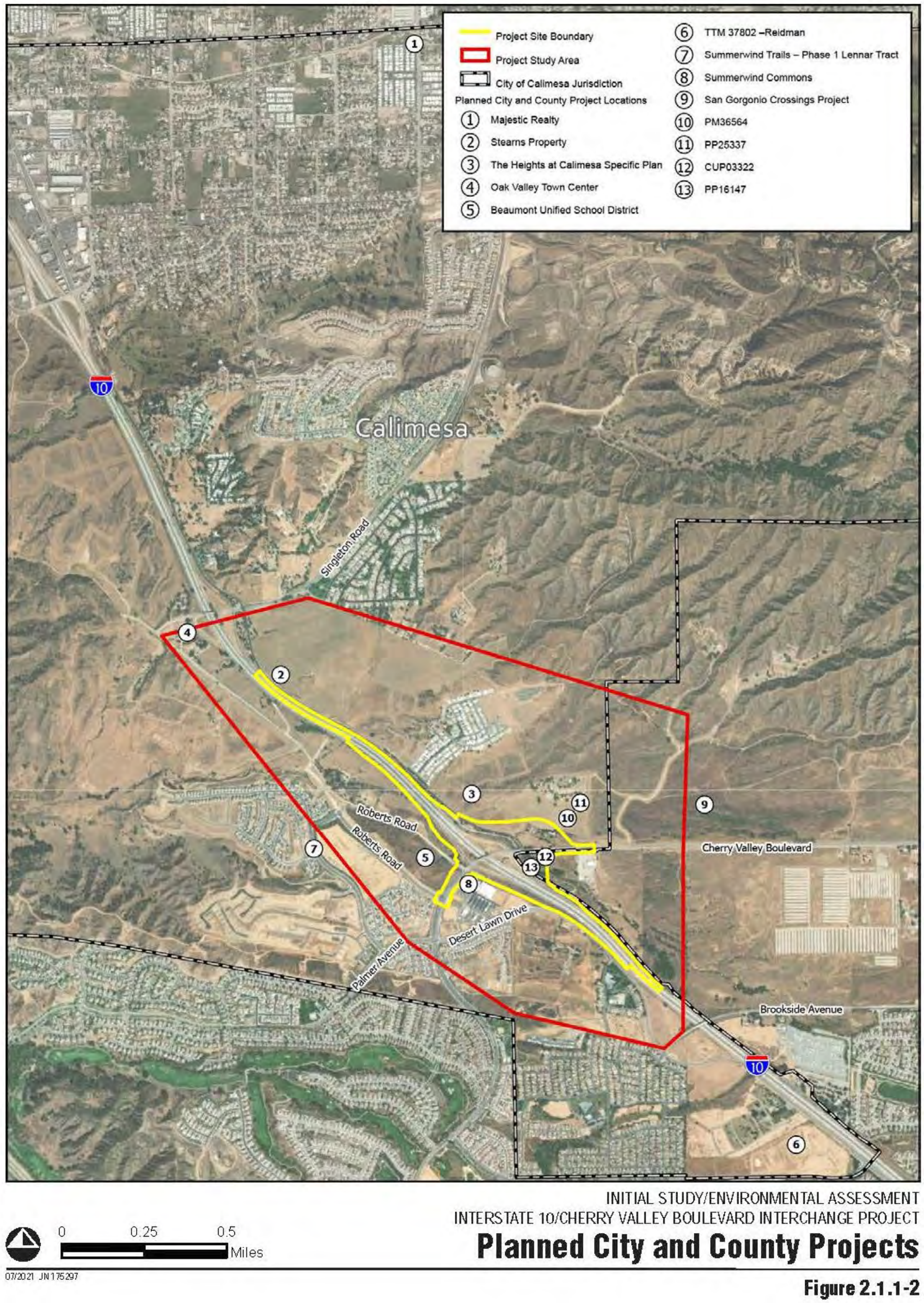


Table 2.1.1-2: Planned Projects in the City of Calimesa

Map ID	Project Name	Project Description	Location	Status
1	Majestic Realty	Two pad proposal for one gas station and one drive through restaurant	California Street and County Line Road	No approvals have been granted.
2	Stearns property	82-acre industrial development	9950 Calimesa Boulevard	No formal application has been submitted and no approvals have been granted.
3	The Heights at Calimesa Specific Plan	High density multi-family residential development	East of I-10, south of Rancho Calimesa Mobile Home Park	No formal application has been submitted and no approvals have been granted.
4	Oak Valley Town Center	Industrial/commercial development	West of I-10, south of Singleton Road	A formal application has been submitted but no approvals have been granted.
5	Beaumont Unified School District	K-8 school	Within the Summerwind Ranch Specific Plan area	An addendum to the Summerwind Ranch Specific Plan EIR was approved by school board. Currently under construction.
6	TTM 37802 – Reidman	179-lot single-family Residential subdivision	West of I-10 and Desert Lawn Drive	A formal application has been submitted but no approvals have been granted at this time.
7	Summerwind Trails – Phase 1 Lennar Tract	141-unit single-family Residential subdivision	Within the Summerwind Ranch Specific Plan area	Currently under construction.
8	Summerwind Commons	75,000 square feet commercial/retail development	Within the Summerwind Ranch Specific Plan area	No approvals have been granted.
9	San Gorgonio Crossings Project	229-acre high cube warehouse development	East of I-10, north of Cherry Valley Boulevard	EIR re-opened in July 2019 per court order and Board of Supervisors Action.

Source: Email communication with Kelly Lucia (City of Calimesa) on May 1, 2020.

Table 2.1.1-3: Planned Projects in the County of Riverside

Map ID	Project Name	Project Description	Location	Status
10	PM36564	228-acre subdivision	East of I-10, north of Cherry Valley Boulevard	Approval has been granted.
11	PP25337	230-acre industrial warehouse development	East of I-10, north of Cherry Valley Boulevard	Approval has been granted.
12	CUP03322	Truck and equipment garage and office	East of I-10, south of Cherry Valley Boulevard	Approval has been granted.
13	PP16147	Unmanned telecommunications building	East of I-10, south of Cherry Valley Boulevard	Approval has been granted.

Source: Email communication with Tesfu Tadesse (County of Riverside) on May 20, 2020.

Consistency with State, Regional, and Local Plans and Programs

Southern California Association of Governments (SCAG) 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): A Plan for Mobility, Accessibility, Sustainability, and a High Quality of Life

The 2020-2045 RTP/SCS RTP/SCS provides a vision for transportation investments throughout the region. The RTP/SCS integrates transportation planning with economic development and sustainability planning and aims to comply with State greenhouse gas emissions reduction goals, such as SB 375. The SCS portion of the 2020-2045 RTP/SCS highlights strategies for the region to reach the regional target of reducing GHGs from autos and light-duty trucks by eight percent per capita by 2020, and 19 percent by 2035 (compared to 2005 levels). Specifically, these strategies are:

- Focus growth near destinations and mobility options;
- Promote diverse housing choices;
- Leverage technology innovations;
- Support implementation of sustainability policies; and
- Promote a green region.

The project would align with the 2020-2045 RTP/SCS strategies as the project would relieve congestion and improve traffic operations at the I-10/ Cherry Valley Boulevard interchange and address increased travel associated with existing and planned development anticipated in the City of Calimesa and surrounding areas. The proposed project is included in the adopted and approved 2020-2045 RTP/SCS under the listing of State Highway Projects as RTP ID RIV060116.

Southern California Association of Governments (SCAG) 2021 Federal Transportation Improvement Program (FTIP)

The FTIP is a capital listing of all transportation projects proposed over a six-year period for the SCAG region. The projects include highway improvements, transit, rail and bus facilities, high occupancy vehicle lanes, signal synchronization, intersection improvements, freeway ramps, etc. The FTIP is prepared to implement projects and programs listed in the RTP and developed in compliance with State and federal requirements.

The proposed project is listed in SCAG's 2021 FTIP. The project entry in the 2021 FTIP is listed as Project ID RIV060116, and is described as follows:

I-10/CHERRY VALLEY BLVD IC: REPLACEMENT OF EXISTING CURVED OVERCROSSING EXTENDING 500 LINEAR FEET FROM ROBERTS ROAD (SOUTH) TO APPROXIMATELY 1,000 FT E/O CALIMESA BLVD. ASSOCIATED PROJECT IMPROVEMENTS INCLUDE REALIGNMENT OF CALIMESA BLVD AND RAMP REALIGNMENT/WIDENING FOR ALL FOUR RAMPS (CMAQ PM 2.5 BENEFITS PROJECT).

Western Riverside County Multiple Species Habitat Conservation Plan

On June 17, 2003, the Riverside County Board of Supervisors adopted the Western Riverside Multiple Species Habitat Conservation Plan (WR-MSHCP). The overall goal of the WR-MSHCP is to enhance and maintain biological diversity and ecosystem processes while allowing future economic growth. The City of Calimesa is a participant in the WR-MSHCP, which means that the City has adopted a Development Mitigation Fee to assist in the funding and implementation of the WR-MSHCP. As a result, development in Calimesa follows the protocols for preservation and conservation of vegetation and wildlife identified in the WR-MSHCP. The proposed project is located within the Pass Area Plan of the WR-MSHCP. The proposed project is not specifically identified as a Covered Activity under Section 7.1 of the WR-MSHCP; however, public and private development that occurs outside of Criteria Areas and Public/Quasi-Public (P/QP) Lands is permitted under the WR-MSHCP.

Riverside County General Plan

The 2015 Riverside County General Plan elements are continuously updated. The following policies from the most recent update of the Circulation Element (July 2020) are applicable to the proposed project.

Circulation Element Policies

- Policy C 1.6: Cooperate with and where appropriate lead local, regional, state, and federal agencies to establish an efficient circulation system.
- Policy C 5.1: Encourage Caltrans to install and maintain landscaping and other mitigation elements along freeways and highways, especially when they are adjacent to existing residential or other noise sensitive uses.

City of Calimesa General Plan

The Calimesa General Plan was adopted on August 4, 2014. It serves as an official policy framework guiding physical, social, and economic development in the City, as well as the City’s own operations and decisions. As identified in Section 2.1.1 and in Figure 2.1.1-1, the surrounding land uses in the study area include predominately residential and commercial uses and undeveloped open space. The following goals, policies and action items from the Calimesa General Plan Transportation and Mobility Element are applicable to the proposed project.

Transportation and Mobility Element Policies

1. Policy TM-1: Provide for roadways in accordance with the Circulation Plan.

2. Policy TM-3: Strive to construct streets in accordance with the City's standard street classifications.

a. Action Item TM-3.3: Ensure that all streets, including private streets, are constructed to a standard acceptable to the City.

3. Policy TM-4: Maintain and rehabilitate roadways to preserve and improve the quality of City streets and thoroughfares that promote access and mobility between residential neighborhoods, employment centers, shopping, and health services.

    a. Action Item TM-4.1: Following the principles of “complete streets,” maximize visibility and access for pedestrians and encourage the removal of barriers (walls, easements, and fences) for safe and convenient movement of pedestrians. Ensure that the entire travel way is included in the design from building façade to building facade.

4. Policy TM-5: Design each roadway with sufficient width to accommodate projected traffic at acceptable service levels, based on the intensity or density of planned land uses.

5. Policy TM-10: Support the development of the Short- and Long-Range Transit Plans.

    a. Action Item TM-10.2: Implement freeway ramp/arterial roadway interchange improvements that promote the safe and efficient movement of vehicles, pedestrians, and cyclists.

    b. Action Item TM-10.3: Coordinate the planning for Calimesa’s transportation needs with adjacent jurisdictions, the County of Riverside, Caltrans, and public transit providers.

Environmental Consequences

No-Build Alternative

Under the No-Build Alternative, the I-10/Cherry Valley Boulevard interchange and nearby roadway facilities would remain in their existing condition. No impacts regarding existing and future land uses would occur with implementation of the No-Build Alternative since no land use changes would occur with this alternative. However, the No-Build Alternative would not be consistent with the Calimesa General Plan, nor would it be consistent with the applicable State, regional, and local plans and programs outlined above. Additionally, the No-Build Alternative would not accomplish the purpose and need of the project.

Build Alternatives 3 and 4

Under both Build Alternatives 3 and 4, the project would result in permanent land use impacts since the acquisition of portions of vacant parcels along Cherry Valley Boulevard would be required. This would include the acquisition and the conversion of existing land uses to transportation uses. The conversion of these vacant uses to a roadway use would not trigger a new land use requiring an amendment to the Calimesa General Plan Land Use Element.

Under Build Alternative 3, no residential or business relocations would occur, and under Build Alternative 4, two residential relocations would occur, and no business relocations would occur, as a result of the realignment of Calimesa Boulevard. Figure TM-1, Circulation Map, in the Transportation and Mobility Element of the Calimesa General Plan shows the City's existing and intended future roadway network, which includes the Cherry Valley Boulevard interchange. A determination of the project's consistency with goals and policies included in the applicable State, regional, and local plans and programs outlined above is provided in Table 2.1.1-4 below. As shown in Table 2.1.1-4, Build Alternatives 3 and 4 would be consistent with all applicable State, regional, and local plans and programs. As such, the project would be consistent with both the City and County General Plans and an adverse effect would not occur with implementation of the project.

Table 2.1.1-4: Consistency with State, Regional, and Local Plans and Programs

Policy	No-Build Alternative	Build Alternatives 3 and 4
Southern California Association of Governments (SCAG) 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)	Not Consistent. The project is included in SCAG's 2020-2045 RTP/SCS as RTP ID RIV060116. As such, implementation of the No-Build Alternative would not be consistent with the 2020-2045 RTP/SCS since the transportation improvements that would be provided by the project would not be constructed under the No-Build Alternative.	Consistent. The project is included in SCAG's 2020-2045 RTP/SCS as Project ID RIV060116. As such, implementation of Build Alternatives 3 and 4 would be consistent with the 2020-2045 RTP/SCS since the Transportation improvements that would be provided by the project would be constructed under Build Alternatives 3 and 4.
Southern California Association of Governments (SCAG) 2021 Federal Transportation Improvement Program (FTIP)	Not Consistent. The project is included in SCAG's 2021 FTIP as RTP ID RIV060116. As such, implementation of the No-Build Alternative would not be consistent with the 2021 FTIP since the transportation improvements that would be provided by the project would not be constructed under the No-Build Alternative.	Consistent. The project is included in SCAG's 2021 FTIP as Project ID RIV060116. As such, implementation of the Alternative 3 or Alternative 4 would be consistent with the 2021 FTIP since the transportation improvements that would be provided by the project would be constructed under the project.
Western County Multiple Species Habitat Conservation Plan	Consistent. Since no development or construction activity would occur under the No-Build Alternative, no conflicts with the WR-MSHCP would occur.	Consistent. The proposed project is permitted under the WR-MSHCP and was found to be consistent with the policies of the WR-MSHCP as part of the

Policy	No-Build Alternative	Build Alternatives 3 and 4
		biological resources studies conducted for the project.
Riverside County General Plan Circulation Element Policy C1.6: Cooperate with and where appropriate lead local, regional, state, and federal agencies to establish an efficient circulation system.	Consistent. Although the No-Build Alternative would not implement roadway facilities improving circulation efficiency at the project site, it would not preclude the City from cooperating with local, regional, state, and federal agencies on projects at other locations. Therefore, this alternative is consistent with Policy C1.6.	Consistent. Implementation of the Build Alternatives would involve coordination with Caltrans, the County of Riverside, the City of Calimesa, and the Riverside Transit Agency. The roadway improvements proposed by the Build Alternatives would promote the efficient movement of vehicles, pedestrians, and cyclists, thus contributing to an efficient circulation system in the project area. Therefore, the Build Alternatives are consistent with Policy C1.6.
Riverside County General Plan Circulation Element Policy C 5.1: Encourage Caltrans to install and maintain landscaping and other mitigation elements along freeways and highways, especially when they are adjacent to existing residential or other noise sensitive uses.	Consistent. Although no new roadway improvements would be implemented under the No-Build Alternative including landscaping and other mitigation elements, it would not preclude the City from coordinating with Caltrans on projects at other locations. Therefore, this alternative is consistent with Policy C 5.1.	Consistent. Coordination with Caltrans regarding the installation and maintenance of landscaping and other mitigation elements along I-10 in the project area would occur under the Build Alternatives. Therefore, the Build Alternatives are consistent with Policy C5.1.
Calimesa General Plan Transportation and Mobility Element Policy TM-1: Provide for roadways in accordance with the Circulation Plan.	Not Consistent. The No-Build Alternative would not be consistent with Policy TM-1. Within the study area, Cherry Valley Boulevard is identified as a Major Arterial (minimum two lanes in each direction) by the Calimesa Circulation Plan. It is currently a two lane roadway (one lane in each direction). Since the No-Build Alternative would not improve Cherry Valley Boulevard be consistent with the City's Circulation Plan, it would not be consistent with Policy TM-1.	Consistent. The I-10/Cherry Valley Interchange is included as a transportation facility on the City of Calimesa's 2014 General Plan Circulation Map. The Build Alternatives propose to improve Cherry Valley Boulevard consistent with the City's standard for a Major Arterial. As such, the Build Alternatives would be consistent with Policy TM-1.
Calimesa General Plan Transportation and Mobility Element	Not Consistent. The No-Build Alternative would not be consistent with Policy TM-3. Within the study area,	Consistent. The project includes the realignment of Calimesa Boulevard within the project limits and the

Policy	No-Build Alternative	Build Alternatives 3 and 4
Policy TM-3: Strive to construct streets in accordance with the City's standard street classifications. Action Item TM-3.3: Ensure that all streets, including private streets, are constructed to a standard acceptable to the City. Policy TM-3: Strive to construct streets in accordance with the City's standard street classifications.	Cherry Valley Boulevard is identified as a Major Arterial (minimum two lanes in each direction) by the Calimesa Circulation Plan. It is currently a two-lane roadway (one lane in each direction). Since the No-Build Alternative would not improve Cherry Valley Boulevard be consistent with the City's Circulation Plan and standards, it would not be consistent with Policy TM-3.	widening of Cherry Valley Boulevard within the project limits, which is identified as Major Arterial by the Calimesa Circulation Plan. The Build Alternatives would construct these improvements in accordance with design specifications for major arterial roadways as provided in Table TM-A of the Calimesa 2014 General Plan Transportation and Mobility Element. As such, these improvements would be consistent with Policy TM-3 and Action Item TM-3.3.
Calimesa General Plan Transportation and Mobility Element Policy TM-4: Maintain and rehabilitate roadways to preserve and improve the quality of city streets and thoroughfares that promote access and mobility between residential neighborhoods, employment centers, shopping, and health services. Action Item TM-4.1: Following the principles of "complete streets," maximize visibility and access for pedestrians and encourage the removal of barriers (walls, easements, and fences) for safe and convenient movement of pedestrians. Ensure that the entire travel way is included in the design from building façade to building façade.	Not Consistent. No new streetscape elements or visibility/access improvements would be implemented under the No-Build Alternative, and Calimesa Boulevard and Cherry Valley Boulevard would retain their existing character within the study area. This alternative would not relieve congestion or address anticipated traffic volumes due to development in the project area. Therefore, this alternative would not be consistent with Policy TM-4 or Action Item TM-4.1.	Consistent. The Build Alternatives would implement streetscape elements and visibility/access improvements in order to create a more uniform approach on roadways throughout the City, as envisioned by the Calimesa General Plan. Therefore, the Build Alternatives would be consistent with Policy TM-4 or Action Item TM-4.1.
Calimesa General Plan Transportation and Mobility Element Policy TM-5: Design each roadway with sufficient width to accommodate projected traffic at acceptable service levels, based on the intensity or density of planned land uses.	Not Consistent. The No-Build Alternative would not implement roadway improvements such as the widening of Cherry Valley Boulevard, that would serve to accommodate project traffic at acceptable service levels, nor would this alternative relieve congestion or improve traffic	Consistent. The purpose of the project is to address increased travel associated with newly constructed and planned development in the City of Calimesa and surrounding areas. As such, the improvements associated with the Build Alternatives would serve to accommodate projected

Policy	No-Build Alternative	Build Alternatives 3 and 4
	operations. Future traffic conditions would worsen under this alternative; therefore, this alternative is not consistent with Policy TM-5.	traffic at acceptable service levels and would therefore be consistent with Policy TM-5.
Calimesa General Plan Transportation and Mobility Element Policy TM-10: Support the development of the Short- and Long-Range Transit Plans. Action Item TM-10.2: Implement freeway ramp/arterial roadway interchange improvements that promote the safe and efficient movement of vehicles, pedestrians, and cyclists. Action Item TM-10.3: Coordinate the planning for Calimesa's transportation needs with adjacent jurisdictions, the County of Riverside, Caltrans, and public transit providers.	Not Consistent. The No-Build Alternative would not implement roadway, ramp, arterial, or interchange improvements in the study area that promote the efficient movement of vehicles, pedestrians, and cyclists, as envisioned in the City of Calimesa General Plan Transportation and Mobility Element. Therefore, this alternative is inconsistent with Policy TM-10, Action Item TM-10.2 and Action Item TM-10.3.	Consistent. Implementation of the Build Alternatives would involve coordination with Caltrans, the County of Riverside, the City of Calimesa, and public transit providers. The roadway improvements proposed by the Build Alternatives would promote the efficient movement of vehicles, pedestrians, and cyclists through the implementation of ramp, arterial, and interchange improvements. Therefore, the Build Alternatives are consistent with Policy TM-10, Action Item TM-10.2 and Action Item TM-10.3.

Source: Michael Baker International, Community Impact Assessment Memorandum, January 2021).

Avoidance, Minimization, and/or Mitigation Measures

No measures are proposed.

2.1.2 Parks and Recreational Facilities

Regulatory Setting

The Park Preservation Act (California Public Resources Code [PRC] Sections 5400-5409) 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.

Affected Environment

This section is based upon information provided in Appendix A of this IS/EA, Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination.

There are a range of recreational facilities located within the Section 4(f) study area (i.e., within 0.5-mile of the project site), including parks, trails, bicycle routes, a golf course, and recreational facilities at the Plantation by the Lake mobile home community. However, a number of these facilities do not qualify as Section 4(f) resources and the provisions of Section 4(f) do not apply. These facilities include:

- Trails within the City of Calimesa:
  - Osborne Spine Trail;
  - Box Canyon Trail;
  - Posey's Road;
  - Beef Canyon;
  - Hobo's Loop;
  - Brown Ridge;
  - Roberts Street;
  - Existing trail within SCE easement;
- Planned Class II bicycle facilities along Roberts Road and Palmer Avenue;
- Recreational facilities at Plantation by the Lake; and
- Morongo Golf Club at Tukwet Canyon.

The eight trails within the City of Calimesa and the Morongo Golf Club at Tukwet Canyon are located on private property. The planned Class II bicycle facilities along Roberts Road and Palmer Avenue are on-street facilities that share the roadway with vehicles. They are considered transportation facilities and are not anticipated to have a primary function that supports recreation. As such, it has been determined that these facilities do not meet the definition of a Section 4(f) resource, and they are not discussed further within this section. See Appendix A for additional details related to these facilities.

The following parks and recreational facilities are located within 0.5-mile of the project site, and are considered Section 4(f) properties:

- Singleton/Bryant Connector Trail: Based on the City of Calimesa’s CommunityView GIS website, the Singleton/Bryant Connector trail is located approximately 0.3-mile northeast of the project site. Within the project area, the trail is generally a dirt/gravel shoulder, with the exception of sidewalk provided along the northern side of the I-10/Singleton interchange. The trail begins approximately 355 feet west of the eastbound I-10 on-ramp along Singleton Road and continues east until turning southeast along Beckwith Avenue or continuing northeast along Singleton Road. The Singleton/Bryant Connector Trail is publicly-owned and open to the public.
- PASEO Trails: The PASEO trails are asphalt/concrete residential trail connectors. Based on the City of Calimesa’s CommunityView GIS website, the PASEO trails are located within the western portion of the project site,

approximately 0.15-mile west of the I-10 along Roberts Road, Cherry Valley Boulevard, and Palmer Avenue. The PASEO Trails are publicly-owned and open to the public.

- Trevino Park: Trevino Park and associated parking lot are located approximately 0.25-mile southwest of the project site at 11286 Tukwet Canyon Parkway, Beaumont. Based on the City of Beaumont website (http://beaumontca.gov/facilities/facility/details/Trevino-Park-18), Trevino Park amenities include a baseball diamond, playground equipment, two basketball courts, picnic benches, barbeques, and a grass field. Sidewalk occurs along the outer boundary and bisects the central portion of the park. The parking lot provides 38 parking spots and three Americans with Disabilities Act (ADA) parking spots. The facility is owned and operated by the City of Beaumont and is open to the public.

Environmental Consequences

No-Build Alternative

No temporary, permanent, and/or indirect impacts on the aforementioned parks/recreational facilities would occur with implementation of the No-Build Alternative, since no construction activity or land use changes would occur with this alternative.

Build Alternatives 3 and 4

The Build Alternatives would not acquire public parkland for non-parkland use; therefore, the California Public Park Preservation Act of 1971 would not apply.

As noted above, there were three parks/recreational facilities identified within 0.5-mile of the project site, that are considered Section 4(f) properties. Potential impacts to these facilities as a result of the Build Alternatives is provided below.

Singleton/Bryant Connector Trail

The Build Alternative’s facilities and construction activities would not encroach onto the trail facility. Thus, there would be no permanent incorporation or temporary occupancy of the trail as a result of the Build Alternatives.

In addition, the Build Alternatives would have minimal adverse constructive use effects (i.e., “proximity” impacts), that would substantially impair the activities, features, and/or attributes that qualify this facility for protection under Section 4(f). This conclusion is based on the following:

- Access: The Singleton/Bryant Connector Trail can be accessed via multiple roadways surrounding the facility (Woodhouse Road/Roberts Road, Singleton Road, I-10, Calimesa Boulevard, etc.). The Build Alternatives would not include any temporary or permanent improvements or activities that would have the capacity to alter or impede access to the trail facility with implementation of a Transportation Management Plan (TMP). Access to this facility would be maintained throughout the duration of construction, and the TMP would be implemented during the Plans, Specifications, and Estimates (PS&E) phase. The Caltrans TMP Guidelines identify the processes, roles, and responsibilities for preparing and implementing TMPs, as well as useful strategies for reducing congestion and managing work zone circulation and access. One of the primary objectives of the TMP is to maintain safe movement and access for vehicles, pedestrians, and bicyclists through the construction zone.

- Visual/Aesthetics: The Build Alternatives would not include any features that would be tall enough to be visible from the trail, or that would substantively alter views from the trail given the existing rolling topography. Additionally, the houses and mature trees that surround portions of the trail do not allow views towards the I-10/Cherry Valley Boulevard interchange. Thus, the Build Alternatives would not result in adverse proximity effects to the Singleton/Bryant Connector Trail.
- Water Quality: The Build Alternatives would not have the potential to adversely affect water quality at the trail facility. No storm water drainage or runoff from the project site would encroach or enter onto the trail, and adverse proximity impacts would not occur under the Build Alternatives.
- Air Quality: As noted in Section 2.2.6, Air Quality, of this IS/EA, the Build Alternatives would have minimal adverse effects on surrounding uses related to short-term construction or long-term operational pollutant emissions, upon adherence to Caltrans' Standard Specifications intended to reduce equipment emissions and fugitive dust. Thus, the Build Alternatives would not have adverse proximity effects related to air quality on the Singleton/Bryant Connector trail.
- Noise: As described in Section 2.2.7, Noise, of this IS/EA, the Build Alternatives would have minimal adverse effects on surrounding uses related to short-term construction or long-term operational noise, upon adherence to Caltrans' Standard Specifications and abatement measures. Additionally, intervening structures, rolling terrain, and mature trees would serve as a buffer between trail users and the project site. Thus, the Build Alternatives would have minimal proximity effects related to noise on the Singleton/Bryant Connector Trail.
- Biological Environment: Within the project area, the Singleton/Bryant Connector Trail is primarily dirt/gravel with sidewalk along the I-10/Singleton interchange overcrossing. The trail appears to be maintained. Given the lack of natural habitat and level of human activity/disturbance on a daily basis, it is not anticipated that any sensitive natural communities or species exist. However, there would be no project construction within or immediately adjacent to the trail, and no disturbance of any vegetation associated with the trail would occur. In addition, as noted above, the Build Alternatives are not expected to result in adverse effects related to air quality or noise, that

could otherwise result in proximity effects to biological resources at the facility.

The property is a Section 4(f) property, but no "use" will occur. Therefore, the provisions of Section 4(f) do not apply, and no adverse effects would occur in this regard.

PASEO Trails

The Build Alternative's facilities and construction activities would not encroach onto the PASEO Trail facilities. Thus, there would be no permanent incorporation or temporary occupancy of the trails as a result of the proposed Build Alternatives.

In addition, the Build Alternatives would have minimal adverse constructive use effects that would substantially impair the activities, features, and/or attributes that qualify these facilities for protection under Section 4(f). This conclusion is based on the following:

- Access: The PASEO Trails can be accessed via multiple roadways surrounding the facility (Cherry Valley Boulevard, Palmer Avenue, Desert Lawn Drive, Roberts Road, etc.). The Build Alternatives would not include any temporary or permanent improvements or activities that would have the capacity to alter or impede access to the trail facility with implementation of a TMP. A TMP would be implemented that would maintain safe movement and access for vehicles, pedestrians, and bicyclists through the construction zone.
- Visual/Aesthetics: The Build Alternatives would not include any features that would be tall enough to be visible from the trail, or that would substantively alter views from the trail given the existing rolling topography. Additionally, the residential uses currently under construction that surround portions of the trail facilities will further impede views towards the I-10/Cherry Valley Boulevard interchange. Thus, the Build Alternatives would not result in adverse proximity effects to the PASEO Trails.
- Water Quality: The Build Alternatives would not have the potential to adversely affect water quality at the trail facilities. No storm water drainage or runoff from the project site would encroach or enter onto the PASEO Trails, and adverse proximity impacts would not occur under the Build Alternatives.
- Air Quality: As noted in Section 2.2.6, Air Quality, of this IS/EA, the Build Alternatives would have minimal adverse effects on surrounding uses related to short-term construction or long-term operational pollutant emissions, upon adherence to Caltrans' Standard Specifications intended to reduce equipment emissions and fugitive dust. Thus, the Build Alternatives would have minimal proximity effects related to air quality on the PASEO Trails.

- Noise: As described in Section 2.2.7, Noise, of this IS/EA, the Build Alternatives would have minimal adverse effects on surrounding uses related to short-term construction or long-term operational noise, upon adherence to Caltrans' Standard Specifications and abatement measures. Additionally, intervening structures would serve as a buffer between trail users and the project site. Thus, the Build Alternatives would have minimal proximity effects related to noise on the PASEO Trails.
- Biological Environment: The PASEO Trails are asphalt/concrete residential trail connectors. Given the lack of natural habitat and level of human activity/disturbance on a daily basis, it is not anticipated that any sensitive natural communities or species exist. No disturbance of any vegetation associated with the trail would occur. In addition, as noted above, the Build Alternatives are not expected to result in adverse effects related to air quality or noise, that could otherwise result in proximity effects to biological resources at the PASEO Trails.

The property is a Section 4(f) property, but no "use" will occur. Therefore, the provisions of Section 4(f) do not apply, and no adverse effects would occur in this regard.

Trevino Park

The Build Alternative's facilities and construction activities would not encroach into Trevino Park. Thus, there would be no permanent incorporation or temporary occupancy of the park as a result of the proposed Build Alternatives.

In addition, the Build Alternatives would have minimal adverse constructive use effects that would substantially impair the activities, features, and/or attributes that qualify this facility for protection under Section 4(f). This conclusion is based on the following:

- Access: Trevino Park and the associated parking lot can be accessed via multiple roadways surrounding the facility (Desert Lawn Drive, Palmer Avenue, and Champions Drive all connect to Cherry Valley Boulevard). The Build Alternatives would not include any temporary or permanent improvements or activities that would have the capacity to alter or impede access to the park or affect parking associated with the facility with implementation of a TMP. A TMP would be implemented that would maintain safe movement and access for vehicles, pedestrians, and bicyclists through the construction zone.
- Visual/Aesthetics: The Build Alternatives would not include any features that would be tall enough to be visible from the park, or that would substantively alter views from the park given the rolling topography and intervening structures. Between the park and the project site, residential properties are currently being developed. Additionally, the current topography of the land does not afford views of the I-10/Cherry Valley Boulevard interchange. Thus,

the Build Alternatives would not result in adverse proximity effects to Trevino Park.

- Water Quality: The Build Alternatives would not have the potential to adversely affect water quality at the park. No storm water drainage or runoff from the project site would encroach or enter Trevino Park, and adverse proximity impacts would not occur under the Build Alternatives.
- Air Quality: As noted in Section 2.2.6, Air Quality, of this IS/EA, the Build Alternatives would have minimal adverse effects on surrounding uses related to short-term construction or long-term operational pollutant emissions, upon adherence to Caltrans' Standard Specifications intended to reduce equipment emissions and fugitive dust. Thus, the Build Alternatives would have minimal proximity effects related to air quality on Trevino Park.
- Noise: As described in Section 2.2.7, Noise, of this IS/EA, the Build Alternatives would have minimal adverse effects on surrounding uses related to short-term construction or long-term operational noise, upon adherence to Caltrans' Standard Specifications and abatement measures. Additionally, intervening structures and rolling topography would serve as a buffer between park users and the project site. Thus, the Build Alternatives would have minimal proximity effects related to noise on Trevino Park.
- Biological Environment: Trevino Park is routinely maintained, and on-site vegetation consists primarily of turf and ornamental landscaping. Given the lack of natural habitat and level of human activity/disturbance on a daily basis, it is not anticipated that any sensitive natural communities or species exist. However, there would be no project construction within or immediately adjacent to the park, and no disturbance of any vegetation associated with the park would occur. In addition, as noted above, the Build Alternatives are not expected to result in adverse effects related to air quality or noise, that could otherwise result in proximity effects to biological resources at the facility.

The property is a Section 4(f) property, but no "use" will occur. Therefore, the provisions of Section 4(f) do not apply, and no adverse effects would occur in this regard.

Based on the analysis provided above, the Build Alternatives would not result in any temporary or permanent adverse effects on parks and recreational facilities.

Avoidance, Minimization, and/or Mitigation Measures

No measures are proposed.

2.1.3 Farmlands

Regulatory Setting

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

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

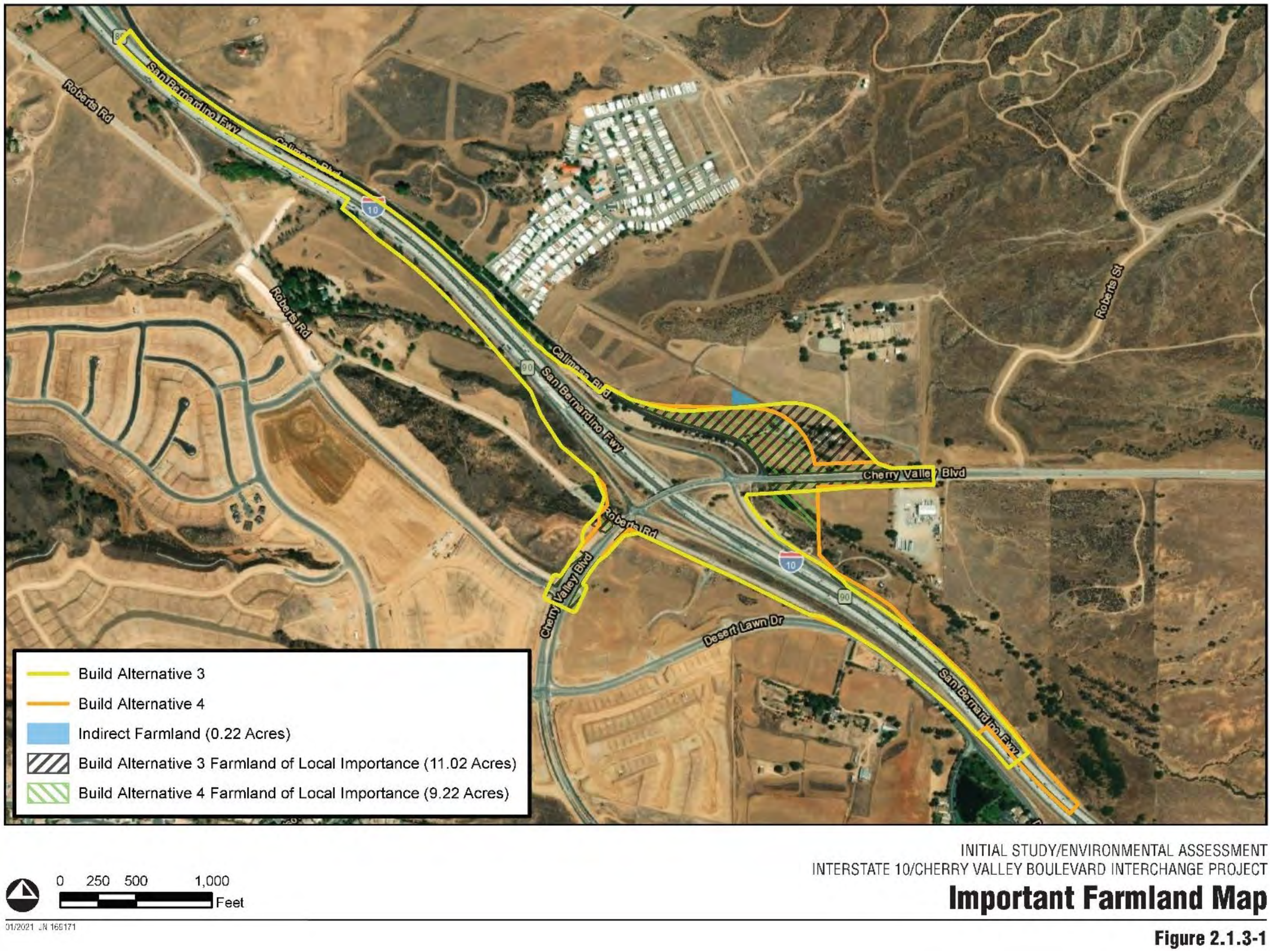
Affected Environment

This section is based on the Community Impact Assessment (CIA) (dated September 2020) that was prepared for the proposed project.

The California Department of Conservation, Office of Land Conservation maintains a statewide inventory of farmlands. These lands are mapped by the Division of Land Resource Protection (DLRP) as part of the Farmland Mapping and Monitoring Program (FMMP). For the purposes of this analysis, farmland includes lands identified by the State of California Department of Conservation as Prime Farmland, Unique Farmland, Farmland of Statewide Importance, and Farmland of Local Importance, as well as those properties encumbered by a Williamson Act preserve contract.

The land that is adjacent to the project within the northwestern, northeastern, and southeastern quadrants of the project’s interchange currently exists as either rural residential, commercial, or undeveloped/vacant land. The California Department of Conservation DLRP designates portions of the project site as “Farmland of Local Importance”. Specifically, approximately 13.5 acres located on APNs 413-270-004 and 413-270-014 have been designated as “Farmland of Local Importance”; refer to Figure 2.1.3-1, Important Farmland Map. According to the CIA, none of the designated farmlands are currently under cultivation and, based on historic aerial imagery, the project site has not been farmed within the last 10 years. The project site does not have any substantial on-farm investments including barns, drainage, and irrigation. The site lacks substantial investments such as field terraces or fruit trees/vines.

Figure 2.1.3-1: Important Farmland Map



The California Department of Conservation has determined that there are no Williamson Act contracts within the project area and none of these farmlands are currently committed to future development.

Environmental Consequences

Temporary Impacts

No-Build Alternative

Since there would be no physical construction of the interchange occurring under this alternative, there would be no physical impacts to the environment. There would be no conversion of farmland, thus, no temporary impacts would occur under this alternative.

Build Alternatives 3 and 4

Potential impacts to farmland associated with construction of the project are considered permanent. Refer to Permanent Impacts, for discussion regarding farmlands.

Permanent Impacts

No-Build Alternative

There would be no permanent impacts under the No-Build Alternative since no farmland conversion would occur.

Build Alternatives 3 and 4

The project is subject to FPPA, 7 USC 4201-4209; and its regulations, 7 CFR Part 658). The FPPA requires Federal agencies to "…coordinate with the NRCS to examine the effects of farmland conversion…" before approving any activity that would convert farmland. In order to determine permanent farmland impacts in the study area, per the FPPA, a Farmland Conversion Impact Rating Form (Form AD-1006) was completed for the Build Alternatives and is provided in Appendix G of this IS/EA.

As shown in Table 2.1.3-1, Farmland Conversion by Alternative, Build Alternative 3 would result in approximately 11.02 acres of direct farmland impacts and approximately 0.22 acres of indirect farmland impacts (due to the interference with land patterns). This would total to approximately 11.24 acres of farmland conversion to non-agricultural uses. Build Alternative 4 would result in approximately 9.22 acres of direct farmland impacts and approximately 0.22 acres of indirect farmland impacts (due to the interference with land patterns). This would total to approximately 9.44 acres of farmland conversion to non-agricultural uses. Both Build Alternatives 3 and 4 rated the same combined score of 134 and 135 points, respectively, on the land evaluation and site assessment section of the Form AD-1006. When the total points equal or exceed 160, it is expected that alternative actions be considered that could reduce adverse impacts. Because the farmland conversion impact rating for both Build Alternatives is well below the 160-point threshold, the Build Alternatives would not result in adverse effects to farmlands.

In addition, according to the CIA, Riverside County contains 419,835 acres of important farmland, meaning that the proposed project comprises a nominal total of 0.003 percent of important farmland in Riverside County. Accordingly, Measure ROW-1, which has been incorporated into the project and provides property owners with just compensation and fair market value for their property, is considered appropriate to address the project's acquisition of agricultural land for non-agricultural use.

Table 2.1.3-1: Farmland Conversion by Alternative

Alternatives	Total Farmland Affected (acres)	Prime and Unique Farmland (acres)	Farmland of Local Importance (acres)	Direct Impact (acres)	Indirect Impact (acres)	% of Farmland in County	Farmland Conversion Impact Rating
Build Alternative 3	11.24	8.0	1.2	11.02	0.22	0.003%	134
Build Alternative 4	9.44	8.4	0.6	9.22	0.22	0.003%	135

Source: Michael Baker International, Community Impact Assessment Memorandum, January 2021.

Avoidance, Minimization, and/or Mitigation Measures

Refer to Measure ROW-1 in Section 2.1.6, Relocations and Real Property Acquisition.

2.1.4 Growth

Regulatory Setting

The Council on Environmental Quality (CEQ) regulations, which established the steps necessary to comply with the National Environmental Policy Act (NEPA) of 1969, require evaluation of the potential environmental effects of all proposed federal activities and programs. This provision includes a requirement to examine indirect effects, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The CEQ regulations (40 Code of Federal Regulations [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 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…”

Methodology

In order to determine the level of potential influence that a transportation project may have on an area's growth and development, Caltrans has developed a guidance document for this purpose: Guidance for Preparers of Growth-Related, Indirect Impact Analyses (2006). The guidance adopts a two-phase approach to the evaluation of growth-related impacts.

The first phase, called the "first-cut screening", is designed to assist in the assessment of whether there is potential for growth-related impacts, and whether further analysis is necessary by addressing the following:

- How, if at all, does the project potentially change accessibility?
- How, if at all, do the project type, project location, and growth-pressure potentially influence growth? Some transportation projects may have very little influence on future growth, while others may have a great influence. Some geographic locations are more conducive to influencing growth, while others are highly constrained. These differences may result from physical constraints, planning and zoning factors, or local political considerations.
- Determine whether project-related growth is "reasonably foreseeable" as defined by NEPA. Under NEPA, indirect impacts need only be evaluated if they are reasonably foreseeable as opposed to remote and speculative.
- If there is project-related growth, how, if at all, will that affect resources of concern?

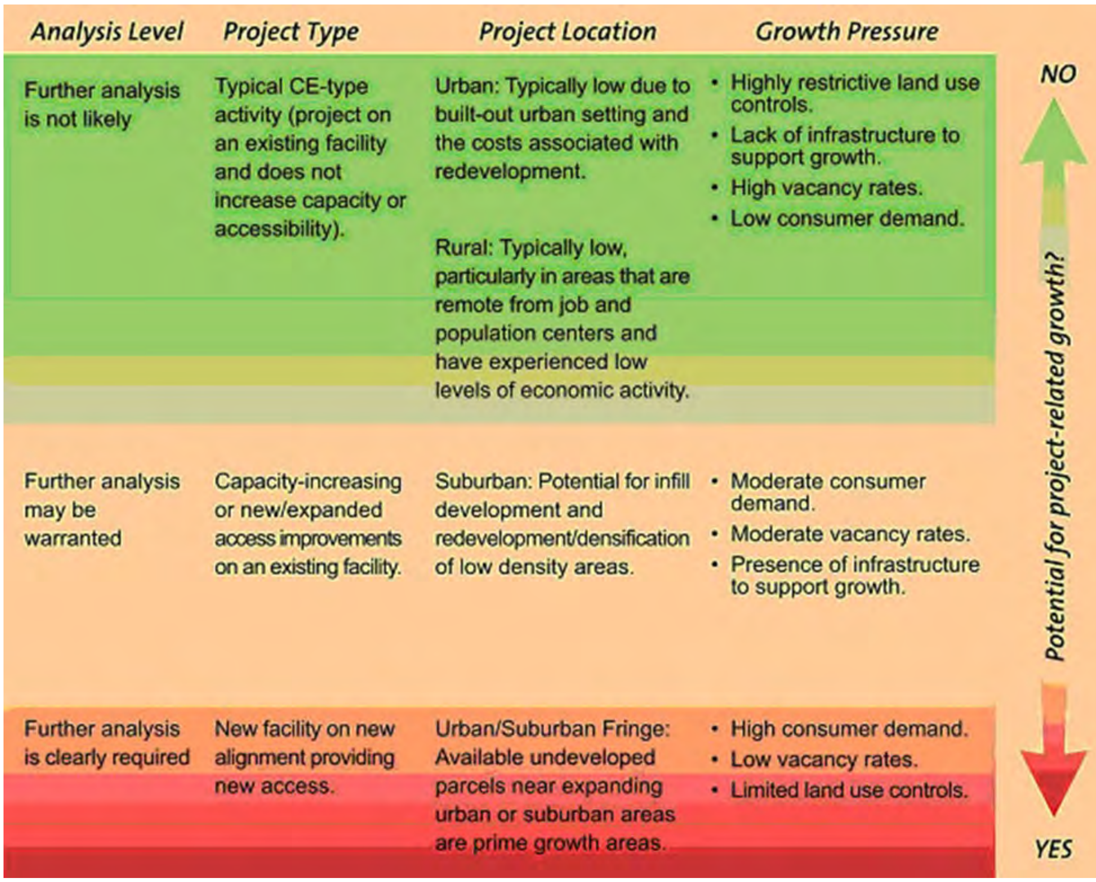
Figure 2.1.4-1, Analysis Considerations Related to Determining Potential for Project-Related Growth, helps illustrate the relationship between project type, location and growth pressure, and the potential for project-related growth. If the first-cut screening results in a determination that further analysis is required regarding growth, additional analysis steps must be followed, as described in Chapter 6 of the Guidance for Preparers of Growth-related, Indirect Impact Analyses (Guidance) (May 2006).

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

The project includes construction of improvements at the existing I-10/Cherry Valley Boulevard interchange. Although the improvements would be implemented along existing roadway facilities, the improvements would increase local roadway capacity along Cherry Valley Boulevard and provide enhanced connections to I-10 and would subsequently also result in improved accessibility. However, no new roadways, and thus, no new access would result with project implementation. Construction of the project would not result in long-term changes to travel times, travel cost, or accessibility to employment and services in the project vicinity. In addition, no vacant lands that are currently inaccessible would become permanently accessible and therefore more likely to be developed following construction of the project.

Workforce requirements associated with the construction of the project are expected to result in an influx of workers to the local area. However, the workforce influx would be temporary in nature and would cease upon completion of project construction.

Figure 2.1.4-1: Analysis Considerations of Determining Potential for Project-Related Growth



Analysis Level	Project Type	Project Location	Growth Pressure
Further analysis is not likely	Typical CE-type activity (project on an existing facility and does not increase capacity or accessibility).	Urban: Typically low due to built-out urban setting and the costs associated with redevelopment. Rural: Typically low, particularly in areas that are remote from job and population centers and have experienced low levels of economic activity.	• Highly restrictive land use controls. • Lack of infrastructure to support growth. • High vacancy rates. • Low consumer demand.
Further analysis may be warranted	Capacity-increasing or new/expanded access improvements on an existing facility.	Suburban: Potential for infill development and redevelopment/densification of low density areas.	• Moderate consumer demand. • Moderate vacancy rates. • Presence of infrastructure to support growth.
Further analysis is clearly required	New facility on new alignment providing new access.	Urban/Suburban Fringe: Available undeveloped parcels near expanding urban or suburban areas are prime growth areas.	• High consumer demand. • Low vacancy rates. • Limited land use controls.

Source: California Department of Transportation, Guidance for Preparers of Growth-related, Indirect Impact Analyses (May 2006), p. 5-8, Figure 5-2.

Although the project would improve traffic operations at the interchange area, the project would not create new opportunities for access to areas that are not already afforded access under the existing conditions at the interchange; therefore, while traffic operations at the interchange would be improved with implementation of the project, the project would not substantially change accessibility to adjacent and nearby properties.

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

The project type is the upgrade of an existing interchange to improve operations and mobility. Since the project would construct improvements along existing facilities (e.g., I-10 and Cherry Valley Boulevard), subsequently enhancing access (but not resulting in new access), the project type is considered to be one that has a low potential to influence growth.

Growth pressure within the project area is considered high when accounting for existing and planned development. The Marketplace at Calimesa was recently constructed and became operational (south of I-10 and east of Cherry Valley Boulevard), and substantial additional residential, commercial/industrial, and institutional development is proposed within the Summerwind Specific Plan to the south of I-10, and west of Cherry Valley Boulevard.

While growth pressure is high, the project is on an existing interstate facility near existing roadways, providing access to existing and already planned development. The project has been designed to accommodate current and projected increases in traffic volumes expected as a result of previously implemented and planned development in the area; therefore, project-related growth is not anticipated as a result of the project.

Is project-related growth reasonably foreseeable as defined by the National Environmental Policy Act?

As discussed above, the project is not anticipated to result in substantial changes in accessibility or growth. The proposed project would not influence growth because the project would not directly result in substantial changes to land use or directly encourage changes in population density. Development within the project area is governed by the Calimesa General Plan and Riverside County General Plan. Although the project would provide operational improvements to local access, it is not expected that the project would affect growth at the local or regional level. Therefore, project-related growth is not reasonably foreseeable as defined by NEPA.

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

As discussed above, the proposed project would not accelerate or otherwise influence growth beyond what is already planned in the project area. No further analysis related to growth is required for the proposed project.

2.1.5 Community Character and Cohesion

Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969, as amended, established that the federal government use all practicable means to ensure for all Americans 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 project's effects.

Affected Environment

This section is based primarily on the Community Impact Assessment (CIA) Memorandum prepared for the proposed project, dated January 26, 2021.

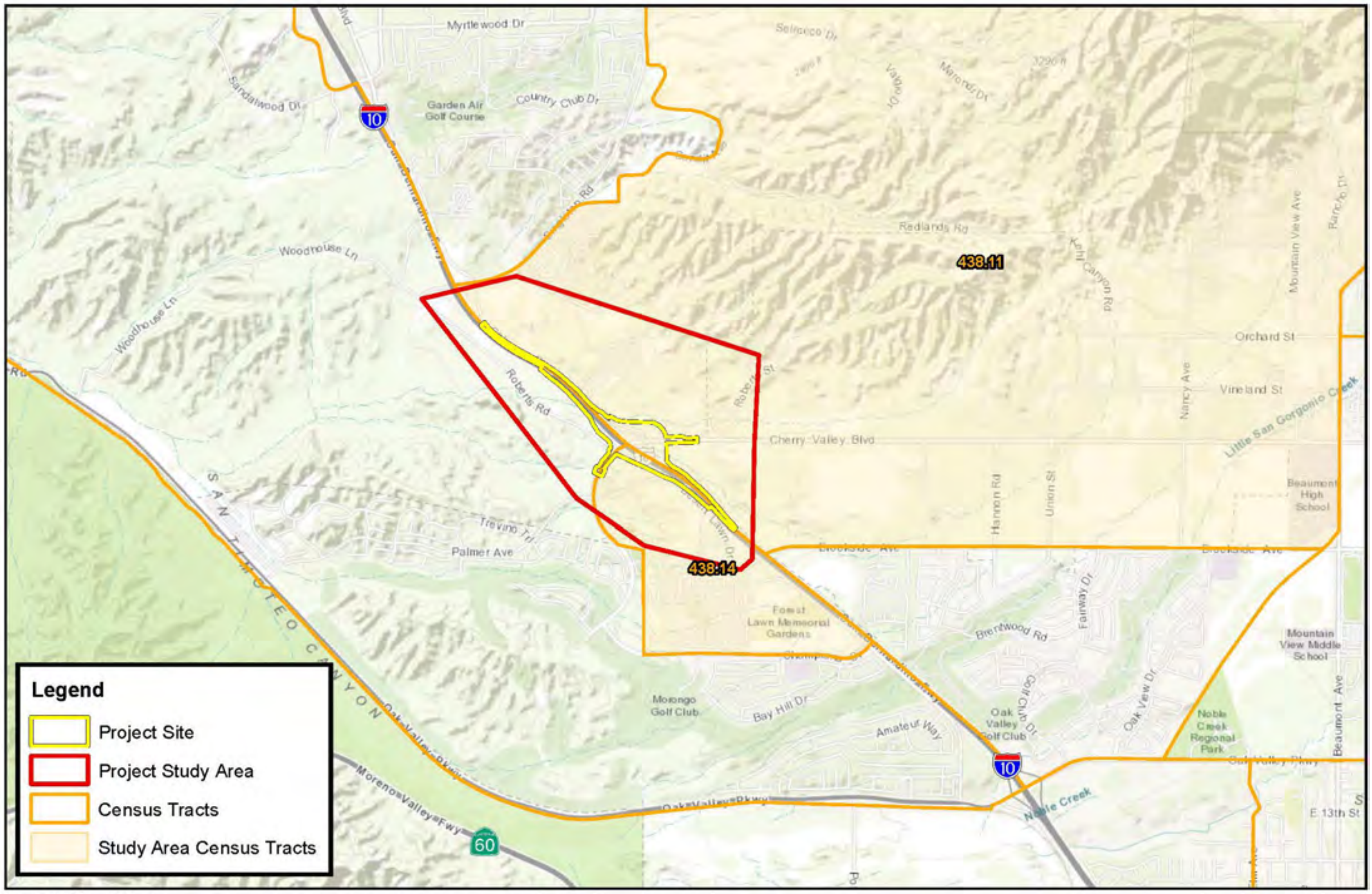
Community character is generally reflected by multiple demographic factors such as age, ethnicity, race, income, employment, household size, and population growth trends that are found within the study area. The CIA Memorandum study area boundaries include a total of approximately 1.25 square miles surrounding the project alignment, and is generally bounded by Singleton Road and Beckwirth Avenue to the north; the open space area beginning approximately 0.5-mile east of the I-10/Cherry Valley Boulevard Interchange running south along the eastern boundary of an existing mobile home park to the east; Brookside Avenue to the south; and the open space area bordering planned residential and commercial development in the Summerwind Ranch Specific Plan area to the west, roughly adjacent to the future alignment of Roberts Road. I-10 bisects the study area in a northwest-southeast orientation.

The following presented data provides a snapshot of residents living in the community and helps in developing a community profile, ensuring that the affected environment can be correctly described as it relates to communities and neighborhoods. A community profile is provided in this subsection, including a description of the populations residing within the study area and the existing housing stock within the study area.

General Demographics

Information from the U.S. Census Bureau was used to identify the demographic characteristics of the populations within the study area. Two census tracts were selected to be analyzed because their boundaries most closely align with the CIA Memorandum study area boundaries. It should be noted that some of the area in these census tracts is located outside of the study area boundaries. The total population within both tracts is 5,150 residents; refer to Figure 2.1.5-1, Study Area Census Tract Boundaries. The census tracts and population of each tract include Census Tract 438.11 (population 4,242) and Census Tract 438.14 (population 908).

Figure 2.1.5-1: Study Area Census Tract Boundaries



Source: ESRI, Riverside County

NOT TO SCALE

01/2021 JN 169171

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
INTERSTATE 10/CHERRY VALLEY BOULEVARD INTERCHANGE PROJECT

Study Area Census Tract Boundaries

Figure 2.1.5-1

Generally, the portion of the study area north of I-10 (Census Tract 438.11) is located in a sparsely populated, rural area within the limits of the City of Calimesa, whereas the portion of the study area south of I-10 (Census Tract 438.14) is located within a more densely populated area that has cohesive existing and planned residential neighborhoods in newer housing developments (i.e., The Plantation on the Lake 55+ community as well as future planned residences associated with the Summerwind Specific Plan).

As shown in Exhibit 4, CIA Study Area, of the CIA, there are no existing community facilities within a one-mile radius of the project alignment (services and institutions that the local population relies on for their health and welfare and as a means to interact with other members of the community, such as schools, religious institutions and/or places of worship, medical institutions, parks, senior centers and community centers), nor are there any existing emergency service facilities (e.g., fire or police stations) within a one-mile radius of the project alignment.

Table 2.1.5-1, Regional, Local, and Study Area Demographics, provides the general demographic information for the existing population within the study area census tracts, the City of Calimesa, and County of Riverside. As shown in Table 2.1.5-1, there is some variance in the figures between the study area census tracts, the City of Calimesa, and the County of Riverside. The census tracts have a higher median age than both the City of Calimesa and County of Riverside, with the median age in Census Tract 438.14 (69.9 years) being nearly double that of the County of Riverside (35.3 years).

Table 2.1.5-1: Regional, Local, and Study Area Demographics

Demographics	Census Tract 438.11	Census Tract 438.14	City of Calimesa	County of Riverside
Total Population (# of persons)	4,242	908	8,651	2,383,286
Average Household Size (# of persons)	2.96	1.94	2.59	3.27
Median Age (years)	52.8	69.9	47.6	35.3
Median Household Income (dollars)	$60,372	$46,615	$53,366	$63,948
Low Income (%)	7.3	6.6	5.9	11.3

Notes: The "Low Income" category identifies the percentage of families below poverty level.
Source: Michael Baker International, Community Impact Assessment Memorandum, January 2021.

Project implementation would benefit these residents by reducing traffic congestion in the project area, providing alternative modes of transportation on-site with the addition of sidewalk and bike lanes, and reducing air quality impacts. The project also accommodates the future planned growth within the City of Calimesa.

Ethnic and Racial Composition

Table 2.1.5-2, Ethnic and Racial Composition identifies ethnic characteristics of the existing population within the study area census tracts, the City of Calimesa, and the County of Riverside. As shown in Table 2.1.5-2, the study area census tracts have a similar ethnic and racial distribution to the City of Calimesa. However, the study area census tracts represent a dissimilar ethnic and racial distribution when compared to the County of Riverside overall. In particular, the percentage of persons identifying as Hispanic or Latino in both census tracts, at 23.1 and 20.6 percent, respectively, is less than half that of the County of Riverside at 48.4 percent.

Table 2.1.5-2 identifies ethnic characteristics of the existing population within the study area block groups, the City, and the County. As shown in Table 2.1.5-2, the study area census tract has a similar ethnic and racial distribution to the regional City and County distribution for most categories. However, the percentage of persons identifying as Hispanic or Latino in Census Tract 102.01 represents a somewhat dissimilar distribution when compared to the City and County. Specifically, the Hispanic/Latino percentage in Census Tract 102.01 is 4 percent less than the City and approximately half that of the County.

Table 2.1.5-2: Ethnic and Racial Composition

Composition	Census Tract 438.11	Census Tract 438.14	City of Calimesa	County of Riverside
White Alone	81.7%	93.2%	84.0%	60.8%
Black or African American Alone	3.2%	2.1%	1.2%	6.4%
American Indian/Alaska Native Alone	0.6%	0.0%	0.7%	0.8%
Asian Alone	3.8%	2.8%	2.1%	6.4%
Native Hawaiian/Other Pacific Islander Alone	0.0%	0.0%	0.0%	0.3%
Some Other Race Alone	7.9%	2.0%	6.4%	20.8%
Two or More Races	2.8%	0.0%	5.5%	4.5%
Hispanic or Latino (any race)	23.1%	20.6%	29.3%	48.4%

Source: Michael Baker International, Community Impact Assessment Memorandum, January 2021.

Housing

The Calimesa General Plan Housing Element, adopted in October 2013, addresses identified the needs and outlines strategies to improve the quality of living environments in Calimesa; the planning period for the Housing Element is October 15, 2013, to October 15, 2021. The Calimesa General Plan Housing Element Background Report, adopted August 4, 2014, contains a discussion of the City’s housing stock characteristics, jobs-to-housing ratios, median housing unit values, and tenure and vacancy rates, discussed below.

Housing Stock

According to the Housing Element Background Report, as of 2012, the majority of housing units in Calimesa were single-family detached homes and mobile homes. Approximately 63 percent of the City's housing stock was single-family homes, 35 percent were mobile homes, and two percent were multi-family units. Most new units (approximately 86 percent) added between 2000 and 2012 were single-family detached. The remaining 14 percent of housing units added between 2000 and 2012 included attached single-family homes and an increase in the number of mobile homes. The City's stock of multi-family units declined in the same period, decreasing from 121 units in 2000 to 52 units in 2012. There are no public housing projects in the City.

Per Housing Element of the Riverside County General Plan, the majority of housing units (approximately 69 percent) in the County are single-family detached homes. Approximately 23 percent of the County's housing stock were mobile homes, and a total of 4 percent multifamily homes. The remaining 4 percent of housing units consists of attached single-family homes.

The City tracks the number and types of housing constructed each year to ensure the City achieves the goals stipulated in the Regional Housing Allocation Plan (RHNA). According to the Calimesa General Plan Annual Progress Report (January 2018-December 2018), a total of 86 single-family building permits were issued during the 2018 calendar year (the most recent year for which this data is available). The number of dwellings to be provided by the City of Calimesa for the years 2013 - 2021 is 2,341 dwellings, in the following categories:

- Very Low Income: 543
- Low Income: 383
- Moderate Income: 433
- Above Moderate: 982

Approximately 57 percent of the City's housing units were built before 1980. The housing structures in Calimesa are generally older than the housing stock in Riverside County overall, where only 35 percent of the housing stock was built prior to 1980. The majority of the City's housing (66 percent) was constructed in the 1960s, 1970s, and 1980s. The older units are primarily located near the City center and on scattered large lots. Newer units are generally located in the vicinity of the Calimesa Country Club and on estate lots in Oak Hills or elsewhere on the east side of the City.

Calimesa conducted a citywide survey of housing conditions in 2004. The survey consisted of an exterior visual examination and a rating of the condition of major building components for each housing unit. The survey found the majority of the City's housing stock to be in good condition. Of the

3,313 units surveyed, 2,937 (89 percent) were determined to be sound and 360 (11 percent) were determined to be in need of some form of rehabilitation. A total of 16 units were determined to be dilapidated, which indicates that the rehabilitation of these units is financially infeasible, and they are candidates for demolition. In response to the survey results and interest from the community, the City initiated a housing rehabilitation program in 2005 and has since rehabilitated a total of 44 housing units using funding from a combination of sources including Community Development Block Grants, HOME Investment Partnerships Program, and Redevelopment Agency Low/Moderate Income Housing (LMI) funds.

Jobs-to-Housing Ratio

In its 2021–2035 RTP/SCS Growth Forecast, SCAG estimated that there were approximately 1,900 jobs in Calimesa in 2008, projecting that number to increase by 46 percent to 2,800 jobs by 2020. By comparison, SCAG expects the City's housing stock to increase from approximately 3,300 units to 6,300 units, or almost double, over this same period. SCAG's projections indicate that Calimesa currently provides and would continue to provide housing somewhat in excess of local jobs. The ratio of jobs to housing would likely change as planned commercial development gradually occurs in Calimesa.

Median Housing Unit Values

The median housing unit value in the City of Calimesa, based on the U.S. Census Bureau's most recent American Community Survey (2018), is $203,800. According to the Calimesa General Plan Housing Element, home prices in Calimesa are among the most affordable in Riverside County. Additionally, the City of Calimesa has a large senior population. The median age is well above the State and regional median and a smaller average household size, and the special housing needs of this population would continue to be an important planning consideration. Comparatively, the median housing unit value in Riverside County, based on the U.S. Census Bureau's most recent American Community Survey (2018), is $475,900.

Tenure and Vacancy Rates

Housing in Calimesa is primarily owner-occupied. Based on the U.S. Census Bureau's most recent American Community Survey (2018), 83.2 percent of units were owner-occupied, up from 81.4 percent in 2010. The vacancy rate is an indicator of housing supply and demand. Low vacancy rates can result in increasing housing prices. A five to six percent vacancy rate is generally considered healthy. The vacancy rate in Calimesa was 10.7 percent as of 2018, up from 9.3 percent in 2010. The vacancy rate indicates a more than adequate supply of available housing in the City.

Similar to the City of Calimesa, housing in Riverside County is primarily owner-occupied. 92.1 percent of units in the County were owner-occupied, while 7.9 percent were vacant-housing units. The vacancy rate in Riverside

County is 3.5 percent, indicating a comparatively low supply of available housing in the County as a whole.

Poverty/Low-Income Population Characteristics

For the purposes of this discussion, the poverty threshold according to the U.S. Census Bureau was used to determine the percentages of families living below the poverty line. According to the Census Bureau, the poverty threshold for a family of four (including two adults and two children) was $25,962 in 2019 (the most recent year for which this data is available).[1] Low income is defined based on the Department of Health and Human Services (DHHS) poverty guidelines. According to the DHHS 2019 Poverty Guidelines, the poverty threshold for a family of four in the State of California is $25,750.[2] There is a nominal difference of $176 between the Census Bureau and DHHS poverty thresholds.

Table 2.1.5-3, Regional, Local, and Study Area Income and Poverty Levels shows the percentage of families living below the poverty level (low income) within each census tract, as well as the City of Calimesa and Riverside County. As shown, the percentage of families below the poverty line within both census tracts and the City of Calimesa are consistent, ranging from 5.9 percent to 7.3 percent. The percentage of families below the poverty line within the County is 11.3 percent, which is nearly double that of the City of Calimesa. However, the variance of the number of families living below the poverty level within the study area is not considered to be substantial.

Table 2.1.5-3: Regional, Local, and Project Area Income and Poverty Levels

Low-Income Population	Census Tract 438.11	Census Tract 438.14	City of Calimesa	Riverside County
Total Population	4,242	908	8,651	2,383,286
Median Household Income	$60,372	$46,615	$53,366	$63,948
Families living below the poverty level	7.3%	6.6%	5.9%	11.3%

Notes: The Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. If a family's total income is less than the family's threshold, then that family and every individual in it is considered in poverty. The official poverty thresholds do not vary geographically, but they are updated for inflation using the Consumer Price Index (CPI-U). The official poverty definition uses money income before taxes and does not include capital gains or noncash benefits (such as public housing, Medicaid, and food stamps).
Source: U.S. Census Bureau, 2018 American Community Survey 5-year estimates at https://data.census.gov/cedsci/ accessed 4-30-20.

[1] U.S. Census Bureau website, accessed 9-17-19. https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html.
[2] U.S. Department of Health and Human Services (DHHS) website, accessed 9-17-19. https://aspe.hhs.gov/poverty-guidelines.

Environmental Consequences

Temporary Impacts

No-Build Alternative

Since no construction or improvements would occur under the No-Build Alternative, there would be no temporary direct or indirect adverse effects related to community character or cohesion under this alternative.

Build Alternatives 3 and 4

As noted above, there are no existing community facilities within the study area (services and institutions that the local population relies on for their health and welfare and as a means to interact with other members of the community, such as schools, religious institutions and/or places of worship, medical institutions, parks, senior centers and community centers), nor are there any existing emergency service facilities (e.g., fire or police stations) within the study area. Thus, no temporary adverse effects related to community facilities would occur that could result in impacts to community character or cohesion.

Project construction activities under Build Alternatives 3 and 4 would result in temporary impacts to roadways within and surrounding the project site, that are typical of a roadway construction zone. Although these impacts would affect those traveling in the community on an intermittent basis during construction, access to the neighborhoods within the study area would be maintained throughout the duration of construction. Additionally, Measure TT-1 would require a Transportation Management Plan (TMP) to be prepared and implemented during the Plans, Specifications, and Estimates (PS&E) phase of the project. The Caltrans TMP Guidelines identify the processes, roles, and responsibilities for preparing and implementing TMPs, as well as useful strategies for reducing congestion and managing work zone traffic impacts. The primary objective of the TMP is to maintain safe movement for vehicles, pedestrians, and bicyclists through the construction zone, as well as minimize traffic delays during the construction period.

Public transit within the project area consists of two regional express service lines operated by the City of Beaumont that connect to the City of Calimesa: Commuter Link 120 and Commuter Link 125. Both service lines travel through the project site, along I-10. As noted above, although construction activities may result in temporary impacts to roadways within and surrounding the site, impacts to public transit facilities would be minimized through implementation of a TMP. Thus, temporary impacts in this regard would not be adverse.

Permanent Impacts

No-Build Alternative

There would be no permanent impacts related to community character and cohesion under the No-Build Alternative since no physical changes to the existing environment would occur.

Build Alternatives 3 and 4

As noted above, there are no existing community facilities within the study area. Thus, no permanent adverse effects related to community facilities would occur that could result in impacts to community character or cohesion.

As noted above, the City of Beaumont operates two regional express bus lines that connect to the City Calimesa. The Build Alternatives would improve traffic flow and relieve congestion within and surrounding the project site over the long-term. Thus, Build Alternatives 3 and 4 would provide an operational benefit with regard to public transit.

The Build Alternatives would not result in impacts with regard to community character or cohesion. Build Alternatives 3 and 4 would not involve the implementation of new housing on a direct or indirect basis that could cause an increase in population or change in community composition. The Build Alternatives would not directly or indirectly have an adverse impact on population characteristics, housing mixture, economic conditions, or supporting community services within the study area. Any potential changes to the communities that comprise the study area would result from planned County and City growth and would occur regardless of implementation of the Build Alternatives.

Adverse effects related to community cohesion would not occur since I-10, Cherry Valley Boulevard, and other affected local roadways are existing facilities; the Build Alternatives would not result in any new roadways or physical barriers that divide or impede cohesion. The improvements associated with the Build Alternatives would reduce existing and projected future traffic congestion associated with the I-10/Cherry Valley Boulevard interchange and improve mobility and connectivity within the project area. The Build Alternatives would not divide neighborhoods, directly encourage or discourage growth, create negative changes to existing quality of life, or increase urbanization or isolation. The Build Alternatives would not impede access to community facilities, since none exist within the study area. Therefore, no long-term direct or indirect adverse effects on community character or cohesion would occur with the implementation of the Build Alternatives.

Avoidance, Minimization, and/or Mitigation Measures

No measures are proposed.

2.1.6 Relocations and Real Property Acquisition

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 (Uniform Act), 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. Please see Appendix C for a summary of the RAP.

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

Affected Environment

This section is based on the Community Impact Assessment (CIA) Memorandum dated December 3, 2020 and the September 2020 Draft Relocation Impact Memorandum (DRIM) that were prepared for the project.

Uses within project site boundaries can be characterized as predominately transportation facilities (I-10, Cherry Valley Boulevard, Calimesa Boulevard), and undeveloped open space. Two single-family residential structures exist within the northeasterly portion of the site, north of Cherry Valley Boulevard and east of Calimesa Boulevard. Areas surrounding the project site to the north generally include open space, the Rancho Calimesa Mobile Home Park (north of Calimesa Boulevard), and a single-family residential use (north of Cherry Valley Boulevard and west of Roberts Street); a truck repair facility and open space is located to the east; the Plantation on the Lake senior community, single-family residential, commercial/retail and residential uses associated with the Summerwind Specific Plan are located to the south; and open space and rural residential uses are located to the west.

Environmental Consequences

Temporary Impacts

No-Build Alternative

The No-Build Alternative would not result in any temporary adverse effects regarding relocations or real property acquisition since no construction would occur and no properties would be affected.

Build Alternatives 3 and 4

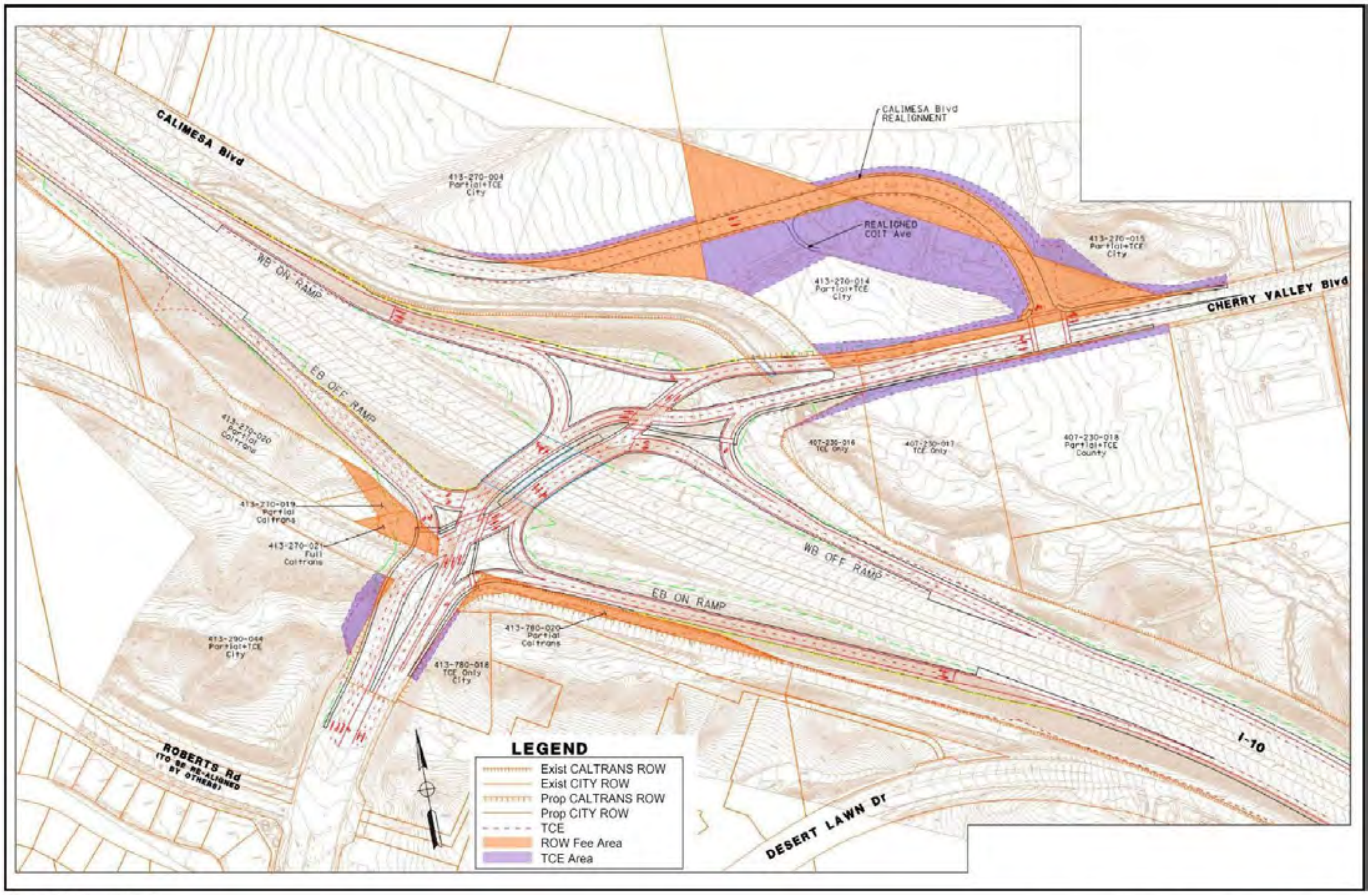
Based on the CIA Memorandum prepared for the project, it is expected that Temporary Construction Easements (TCE) would be required for both Build Alternatives. According to the CIA, the construction phase for both Build Alternatives would occur in one phase and is expected to last approximately 24 months. Table 2.1.6-1, Potential Temporary ROW Acquisitions indicates the potential temporary ROW acquisitions that may occur under the Build Alternatives. A total of 3.64 acres for Build Alternative 3 and a total of 3.19 acres for Build Alternative 4 would be temporarily acquired during project construction. Refer to Figure 2.1.6-1, Build Alternative 3 Potential ROW Acquisition Map and Figure 2.1.6-2, Build Alternative 4 Potential ROW Acquisition Map, for a depiction of ROW acquisition associated with both Build Alternatives. Access to these properties would be maintained. Because these would be temporary and the portions of the parcels required during construction would be restored and returned to their owners following construction, adverse effects would not occur in this regard.

Permanent Impacts
No-Build Alternative
The No-Build Alternative would not result in any permanent adverse effects regarding relocations or real property acquisition since no improvements would occur.

Build Alternatives 3 and 4
Permanent acquisition would occur under both Build Alternatives. A total of 4.08 acres for Build Alternative 3 and a total of 6.50 acres for Build Alternative 4 would be permanently acquired during project construction. Table 2.1.6-2, Potential Permanent ROW Acquisitions and Relocations, below shows the potential permanent ROW acquisitions that may occur under the Build Alternatives.

Based on the DRIM prepared for the project, there are multiple existing structures associated with two single-family residences located on APN 413-270-014, which is located on the north side of Cherry Valley Boulevard in the northeast quadrant of the I-10/Cherry Valley Boulevard interchange. Preliminary analysis of aerial imagery indicates the structures may include a primary living residence, an accessory guest residence, a garage, sheds, and farm buildings. However, the exact function of the structures, as well as the type and number of occupants residing in the residence, will be determined during the ROW acquisition phase of the project. The existing structures were constructed in 1965, however, because the property type is listed as “commercial,” the number of bedrooms and total area (square footage) of the structures are not available. The most recent assessed values cited by the Riverside County Assessor’s Office include the land at $927,221 and the improvements at $89,039, for a total assessed value of $1,016,260. Information obtained from the project’s right-of-way data sheets cite a residential relocation cost of approximately $252,000. However, real estate housing market trends indicate the approximate value of the residences to be relocated currently fall within a range of $550,000 to $650,000. As such, this range was used as the baseline for the real estate research conducted for the Relocation Impact Memorandum.

Figure 2.1.6-1: Build Alternative 3 Potential ROW Acquisition Map



Source: ESRI, Riverside County

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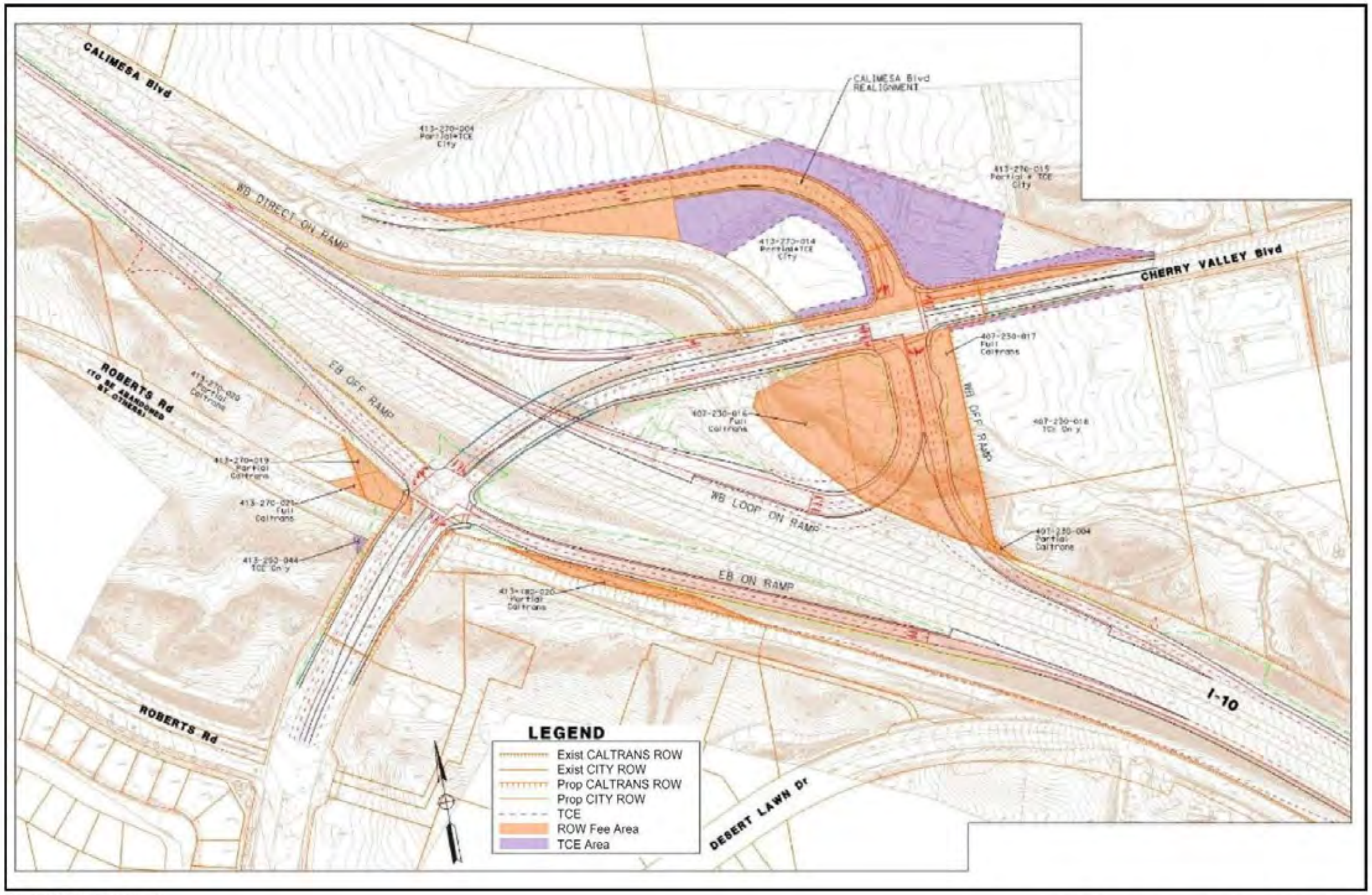
Build Alternative 3 Potential ROW Acquisition Map

Figure 2.1.6-1

Figure 2.1.6-2: Build Alternative 4 Potential ROW Acquisition Map



Source: ESRI, Riverside County

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Build Alternative 4 Potential ROW Acquisition Map

Figure 2.1.6-2

Table 2.1.6-1: Potential Partial Temporary (TCE) ROW Acquisitions

APN	Address	Alternative 3 Impacts (Acres)	Alternative 4 Impacts (Acres)	Property Type/Current Land Use	Relocation	ROW Acquisition
413-270-004	--	0.16	0.14	Commercial/Vacant Land	No	N/A
413-270-014	3607 Cherry Valley Boulevard	2.38	2.84	Commercial/Multiple SFR Structures	No	N/A
413-270-015	36240 Cherry Valley Boulevard	0.50	0.11	Residential/Residential	No	N/A
407-230-018	--	0.19	0.08	Commercial/Vacant Land	No	N/A
407-230-004	--	--	--	Commercial/Vacant Land	No	N/A
407-230-017	36015 Cherry Valley Boulevard	0.13	--	Commercial/Vacant Land	No	N/A
407-230-016	--	0.06	--	Commercial/Vacant Land	No	N/A
413-780-020	--	--	--	Commercial/Shopping Center	No	N/A
413-780-018	--	0.05	--	Commercial/Shopping Center	No	N/A
413-290-044	--	0.17	0.02	Commercial/Vacant Land	No	N/A
413-270-021	--	--	--	Commercial/Vacant Land	No	N/A
413-270-019	--	--	--	Commercial/Vacant Land	No	N/A
413-270-020	--	--	--	Residential/Vacant Land	No	N/A
TOTAL	--	**3.64**	**3.19**	--	--	--

Source: Michael Baker International, Relocation Impact Memorandum, Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, July 2020.

Table 2.1.6-2: Potential Permanent ROW Acquisitions and Relocations

APN	Address	Alternative 3 Impacts (Acres)	Alternative 4 Impacts (Acres)	Property Type/Current Land Use	Relocation	ROW Acquisition
413-270-004	--	0.63	1.02	Commercial/Vacant Land	No	Temporary
413-270-014	3607 Cherry Valley Boulevard	1.94	1.31	Commercial/Multiple SFR Structures	Yes (Under Alt. 4)	Temporary
413-270-015	36240 Cherry Valley Boulevard	0.81	<0.01	Residential/Residential	No	Temporary
407-230-018	--	0.02	--	Commercial/Vacant Land	No	Temporary
407-230-004	--	--	0.01	Commercial/Vacant Land	No	Temporary
407-230-017	36015 Cherry Valley Boulevard	--	2.77	Commercial/Vacant Land	No	Temporary
407-230-016	--	--	0.92	Commercial/Vacant Land	No	Temporary
413-780-020	--	0.44	0.26	Commercial/Shopping Center	No	Temporary
413-780-018	--	--	--	Commercial/Shopping Center	No	Temporary
413-290-044	--	0.02	--	Commercial/Vacant Land	No	Temporary
413-270-021	--	0.21	0.21	Commercial/Vacant Land	No	Full
TOTAL	--	**4.08**	**6.50**	--	--	--

Source: Michael Baker International, Relocation Impact Memorandum, Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, July 2020.

Partial permanent ROW acquisition of APN 413-270-014 would occur under Build Alternative 4, which would require acquisition and removal of the two existing residential structures on the parcel.

Real estate research was conducted to determine the availability of single-family residential replacement properties located within the City of Calimesa, as well as the adjacent City of Yucaipa to the north and community of Cherry Valley to the east. As described above, the parameters of this analysis included a sale price range of $550,000 to $650,000, and a location focused primarily in the City of Yucaipa and the adjacent community of Cherry Valley; it should be noted that there are currently no comparable properties in acreage available in the City of Calimesa. As indicated by the analysis, there are currently ample single-family residential replacement properties on the market similar to the displacement property, and it was determined that adequate housing stock is available in proximity to the project area to meet the decent, safe, and sanitary standards to relocate the displaced residents from the impacted area. In addition, U.S. Census Bureau data indicates that there is currently a 10.7 percent vacancy rate for the community; therefore, it is anticipated that there will be sufficient single-family residences that are equal to or better than the displacement property available for rent or purchase. Implementation of Minimization Measure ROW-1, below, would reduce potential relocation impacts and impacts would not be substantial.

No business relocations would occur under Build Alternatives 3 or 4. Although partial permanent acquisition of vacant land associated with the Northlight Trust 1/Marketplace Shopping Center (APN 413-780-020) would occur under the Build Alternative 4, these businesses would not be displaced as a result of project implementation. Access will be maintained during construction.

Avoidance, Minimization, and/or Mitigation Measures

ROW-1 Right-of-way shall be acquired in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and property owners shall receive just compensation and fair market value for their property.

2.1.7 Environmental Justice

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. This EO 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. For 2021, this was $26,500 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. The Department's 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 B of this document.

Affected Environment

This section is based on the Community Impact Assessment (CIA) Memorandum prepared for the proposed project, dated December 3, 2020.

Race and Ethnic Characteristics

As shown in Table 2.1.7-1, Ethnic and Racial Composition, the percentages of minority population for the City of Calimesa, the County of Riverside and the CIA study area census tracts are identified. Both census tracts and the City of Calimesa have similar percentages of White populations, at 81.7 percent, 93.2 percent, and 84.0 percent, respectively, whereas the County of Riverside has a lower White percentage of 60.8 percent. A similar trend occurs for the Black population in the census tracts and City of Calimesa, with Black populations of 3.2 percent, 2.1 percent, and 1.2 percent, respectively, whereas the County of Riverside shows a higher Black population of 6.4 percent.

Table 2.1.7-1: Ethnic and Racial Composition

Composition	Census Tract 438.11	Census Tract 438.14	City of Calimesa	County of Riverside
White Alone	81.7	93.2	84.0	60.8
Black or African American Alone	3.2	2.1	1.2	6.4
American Indian/Alaska Native Alone	0.6	0.0	0.7	0.8
Asian Alone	3.8	2.8	2.1	6.4
Native Hawaiian/Other Pacific Islander Alone	0.0	0.0	0.0	0.3
Some Other Race Alone	7.9	2.0	6.4	20.8
Two or More Races	2.8	0.0	5.5	4.5
Hispanic or Latino (any race)	23.1	20.6	29.3	48.4

Source: Michael Baker International, Community Impact Assessment Memorandum, January 2021.

Both census tracts included in the study area show a low percentage of Hispanic or Latino populations, at 23.1 percent and 20.6 percent. The City of Calimesa's Hispanic percentage is similar to the census tracts at 29.3 percent, whereas the County of Riverside's Hispanic population is higher than all other areas included in the study area at 48.4 percent. Both census tracts also showed either an absence, or very low occurrence, of any American

Indian and Alaska Native, Asian, and Native Hawaiian/Other Pacific Islander populations, ranging from 0.0 percent to 3.8 percent. The City of Calimesa also shows a very low percentage of these populations, with a 0.7 percent American Indian and Alaska Native population, a 2.1 percent Asian population, and a 0.0 percent Native Hawaiian/Other Pacific Islander population. Both census tracts and the City of Calimesa have fairly low percentages of Some Other Race populations, ranging from 2.0 percent to 7.9 percent, whereas the County of Riverside's Some Other Race population percentage is higher than all the other areas in the study area at 20.8 percent.

Poverty/Low-Income Population Characteristics
For the purposes of this discussion, the poverty threshold according to the U.S. Census Bureau was used to determine the percentages of families living below the poverty line. According to the Census Bureau, the poverty threshold for a family of four (including two adults and two children) was $25,926 in 2019 (the most recent year for which this data is available). Low income is defined based on the Department of Health and Human Services (DHHS) poverty guidelines. According to the DHHS 2021 Poverty Guidelines, the poverty threshold for a family of four in the State of California is $26,500. There is a nominal difference of $574 between the Census Bureau and DHHS poverty thresholds.

Table 2.1.5-3, above, shows the median household incomes and the percentage of families living below the poverty level (low income) for the City of Calimesa, the County of Riverside, and the study area census tracts. As shown, the lowest median household income is in Census Tract 438.14 at $46,615, and the highest median household income is in the County of Riverside at $63,948—a range of approximately $17,000. The low-income figures between the City of Calimesa and census tracts are consistent, ranging from a low of 5.9 percent in the City of Calimesa to a high of 7.3 percent in Census Tract 438.11. The County of Riverside's low-income population percentage is 11.3 percent, which is nearly double that of the City of Calimesa. However, the variance of the number of families living below the poverty level within the study area is not considered to be substantial.

Environmental Consequences

Temporary Impacts
No-Build Alternative
Temporary adverse effects to environmental justice populations would not occur with implementation of the No-Build Alternative, since no construction activity would occur.

Build Alternatives 3 and 4
Traffic and Transportation
Construction activities associated with the Build Alternatives would result in temporary traffic effects related to the circulation of vehicles, bicyclists, and pedestrians in the project area that could affect environmental justice

populations. Construction under Build Alternatives 3 and 4 are anticipated to take approximately 24 months. Full freeway closures on I-10 would be required for placement of the new pre-cast Cherry Boulevard structure. Ramps would require closures at intersections with local roads, in which through access on Cherry Valley Boulevard would continue. Short-term or weekend closures are expected for certain phases; however, no long-term street closures are anticipated or would be allowed. Proposed ramp closures would be identified during the plans, specifications, and estimates (PS&E) phase. Traffic-handling plans and stage-construction plans will be developed to minimize queueing on the I-10 mainline. These efforts will include off-peak hour construction hours (primarily in the late night, early morning, and weekends) and clearly marked detours near the closures.

Implementation of the Build Alternatives would include preparation and implementation of a Transportation Management Plan (TMP) during the PS&E phase. The Caltrans Transportation Management Plan Guidelines (TMP Guidelines) identifies the processes, roles, and responsibilities for preparing and implementing TMPs, as well as useful strategies for reducing congestion and managing work zone traffic impacts. The primary objective of the TMP is to maintain safe movement for vehicles, pedestrians, and bicyclists through the construction zone, as well as minimize traffic delays during the construction period. The TMP prepared for the project will implement alternate route strategies to minimize adverse effects to roadways and reduce potential congestion.

The TMP will include, but not be limited to, the following six major elements:

- Public information/public awareness campaign
- Traveler information strategies
- Incident management
- Construction strategies
- Demand management
- Alternate route strategies

With implementation of the TMP for the Build Alternatives, adverse temporary effects related to traffic, pedestrian, and bicyclists would not occur. The community, in general, would be similarly affected, and effects of the Build Alternatives on environmental justice populations would not be more severe than the effects on nonenvironmental justice populations.

Air Quality

Temporary impacts, such as lane closures and nighttime constructions, are anticipated to occur after during construction. An increase in particulate emissions (fugitive dust) would temporarily occur through construction activities, such as clearing, cut-and-fill activities, grading, and paving.

Construction activities and equipment would additionally increase certain emissions, including carbon monoxide (CO), nitrogen oxides (NO), sulfur dioxide (SO2) and reactive organic gases (ROGs). The increase of these emissions would be nominal and would affect the general population as a whole, and would not disproportionally affect the environmental population. As discussed in Section 2.2.6, Air Quality, temporary impacts related to air quality would not be adverse, and would be minimized with the implementation of state and regional standardized measures. These measures would help reduce emissions for all populations during the construction phase of the Build Alternatives. Therefore, the Build Alternatives would not result in any temporary adverse effects regarding air quality that are disproportionate to the low income or minority populations in the project area. The community, in general, would be similarly affected, and effects of the Build Alternatives on environmental justice populations would not be more severe than the effects on nonenvironmental justice populations.

Noise

Construction activities are anticipated to increase noise levels in the immediate area of the project site. Equipment involved in construction activities are expected to generate noise levels that exceed the existing noise environment. As discussed in Section 2.2.7, temporary impacts to noise levels would not result in adverse effects, and would be minimized with compliance to applicable Caltrans Standard Specifications regarding construction. Therefore, the Build Alternatives would not result in any temporary adverse effects that are disproportionate to the low income or minority populations in the project area. The community, in general, would be similarly affected, and effects of the Build Alternatives on environmental justice populations would not be more severe than the effects on nonenvironmental justice populations.

Community Character and Cohesion

Community character and cohesion impacts generally are considered to be permanent because the project improvements would remain after construction is complete. Therefore, temporary impacts to community character and cohesion during construction are not anticipated.

Permanent Impacts

No-Build Alternative

Traffic and Transportation

Under the No-Build Alternative, the existing roadway and interchange configuration would remain the same, and there would be no reconstruction of the existing I-10/Cherry Valley Boulevard overcrossing. As discussed in Section 2.1.9 of this IS/EA, traffic operations within the project site would deteriorate in performance. By the Design Year (2045), eastbound segments such as the Singleton Road On-Ramp, Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp, and the Cherry Valley Boulevard Off-Ramp would deteriorate an unacceptable level of service (LOS) F during the AM peak hours. During the PM peak hours, all eastbound segments would operate at an unacceptable LOS, with the exception of the Oak Valley Parkway Off-Ramp and the North of Singleton Road segments. All westbound segments would operate at an unacceptable LOS during the AM peak hour, with the exception of the Cherry Valley Boulevard Off-Ramp to On-Ramp. This applies to all westbound segments during the PM peak hour, with the exception of Oak Valley Parkway Off-Ramp. Intersections, including the I-10 Eastbound Off/On-Ramps/Singleton Road, I-10 Westbound Off/On-Ramps/Singleton Road, Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive, Cherry Valley Boulevard/Roberts Road, I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard, I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard, I-10 Westbound and the Off/On-Ramps/Oak Valley Parkway intersections, would deteriorate an LOS D or worse during either the AM or PM peak hours. This deterioration in LOS on local roadways would adversely impact all segments of the population, including minority and low-income population groups. This deterioration in LOS on roadways, ramp facilities, and intersections would adversely affect all segments of the population, including the minority and low-income population groups.

Air Quality

Improvements to the existing I-10/Cherry Valley interchange would not occur under the No-Build Alternative. Accordingly, adverse effects related to air quality would not occur to the general population, including the minority and low-income population groups.

Noise

Under the No Build Alternative, the surrounding area of the project site would continue to experience development and an increase in traffic. As discussed in Section 2.1.7 of this IS/EA, mobile homes and single-family residential uses would experience increase in noise levels that would exceed the federal Noise Abatement Criteria of 67 dbA. This increase in noise levels would impact all single-family households surrounding the project site including the minority and low-income population groups.

Community Character and Cohesion

Improvements to the existing I-10/Cherry Valley interchange would not occur under the No-Build Alternative. Accordingly, adverse effects to the community character and cohesion would not occur, and there would be no disproportionate impact to minority and low-income population groups.

Build Alternatives 3 and 4

Traffic and Transportation

As discussed in Section 2.1.9 of this IS/EA, implementation of the Build Alternatives would result in improved traffic operations and would either maintain or improve multiple analyzed roadway/freeway segments and intersections within the project area. In addition to improved vehicular circulation, the Build Alternatives would include improved pedestrian and bicycle facilities where limited facilities currently exist.

The beneficial traffic conditions under the Build Alternatives would occur with respect to the general population as a whole. Therefore, the Build Alternatives would not result in disproportionate or adverse effects to environmental justice populations in the project area.

Air Quality

As discussed in Section 2.2.6 of this IS/EA, the Build Alternatives would not cause permanent significant air quality impacts during its operation in the project area. Therefore, there will be no disproportionate effects to minority and low-income population groups.

Noise

As discussed in Section 2.2.7 of this IS/EA, the Build Alternatives would result in increased noise levels that would exceed the NAC for sensitive receptors (i.e., residential land uses). Installation of feasible and reasonable soundwalls would be proposed under both Build Alternatives as a form of noise abatement. Installation of soundwalls would occur with respect to the general population as a whole. Therefore, the Build Alternatives would not result in disproportionate or adverse effects to environmental justice populations in the project area.

Community Character and Cohesion

As discussed above, there are no community facilities or facilities for emergency service in the study area. The percentage of minority populations in the study are low compared to Riverside County, and the number of families that are living below the poverty line in the study area are not considered to be substantial. As such, potentially adverse community character and cohesion impacts specific to the low-income or minority populations are not anticipated to occur under the Build Alternatives because the Build Alternatives will not physically divide, or create barriers within, any such communities in the area. The Build Alternatives would have a beneficial impact of improving access and circulation within the study area for the general public.

Avoidance, Minimization, and/or Mitigation Measures

Based on the above discussion and analysis, the Build Alternatives will not cause disproportionately high and adverse effects on any minority or low-income populations in accordance with the provisions of EO 12898. No further environmental justice analysis is required. No measures are proposed.

2.1.8 Utilities and Emergency Services

Affected Environment

Utilities

The following utilities exist within the project area and its vicinity:

Southern California Edison (SCE)

Southern California Edison (SCE) provides electrical power to the project area, the City of Calimesa, and Riverside County. The following SCE utilities are present within the project site:

- One overhead utility line that is part of a set of overhead transmission lines located along Calimesa Boulevard;
- One overhead utility line that runs across Cherry Valley Boulevard, south of the eastbound I-10 ramp intersection; and
- One underground utility line runs across and along Cherry Valley Boulevard.

Southern California Gas Company (SoCal Gas)

Medium and high-pressure pipelines from SoCal Gas are located on-site at the following locations:

- One six-inch medium pressure pipeline running along Cherry Valley Boulevard, west of I-10.
- One ten-inch high pressure underground pipeline beginning at Calimesa Boulevard that traverses I-10. The pipeline travels along Roberts Road and into Desert Lawn Drive.
- One four-inch high pressure pipeline that travels along Roberts Road.
- One six-inch medium pressure pipeline along Calimesa Boulevard.
- One six-inch medium pressure pipeline at the intersection of Calimesa Boulevard and Cherry Valley Boulevard.

Telecommunications

Charter Communications, Verizon Wireless, and AT&T provide cable, television, and phone services to the project site. Cable lines and utilities occur on-site at the following locations:

Charter Communications

- One overhead cable line running along Calimesa Boulevard.
- One underground cable line running along Calimesa Boulevard.
- One underground cable line running along Cherry Valley Boulevard.

Verizon

- One underground cable line, beginning at Calimesa Boulevard, that traverses I-10.

AT&T

- One overhead cable line along Roberts Road.

Sprint

- One Sprint Cell Tower west of I-10, within project boundaries.

Water

Water services to the project study area are provided by the Beaumont-Cherry Valley Water District. Underground water lines that are to be constructed with the project include the following:

- Three 24-inch water lines (two potable and one non-potable) along westbound Cherry Valley Boulevard.

Sewer

Sewage services to the project site are provided by the Yucaipa Valley Water District. Sewage lines occur on-site at the following locations:

- One six-inch existing sewer line located at/along westbound I-10.

Emergency Services

The following emergency service providers are located in the project area and its vicinity:

Police

Police protection services to the project site and surrounding areas are provided by the Riverside County Sheriff's Department (RCSD). The City of Calimesa contracts with RCSD for provision of police protection assistance. RCSD services for the project area are based out of its patrol station located at 50290 Main Street in Cabazon.

The California Highway Patrol (CHP) also provides police services in the region, such as traffic regulation enforcement and emergency accident management and service but is primarily limited to the existing state route and interstate highway systems that extend throughout the region.

Fire

Fire protection services within the City of Calimesa are provided by the Calimesa Fire Department. The Calimesa Fire Department has one fire station that is located at 906 Park Avenue in Calimesa. The Riverside County Fire Department provides fire protection services to unincorporated areas of the County, and also provides additional emergency fire protection and suppression services to the City of Calimesa and the project area under mutual and automatic aid agreements. These services include provide fire dispatch services and auto aid services for structure and vegetation fires. Riverside County Fire Department services for the project area are based out of its fire station located at 10055 Avenida Miravilla in the Cherry Valley community.

Hospitals
The nearest hospital to the project site is San Gorgonio Memorial Hospital at 600 North Highland Springs Ave in the City of Banning. The hospital is approximately 5.4 miles from the project site and provides emergency and intensive care services.

Environmental Consequences
Temporary Impacts
Utilities
No-Build Alternative
Under the No-Build Alternative, no construction would occur; therefore, adverse temporary effects related to utilities would not occur.

Build Alternatives 3 and 4
The project's final design process (the Plans, Specifications, and Estimates [PS&E] phase) would address all potential utility relocation that may be required during the construction phase of the project. An updated utility search would be conducted during final design to determine any utility conflicts requiring attention. Coordination with the identified utility companies would be carried out during the PS&E and construction phases. No service disruptions are anticipated to occur to any of the utilities during construction. Accordingly, adverse effects related to utilities during construction of the project are not anticipated.

Emergency Services
No-Build Alternative
Under the No-Build Alternative, no construction would occur; therefore, temporary construction adverse effects to emergency services would not occur.

Build Alternatives 3 and 4
Freeway, street, and lane closures are anticipated to occur intermittently during the construction phase of the project. Access to developed areas in proximity to the project may potentially be constrained intermittently during construction. As a method of minimizing potential delay in emergency response time, travel through the project area would be maintained for emergency service vehicles during project construction through implementation of a TMP. The Caltrans TMP Guidelines require consideration and notification of emergency service providers to provide for adequate emergency access during the temporary construction process. With preparation of the TMP during the PS&E phase, adverse effects would not occur in this regard.

Permanent Impacts

Utilities

No-Build Alternative

Under the No-Build Alternative, the I-10/Cherry Boulevard interchange and the surrounding transportation network would be maintained; therefore, no permanent changes or adverse effects to existing utilities in the project area would occur.

Build Alternatives 3 and 4

Permanent adverse effects to utilities under the Build Alternatives would include multiple relocations, as described in Table 2.1.8-1 below.

Table 2.1.8-1: Utility Relocations

Utility Company/Owner	Utility Type	Relocation Information
Southern California Gas (SCG)	Gas – One six-inch medium pressure line along existing Calimesa Boulevard.	Utility will be realigned with the realignment of Calimesa Boulevard by approximately 1,500 linear feet relocation.
Yucaipa Valley Water District	Sewer – One six-inch line within State ROW outside of westbound I-10 shoulder.	Utility will be realigned within same vicinity of State ROW, approximately 3,000 linear feet to avoid bridge abutments and westbound I-10 ramp realignments.
Beaumont-Cherry Valley Water District (BCVWD)	Water – Three 24-inch Lines (Two Potable and One Non-Potable) to be Constructed with Project.	Utility will be constructed with the project, along Cherry Valley Boulevard.
Southern California Edison (SCE)	Electric – Three lines; two overhead (one line running across and along existing Calimesa Boulevard and a second line running across Cherry Valley Boulevard south of the eastbound I-10 ramp intersection) and one underground transmission line running across and along Cherry Valley Boulevard.	The overhead utility line that runs along and across Calimesa Boulevard will be realigned with the realignment of Calimesa Boulevard by approximately 1,500 linear feet relocation. The overhead utility line that runs across Cherry Valley Boulevard will be relocated across Cherry Valley Boulevard by approximately 400 linear feet relocation. The underground utility line that runs along and across Cherry Valley Boulevard will be realigned along Cherry Valley Boulevard by approximately 700 linear feet relocation.
Charter Communications	Communication – Overhead cable line running along existing Calimesa Boulevard.	Utility will be realigned with the realignment of Calimesa Boulevard by approximately 1,500 linear feet relocation.
Frontier (Verizon)	Communication – Underground line running along existing Calimesa Boulevard.	Utility will be realigned with the realignment of Calimesa Boulevard by approximately 1,500 linear feet relocation.

Prior to the completion of final design, coordination with any of the above affected utility providers in the vicinity of the I-10/Cherry Valley Boulevard interchange project would be completed, to verify that the project would not disrupt services. For any utilities affected, all required coordination would be completed to establish exact procedures and specifications for addressing facilities impacted by the project, and as necessary, additional analysis would be completed, and any measures identified in conjunction with the completion of additional analysis would be implemented. Any required relocations of utilities would be completed prior to any project-related construction. Accordingly, no permanent adverse effects to utilities are anticipated.

Emergency Services

No-Build Alternative

Under the No-Build Alternative, the I-10/Cherry Boulevard interchange and the surrounding transportation network would be maintained; therefore, no permanent changes or adverse effects to emergency services in the project area would occur.

Build Alternatives 3 and 4

Through the project's improvement of the I-10/Cherry Boulevard interchange, Build Alternatives 3 and 4 would improve mobility, circulation and traffic operations at the interchange and the surrounding roadways. In turn, emergency services would be able to travel through the interchange more efficiently, resulting in improved travel and response times in emergency situations. There would be no adverse effects related to emergency services under the Build Alternatives.

Avoidance, Minimization, and/or Mitigation Measures

No measures are proposed.

2.1.9 Traffic and Transportation/Pedestrian and Bicycle Facilities

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 27) implementing Section 504 of the Rehabilitation Act (29 United States Code [USC] 794). The 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.

Affected Environment

This section is based on the I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document Traffic Operations Analysis Report (TOAR) (dated November 2020).

Roadway Facilities

Key travel routes within the study area include I-10, Cherry Valley Boulevard, Calimesa Boulevard and Roberts Road. I-10 is an interstate highway that extends east-west along the City of Calimesa and Riverside County. Within the limits of the project site, it operates as an arterial divided by a Jersey concrete barrier, with three lanes in each direction. The posted speed limit on I-10 is 65 miles per hour throughout the length of the project site. Riverside County classifies I-10 as a major freeway. I-10 originates in Santa Monica, California, and extends eastward to its terminus in Jacksonville, Florida.

Cherry Valley Boulevard begins at the Noble Street intersection, and travels through the City of Calimesa and unincorporated areas of Riverside County in a westerly direction. Cherry Valley Boulevard currently terminates at its intersection with Beaumont Street within the Cherry Valley unincorporated community. The posted speed limit on Cherry Valley Boulevard is 35 miles per hour west of the interchange and the posted speed limit of 55 miles per hour east of the interchange.

Calimesa Boulevard is a two-lane (one lane in each direction) major arterial roadway that parallels I-10 and traverses unincorporated territory into the City of Calimesa, beginning at its intersection with Cherry Valley Boulevard within the project site, and ending at a “T” intersection with Live Oak Canyon Road/Oak Canyon Road in the City.

Old Roberts Road is a two-lane (one lane in each direction) arterial roadway that parallels I-10. Old Roberts Road begins at its intersection with Cherry Valley Boulevard within the project site, and transitions into Woodhouse Road west of Singleton Road. The posted speed limit on Robert Road is 35 miles per hour.

Desert Lawn Drive/ Palmer Avenue is a two lane (one lane in each direction) secondary arterial roadway. As Palmer Avenue, the roadway travels through planned development within Summerwind Ranch in a southwest direction. At its intersection with Cherry Valley Boulevard, the roadway bisects into Desert Lawn Drive and continues to travel in a southwest direction, where it parallels I-10. The posted speed limit on Palmer Avenue and Desert Lawn Drive is 35 miles per hour.

Pedestrian and Bicycle Facilities

Pedestrian facilities are sparse and in various locations of the project site. Sidewalks are located at the I-10/Cherry Boulevard overcrossing, and along Roberts Road. There are currently no designated bicycle lanes or facilities within the study area. Project implementation would improve pedestrian and bicycle movement within the area by replacing existing facilities and including additional pedestrian and bicycle facilities to promote connectivity. According to the Calimesa General Plan, bicycle lanes are planned along Cherry Valley Boulevard, south of Roberts Road, along Roberts Road, west of Cherry Valley Boulevard, and along Palmer Avenue/Desert Lawn Drive, east and west of the Cherry Valley Boulevard and Palmer Avenue/Desert Lawn Drive intersection within the project area. The Riverside County General Plan does not identify proposed bicycle or pedestrian facilities within the project area.

Study Area

The study area covers segments of the I-10 from south of the Singleton Road interchange to north of the Oak Valley Parkway interchange, and the area is bounded by Calimesa Boulevard to the north and Wildwood Creek and Palmer Avenue/Desert Lawn Drive to the south. The study locations consist of the I-10 mainline segments and ramp junctions in the study area, as well as the intersections of the I-10 ramps and arterials within the study area. Figure 2.1.9-1, Traffic Study Area, depicts the traffic study area associated with the project. The following freeway segments and roadway intersections were analyzed:

Study Intersections

- Singleton Road/I-10 Eastbound Ramps
- Singleton Road/I-10 Westbound Ramps
- Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive
- Cherry Valley Boulevard/Roberts Road
- Cherry Valley Boulevard/I-10 Eastbound Ramps
- Cherry Valley Boulevard/I-10 Westbound Ramps
- Cherry Valley Boulevard/Calimesa Boulevard
- Oak Valley Parkway/I-10 Eastbound Ramps
- Oak Valley Parkway/I-10 Westbound Ramps

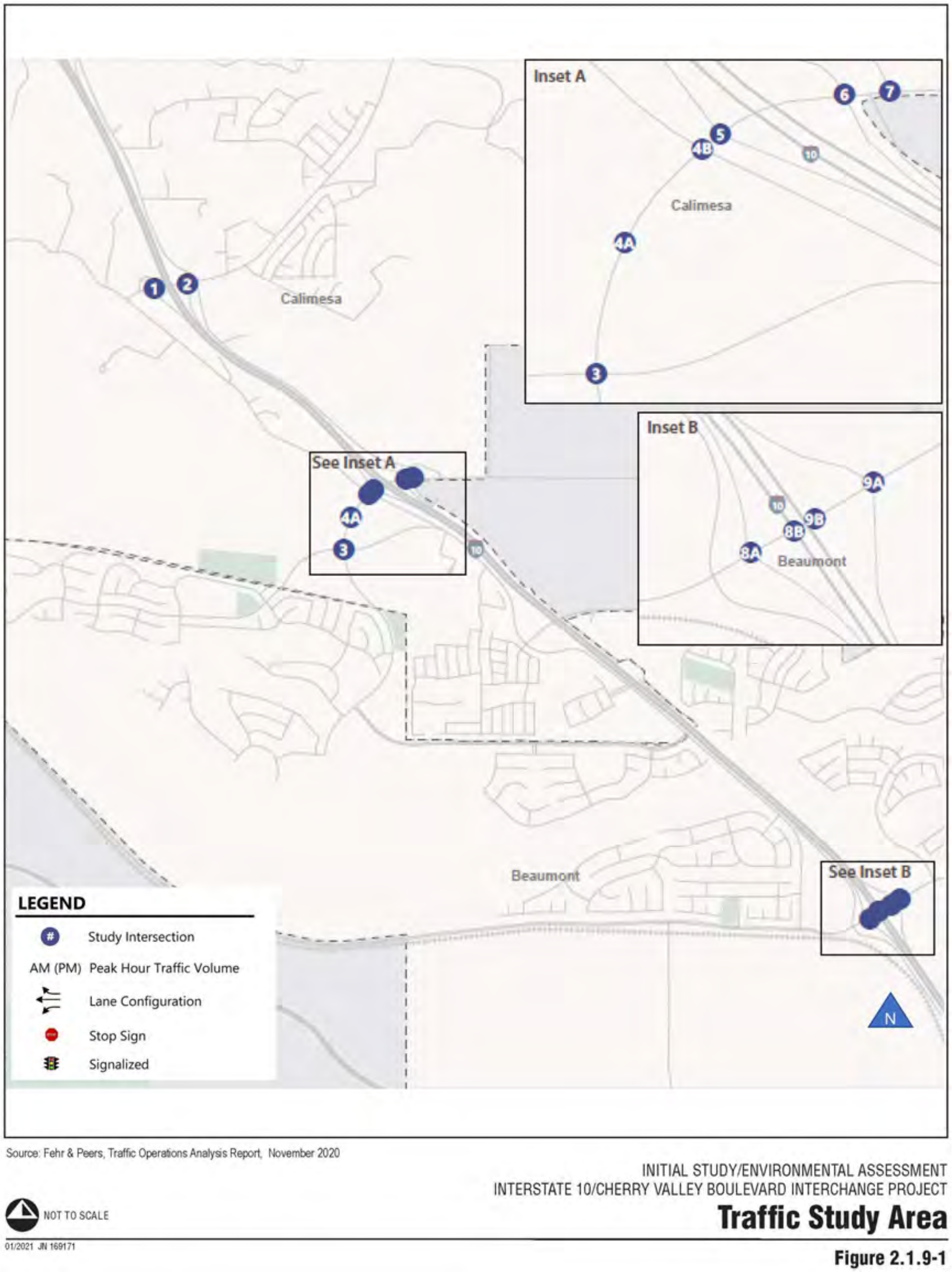
Peak period turning movement counts by vehicle classification were collected for the AM (7:00 AM to 9:00 AM) and the PM (4:00 PM to 6:00 PM) for all study intersections noted above.

Study Freeway Segments

Eastbound Direction

- I-10 Merge from Singleton Road
- I-10 Mainline between Singleton Road and Cherry Valley Boulevard

Figure 2.1.9-1: Traffic Study Area



- I-10 Diverge to Cherry Valley Boulevard
- I-10 Merge from Cherry Valley Boulevard
- I-10 Mainline between Cherry Valley Boulevard and Oak Valley Parkway
- I-10 Diverge to Oak Valley Parkway

Westbound Direction

- I-10 Merge from Oak Valley Parkway
- I-10 Mainline between Oak Valley Parkway and Cherry Valley Boulevard
- I-10 Diverge to Cherry Valley Boulevard
- I-10 Merge from Cherry Valley BoulevardI-10 Mainline between Cherry Valley Boulevard and Singleton Road

Study Scenarios

Project alternatives were analyzed under both Opening Year 2025 and Design Year 2045 conditions. The study scenarios for traffic operations analysis include the following:

- Existing (2019) Conditions
- Opening Year (2025) No-Build Alternative
- Opening Year (2025) Build Alternatives 3 and 4
- Design Year (2045) No-Build Alternative
- Design Year (2045) Build Alternatives 3 and 4

Traffic Analysis Methodology

Traffic Forecasting Methodology

Travel demand was primarily modeled using the Riverside County Traffic Analysis Model (RIVTAM). The original RIVTAM model land use information was based on the 2008 SCAG model, the Western Riverside Council of Governments (WRCOG) has updated the land use in the model, which includes the study area, and is consistent with the 2016 Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The land use updated for WRCOG is now considered the best available information for the area that is consistent with the SCAG model. As such, the land use information assumed in RIVTAM was replaced with the WRCOG land use information for modeling efforts for this project. The updated land use assumes a 2012 Base Year and a 2040 Future Year.

Furthermore, SCAG’s 2016 financially constrained RTP adopted in April 2016, Amendment 1 adopted in April 2017 and Amendment 2 adopted in July 2017, were used to develop the roadway network for the project. The project completion year identified in the RTP/Amendment 1/Amendment 2 was used to determine if the project should be included as future roadway improvements when developing the Opening Year (2025) and Design Year (2045) traffic forecasts.

RTP projects that were included in the Future Year roadway networks are:

- RTP ID 3A04WT144: Widen Cherry Valley Boulevard from two to four lanes from Desert Lawn Drive to Noble Street. Noble Street is located approximately four miles east of the project footprint. The Cherry Valley Boulevard overcrossing bridge was assumed to remain as a two-lane cross section in the 2045 No Build Scenario.
- RTP ID RIV060117: Widen Singleton Road from two to four lanes from Woodhouse Road to Calimesa Boulevard. Widen eastbound I-10 on-ramp from one to two lanes. Widen westbound I-10 off-ramp from one to three lanes. Construct eastbound I-10 off-ramp with three lanes. Construct westbound on-ramp with two lanes.
- RTP ID RIV060115: Widen Oak Valley Parkway from two to six lanes from 500 feet west of Desert Lawn Drive to Golf Club Drive. Widen eastbound on-ramp from one to two lanes. Widen westbound on-ramp from one to three lanes. Widen westbound and eastbound off-ramps from one to four lanes. Construct I-10 eastbound and I-10 westbound loop on-ramps.
- RTP ID 3TK04MA12: I-10 add/construct new I-10 eastbound truck climbing lane from San Bernardino County Line to I-10/SR-60 Junction.

Traffic forecasts for study locations were developed using the difference method, which is consistent with methodologies delineated in the National Cooperative Highway Research Program Report (NCHRP) 765 published by the Transportation Research Board (TRB): Analytical Travel Forecasting Approaches for Project Level Planning and Design.

As the Base Year model reflects 2012, and the Future Year reflects projected uses in 2040, the model accounts for 28 years of growth. Existing volumes reflect 2019 conditions; therefore the 28 years of growth assumed in the model was applied to existing traffic volumes to develop the Design Year (2045) forecasts. In order to accurately account for all proposed improvements in the study area the following models were used to develop future forecasts:

- Base Year – Base Year (2012) network and assumes no roadway improvements.
- Opening Year No Project – Opening Year (2025) network with the addition of projects RIV060117, RIV060115, and 3TK04MA12 and interpolated land use between Base Year (2012) and Future Year (2040) to represent 2025 conditions.
- Opening Year Plus Project - Opening Year (2025) network with the addition of projects RIV060117, RIV060115, 3TK04MA12, and the proposed project,

and interpolated land use between Base Year (2012) and Future Year (2040) to represent 2025 conditions.

- Future Year No Project - 2040 network with the addition of projects 3A04WT144, RIV060117, RIV060115, 3TK04MA12, and Future Year (2040) land use.
- Future Year Plus Project - 2040 network with the addition of projects 3A04WT144, RIV060117, RIV060115, 3TK04MA12, the proposed project, and Future Year (2040) land use.

Opening Year (2025) forecasts were developed using liner interpolation between Existing (2019) traffic volumes and the Design Year (2045) forecasts. Conservation of flow was applied to all forecasted volumes to ensure volumes are balanced along the study corridors. As the project improvements will be operational improvements and no major capacity enhancing improvements are assumed in the study area, only one set of traffic volumes was developed for future year scenarios.

Average daily traffic (ADT) on the freeway mainline were obtained using the most recent available PeMS data: a number of estimated volumes between 2012 and 2017. As the TOAR's assessment for the project is based on 2019 traffic data, the 2017 PeMS data was grown to represent 2019 traffic conditions under the PTVR. The appropriate growth rate was determined by projecting growth for the I-10 mainline from the travel demand model between the Base Year and Future Year was compared to measured growth from 2016 to 2017 based on PeMS data. The growth rate for the I-10 eastbound and westbound mainlines are two percent per year.

Traffic Operations Analysis Methodology

Freeway Analysis: For freeway mainline and ramp junctions, operation analyses were conducted using a VISSIM 10 microscopic multi-modal traffic flow simulation software package developed by PTV Group. All components of freeway operations (i.e., mainline, on-ramp merge, off-ramp diverge, and weaving sections) operate as a single integrated system with congestion and queues affecting both upstream and downstream traffic operations. VISSIM was used to capture the effects between all the freeway components and the system-wide measures of effectiveness (MOE). The freeway segments were analyzed using the Highway Capacity Manual, 6th Edition (HCM) and the methodologies contained in VISSIM are consistent with the procedures and methodologies of HCM. Finally, use of VISSIM ensures consistency with the analysis completed for the I-10 Eastbound Truck Climbing Lane project.

Separate VISSIM models were developed to represent the AM and PM peak periods under existing conditions. The key traffic data used for model development include geometric, traffic flow, origin-destination, and field observation data. The VISSIM models were calibrated and validated to existing conditions using the criteria suggested in Guidelines for Applying Traffic Microsimulation Modeling Software and additional criteria developed by Fehr & Peers. The calibrated and validated models were used to generate performance measures including freeway mainlines/ramps and intersections LOS consistent with HCM 6th Edition and other system-wide MOEs including travel times, average speeds, vehicles served, and vehicle-hours-delay.

On September 27, 2013, Governor Jerry Brown signed Senate Bill (SB) 743 into law, which initiated a process to change transportation impact analyses completed in support of California Environmental Quality Act (CEQA) documentation. SB 743 eliminates level of service (LOS) as a basis for determining significant transportation impacts under the CEQA and provides a new performance metric, vehicle miles travelled (VMT). SB 743 went into effect on July 1, 2020.

Pursuant to SB 743, Caltrans has developed guidelines and significance thresholds for VMT assessment for transportation projects. However, Caltrans has determined that certain projects initiated prior to December 28, 2018 that have begun the environmental documentation milestone prior to September 15, 2020 can be screened from preparing a VMT assessment. The proposed project meets these requirements, and Caltrans has determined the project would not likely lead to a substantial increase in VMT. Thus, an analysis of VMT is not required, and the use of LOS is used as the metric for this project.

For the project, LOS was calculated for each study facility to evaluate traffic operations. LOS is a quantitative measure of traffic operating conditions whereby a letter grade, from A (the best) to F (the worst), is assigned. These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving. The freeway LOS was calculated for each study facility based on density in number of vehicles per hour per lane. Table 2.1.9-1, Freeway Mainline and Ramp Junction/Weave Section LOS Threshold, describes the LOS thresholds for freeway sections identified in the HCM.

Table 2.1.9-1: Freeway Mainline and Ramp Junction/Weave Section LOS Threshold

LOS	Description	Density (vplpm)[1] Mainline (Basic)	Density (vplpm)[1] Mainline (Weave)	Density (vplpm)[1] Ramp/Merge/ Diverge
A	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	$\leq$ 11	$\leq$ 10	$\leq$ 10
B	Free-flow speeds are maintained. The ability to maneuver with the traffic stream is only slightly restricted.	> 11 to 18	> 10 to 20	> 10 to 20
C	Flow with speeds at or near free-flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.	> 18 to 26	>20 to 28	>20 to 28
D	Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.	>26 to 35	>28 to 35	>28 to 35
E	Operation at capacity. There are virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing.	> 35 to 45	>35 to 43	>35[2]
F	Represents a breakdown in flow.	Density >45 or volume over capacity greater than or equal to one (V/C≥1)	Density >43 or volume over capacity greater than or equal to one (V/C≥1)	Density >45 or volume over capacity greater than or equal to one (V/C≥1)

Notes: 1. Density is reported in vehicles per lane per mile (vplpm).
2. The maximum density for ramp junctions under LOS E is not defined in the HCM. The maximum density for basic segments of 45 vplpm was assumed to apply to ramp junctions.
Source: Fehr and Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

The peak-hour density calculations are consistent with the definitions from the HCM, which defines four freeway section types: merge, diverge, weave, and basic. Merge and diverge sections, which refer to the freeway ramp junctions, are defined as the section of the freeway 1,500 feet downstream of an on-ramp and upstream of an off-ramp, respectively. The density is measured over the two adjacent freeway through lanes plus any auxiliary lanes. A weaving section occurs between a successive on-ramp and off-ramp pair connected by an auxiliary lane, and the maximum weaving distance between the ramps is no longer a fixed distance but determined by the weaving/total volumes and number of weaving lanes in the HCM. Basic freeway sections include all other freeway sections that are not included in a merge, diverge, or weaving section. The densities at weaving and basic sections are measured across all mixed-flow freeway lanes (including both through lanes and auxiliary lanes).

Intersection Analysis: The HCM 6th Edition methodology for signalized intersections estimates the average control delay for vehicles at the intersection. For unsignalized intersections, the methodology estimates the worst-case movement control delay for two-way stop-controlled intersections and the average control delay for all way stop-controlled intersections. The LOS was calculated for each study facility based on average intersection delay to evaluate traffic operations. Descriptions of the LOS letter grades for both signalized and unsignalized intersections are provided in Table 2.1.9-2, Level of Service Definitions for Unsignalized Intersections and Table 2.1.9-3, Level of Service Definitions for Signalized Intersections.

Table 2.1.9-2: Level of Service Definitions for Unsignalized Intersections

Level of Service	Description	Average Control Delay (seconds/Vehicle)
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	<10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	>10.0 to 15.0
C	Operations with average delays resulting from fair progression and or/longer cycle lengths. Individual cycle failures begin to appear.	>15.0 to 25.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	>25.0 to 35.0
E	Operations with high delay values indicating poor progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	>35.0 to 50.0
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	>50.0

Source: Fehr and Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-3: Level of Service Definitions for Signalized Intersections

Level of Service	Description	Average Stopped Delay per Vehicle (seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	<10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	>10.0 to 20.0
C	Operations with average delays resulting from fair progression and or/longer cycle lengths. Individual cycle failures begin to appear.	>20.0 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	>35.0 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	>55.0 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	>80.0

Source: Fehr and Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020) Analysis Evaluation Criteria.

The analysis evaluation criteria described below were used to determine acceptable traffic operating conditions and are based on the LOS policies identified by Caltrans and the City of Calimesa.

City of Calimesa

The City of Calimesa has adopted LOS “C” as the minimum standard of operation for the intersections and road segments per the Calimesa General Plan. A significant traffic impact occurs if the addition of project generated trips causes an intersection to change from an acceptable LOS C or better to a deficient LOS D, E or F; or if project traffic increases the delay at any intersection already operating at an deficient LOS D, E or F. All intersections and roadways that are forecast to operate with LOS D, E or F are expected to be mitigated to the appropriate minimum standard or to conditions consistent with the no project condition.

Caltrans

The Caltrans’ Guide for the Preparation of Traffic Impact Studies states, “Caltrans endeavors to maintain a target LOS at the transition between LOS “C” and LOS “D” on State highway facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS.” The following significance criteria are utilized for this analysis for Caltrans facilities:

Freeways

Causes a freeway segment operating at an acceptable LOS D or better to degrade to LOS E or LOS F and causes one of the following conditions:

- Travel time on the freeway segment to increase in the study area
- Decreases the average travel speed along the corridor
- Decreases the volume of vehicles served along the corridor

Causes an increase in density on a freeway segment operating at an unacceptable LOS E or LOS F and causes one of the following conditions:

- Travel time on the freeway segment to increase in the study area
- A decrease in the average travel speed along the corridor
- A decrease in the volume of vehicles served along the corridor

Intersections

Causes a signalized intersection operating at LOS D or better to degrade to LOS E or LOS F. For signalized intersections operating at LOS E or LOS F, the project increases delay at those locations.

Causes an unsignalized intersection operating at LOS D or better to degrade to LOS E or LOS F and satisfy the peak hour volume warrant for traffic signal installation. For unsignalized intersections operating at LOS E or LOS F, increases delay at those locations and causes the intersection to satisfy the peak hour volume warrant for traffic signal installation.

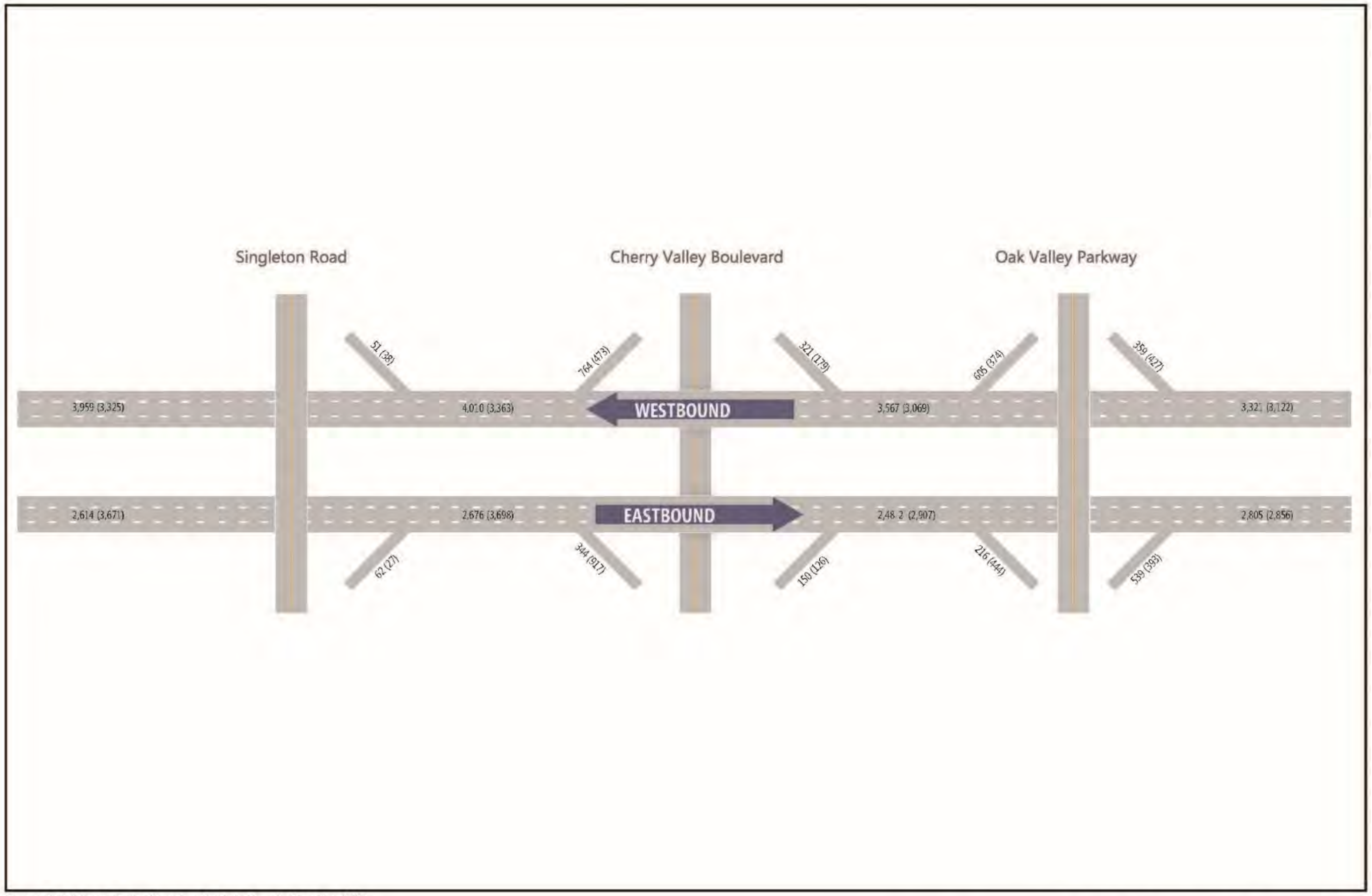
Existing Traffic Operations

Peak period AM (7-9 AM) and PM (4-6 PM) traffic volumes at study intersections were collected in February 2019. Twenty-four-hour tube counts with classification data were also collected on Cherry Valley Boulevard at three locations along the I-10 Cherry Valley overcrossing. Refer to Figure 2.1.9-2, Existing (2019) Peak Hour Freeway Volumes, for peak hour freeway volumes in the study area. Existing peak hour traffic volumes and lane configurations at study intersections are shown on Figure 2.1.9-3, Existing (2019) Peak Hour Intersection Volumes.

Freeway/Roadway Operations Analysis

Tables 2.1.9-4 through 2.1.9-7, show the AM and PM peak hour density and LOS for the study freeway mainline segments and ramp junctions on I-10 eastbound and westbound under the Existing 2019 traffic year conditions. During the AM peak hour, all the study segments on eastbound I-10 operated at LOS C or better. All westbound segments south of Cherry Valley Boulevard operate at LOS C or better, and all westbound segments north of Cherry Valley Boulevard operate at LOS F. During the PM peak hour, all study segments on eastbound and westbound I-10 operate at LOS C or better.

Figure 2.1.9-2: Existing (2019) Peak Hour Freeway Volumes



Source: Fehr & Peers, Traffic Operations Analysis Report, November 2020

NOT TO SCALE

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
INTERSTATE 10/CHERRY VALLEY BOULEVARD INTERCHANGE PROJECT

Existing (2019) Peak Hour Freeway Volumes

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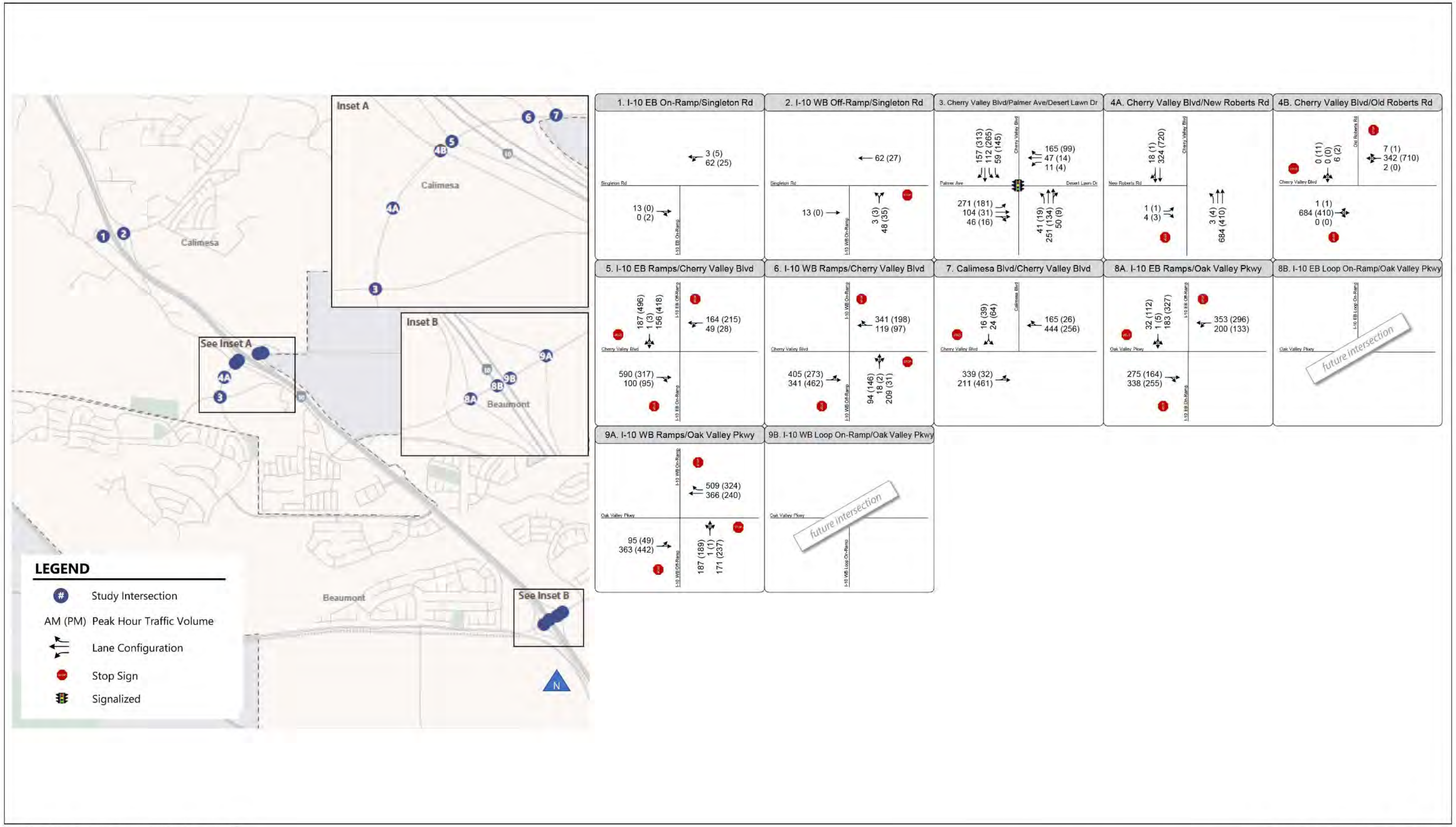
Figure 2.1.9-2

Figure 2.1.9-3: Existing (2019) Peak Hour Freeway Volumes



Source: Fehr & Peers, Traffic Operations Analysis Report, November 2020

NOT TO SCALE

01/2021 JN 169171

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
INTERSTATE 10/CHERRY VALLEY BOULEVARD INTERCHANGE PROJECT

Existing (2019) Peak Hour Intersection Volumes

Figure 2.1.9-3

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Table 2.1.9-4: Existing Conditions (2019) Eastbound I-10 Operations (AM)

I-10 Eastbound Segment	Facility Type	LOS[1]	Density[1]
North of Singleton Road	Basic	B	12.9
Singleton Road On-Ramp	Merge	B	11.1
Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	B	13.0
Cherry Valley Boulevard Off-Ramp	Diverge	B	13.8
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	B	13.3
Cherry Valley Boulevard On-Ramp	Merge	A	9.6
Cherry Valley Boulevard On-Ramp to Oak Valley Parkway Off-Ramp	Basic	B	13.7
Oak Valley Parkway Off-Ramp	Diverge	B	13.6
South of Oak Valley Parkway	Basic	B	14.3

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported. **Bold** and underline font indicate LOS E or F conditions.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-5: Existing Conditions (2019) Eastbound I-10 Operations (PM)

I-10 Eastbound Segment	Facility Type	LOS[1]	Density[1]
North of Singleton Road	Basic	C	18.2
Singleton Road On-Ramp	Merge	B	15.4
Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	C	18.1
Cherry Valley Boulevard Off-Ramp	Diverge	C	20.2
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	B	13.5
Cherry Valley Boulevard On-Ramp	Merge	B	15.3
Cherry Valley Boulevard On-Ramp to Oak Valley Parkway Off-Ramp	Basic	B	16.5
Oak Valley Parkway Off-Ramp	Diverge	B	16.7
South of Oak Valley Parkway	Basic	B	15.1

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported. ***Bold*** *and underline font indicate LOS E or F conditions.*
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-6: Existing Conditions (2019) Westbound I-10 Operations (AM)

I-10 Westbound Segment	Facility Type	LOS[1]	Density[1]
South of Oak Valley Parkway	Basic	B	17.6
Oak Valley Parkway Off-Ramp	Diverge	B	17.9
Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp	Basic	B	15.0
Oak Valley Parkway On-Ramp	Merge	B	15.7
Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	C	18.8
Cherry Valley Boulevard Off-Ramp	Diverge	D	33.2
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	**<u>F</u>**	**<u>86.9</u>**
Cherry Valley Boulevard On-Ramp	Merge	**<u>F</u>**	**<u>117.0</u>**
Cherry Valley Boulevard On-Ramp to Off-Ramp	Basic	**<u>F</u>**	**<u>112.9</u>**
Singleton Road Off-Ramp	Diverge	**<u>F</u>**	**<u>116.8</u>**
North of Singleton Road	Basic	**<u>F</u>**	**<u>114.8</u>**

*Notes: 1. The LOS and density (in vehicles per lane per mile) are reported. **Bold** and <u>underline</u> font indicate LOS E or F conditions.*
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-7: Existing Conditions (2019) I-10 Operations Westbound (PM)

I-10 Westbound Segment	Facility Type	LOS[1]	Density[1]
South of Oak Valley Parkway	Basic	C	18.2
Oak Valley Parkway Off-Ramp	Diverge	C	19.1
Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp	Basic	B	15.1
Oak Valley Parkway On-Ramp	Merge	B	13.6
Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	B	17.2
Cherry Valley Boulevard Off-Ramp	Diverge	B	17.3
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	B	15.1
Cherry Valley Boulevard On-Ramp	Merge	B	15.2
Cherry Valley Boulevard On-Ramp to Off-Ramp	Basic	C	18.5
Singleton Road Off-Ramp	Diverge	C	19.3
North of Singleton Road	Basic	B	17.3

*Notes: 1. The LOS and density (in vehicles per lane per mile) are reported. **Bold** and <u>underline</u> font indicate LOS E or F conditions.*
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Intersection Operations Analysis

Tables 2.1.9-8, Existing Conditions (2019) Intersection Operations (AM), and 2.1.9-9, Existing Conditions (2019) Intersection Operations (PM), shows the delay (in seconds per vehicle) and LOS for the study intersections during the AM and PM peak hours under Existing 2019 conditions. During the AM peak hour, all the study intersections operate at LOS C or better, except the intersections at I-10 westbound off/on-ramps/Singleton Road, Old Roberts Road/Cherry Valley Boulevard, I-10 westbound off/on-ramps/Cherry Valley

Boulevard, I-10 eastbound off/on-ramps/Oak Valley Parkway, I-10 westbound off/on-ramps/Oak Valley Parkway, which operate at LOS E or F. During the PM peak hour, all the study intersections operate at LOS C or better.

Table 2.1.9-8: Existing Conditions (2019) Intersection Operations (AM)

Intersection	Control	LOS	Delay
I-10 Eastbound On-Ramp/Singleton Road	Uncontrolled	A	0.7 (WBL)
I-10 Westbound Off-Ramp/Singleton Road	Side-street Stop	**E**	**36.8 (NBL)**
Cherry Valley Boulevard/Palmer Ave/Desert Lawn Drive	Signal	C	34.9
Cherry Valley Boulevard/Roberts Road	Signal	B	13 (NBT)
Old Roberts Road/Cherry Valley Boulevard	All-way Stop	**E**	**36.4**
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard	All-way Stop	A	8.8
I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard	All-way Stop	**E**	**39.3**
Calimesa Boulevard/Cherry Valley Boulevard	Side-street Stop	C	18.5 (SBL)
I-10 Eastbound Off/On-Ramps/Oak Valley Parkway	All-way Stop	**F**	**99.5**
I-10 Westbound Off/On-Ramps/Oak Valley Parkway	All-way Stop	F	88.3

Notes: WBL=westbound left; NBL=northbound left; NBT=northbound through; SBL=southbound left
1. For signal and all way stop control, the overall intersection LOS and average delay (in seconds per vehicle) are reported.
2. For side street control, the worst movement LOS and delay are reported with the worst movement listed in parentheses.
*3. **Bold** and underline font indicate LOS E or F conditions.*
Source: Fehr and Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-9: Existing Conditions (2019) Intersection Operations (PM)

Intersection	Control	LOS	Delay
I-10 Eastbound On-Ramp/Singleton Road	Uncontrolled	A	0.6 (WBL)
I-10 Westbound Off-Ramp/Singleton Road	Side-street Stop	A	7.6 (NBR)
Cherry Valley Boulevard/Palmer Ave/Desert Lawn Drive	Signal	A	8.3
Cherry Valley Boulevard/Roberts Road	Signal	A	7.6 (NBL)
Old Roberts Road/Cherry Valley Boulevard	All-way Stop	A	2.5
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard	All-way Stop	C	22.6
I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard	All-way Stop	A	5
Calimesa Boulevard/Cherry Valley Boulevard	Side-street Stop	B	11.1 (SBL)
I-10 Eastbound Off/On-Ramps/Oak Valley Parkway	All-way Stop	C	22.9
I-10 Westbound Off/On-Ramps/Oak Valley Parkway	All-way Stop	C	20.3

Notes: WBL=westbound left; NBR= northbound right; NBL=northbound left; SBL=southbound left
1. For signal and all way stop control, the overall intersection LOS and average delay (in seconds per vehicle) are reported.
2. For side street control, the worst movement LOS and delay are reported with the worst movement listed in parentheses.
*3. **Bold** and underline font indicate LOS E or F conditions.*
Source: Fehr and Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Queueing Analysis

Table 2.1.9-10, Existing Conditions (2019) Intersection Queueing Summary, summarizes the average maximum queue results under Existing 2019 conditions at the ramp terminal and nearby intersections.

Table 2.1.9-10: Existing Conditions (2019) Intersection Queueing Summary

Intersection/Movements	Storage Length	Queue Length AM	Queue Length PM
Cherry Valley Boulevard/Palmer Ave/Desert Lawn Drive / EBL	125	**500**	120
Cherry Valley Boulevard/Roberts Road / NBT	550	**580**	550
Old Roberts Road/Cherry Valley Boulevard / WBL	50	**100**	**170**
Old Roberts Road/Cherry Valley Boulevard / WBT	50	**105**	**140**
Old Roberts Road/Cherry Valley Boulevard / WBR	50	**105**	**140**
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / EBT	50	**150**	20
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / EBR	50	**150**	20
I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard / EBL	550	**720**	300
I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard / EBT	550	**670**	250
Calimesa Boulevard/Cherry Valley Boulevard / EBL	125	**275**	60
Calimesa Boulevard/Cherry Valley Boulevard / EBT	125	**230**	20
I-10 Eastbound Off/On-Ramps/Oak Valley Parkway / WBL	700	**760**	240
I-10 Eastbound Off/On-Ramps/Oak Valley Parkway / WBT	700	**740**	220
I-10 Westbound Off/On-Ramps/Oak Valley Parkway / EBL	700	**750**	470
I-10 Westbound Off/On-Ramps/Oak Valley Parkway / EBT	700	**770**	490

Notes: EB=eastbound; NB=northbound; WB=westbound
1. The storage and average maximum queue length (in feet) is reported for key movements.
2. ***Bold*** *and underline font indicate a queue that exceeds the storage.*
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Based on Table 2.1.9-10, the following turning movements currently exceed available storage capacity during AM and PM peak hours:

- Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive
  - Eastbound Left (AM Only)
- Cherry Valley Boulevard /Roberts Road
  - Northbound Through (AM Only)
- Old Roberts Road/Cherry Valley Boulevard
  - Westbound Left
  - Westbound Through
  - Westbound Right
- I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard
  - Eastbound Through (AM Only)

- Eastbound Right (AM Only)

- I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard
  - Eastbound Through (AM Only)
  - Eastbound Left (AM Only)
- Calimesa Boulevard/Cherry Valley Boulevard
  - Eastbound Through (AM Only)
  - Eastbound Left (AM Only)
- I-10 Eastbound Off/On-Ramps/Oak Valley Parkway
  - Westbound Through (AM Only)
  - Westbound Left (AM Only)
- I-10 Eastbound Off/On-Ramps/Oak Valley Parkway
  - Eastbound Through (AM Only)
  - Eastbound Left (AM Only)

Storage capacity on the off-ramps is adequate to serve AM and PM peak hour traffic under Existing 2019 conditions. There is a substantial queue along Cherry Valley Boulevard between Old Roberts Road and Calimesa Boulevard. This is primarily caused by the limited capacity due to the all-way stop control at these intersections.

System-wide Performance

While LOS is a typical indicator of transportation facility performance, the system-wide performance metrics have become effective measurements in evaluating transportation system. The system-wide performance measures used for this project include travel time, travel speeds, number of vehicles served by the study network, and vehicle-hours-delay. Table 2.1.9-11, Existing Conditions (2019) Performance Summary, summarizes the existing AM and PM peak hour system-wide performance measures along I-10. Tables 2.1.9-12 and 2.1.9-13 summarize the existing travel time on I-10, between the Singleton Road and Oak Valley Parkway overcrossings, for cars and trucks.

Table 2.1.9-11: Existing Conditions Performance Summary

Performance Measure	Metric	AM	PM
Average Speed	Miles per Hour (mph)	31.3	57.5
Volume Served	Vehicles per Hour (vph)	9,909	8,683
Total Distance Time	Vehicle Miles Travelled [VMT] (miles)	33,297	32,350
Total Travel Time	Vehicle Hours Travelled (hours)	1,065	562.5
Average Delay Per Vehicle	Seconds	176.6	15.2
Total Delay	Vehicle-Hours-Delay (hours)	515	39

Source: Fehr and Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-12: Travel Time – Eastbound I-10: Singleton Road to Oak Valley Parkway

Performance Measure	Metric	AM Peak Hour	PM Peak Hour
Cars	Minutes	4.1	4.1
Trucks	Minutes	4.4	4.1
All	Minutes	4.1	4.1

Source: Fehr and Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-13: Westbound I-10: Singleton Road to Oak Valley Parkway

Performance Measure	Metric	AM Peak Hour	PM Peak Hour
Cars	Minutes	9.5	4.1
Trucks	Minutes	10.5	4.1
All	Minutes	9.5	4.1

Source: Fehr and Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Travel time and average speed are similar in both directions during both peak hours with small variations due to directionality during commute periods. In addition, other system-wide traffic metrics (number of vehicles served by the network, vehicle-hours-delay, and average delay per vehicle) were reported for both the AM and PM peak hours. Consistent with observations in the field, higher levels of congestion occur during the AM peak hour. This is confirmed by the increase in average delay per vehicle, 176.6 seconds during the AM peak hour compared to 15.2 seconds during the PM peak hour. Total delay during the AM peak hour also indicates higher levels of congestion during the AM peak hour.

Traffic Safety Review

Traffic Accident Surveillance and Analysis System – Transportation Systems Network (TASAS – TSN) data was reviewed for collisions reported on the mainline, on-ramps and off-ramps at the existing Cherry Valley Boulevard and I-10 interchange for the three-year period between October 1, 2017 and September 30, 2020. Tables 2.1.9-14, Collision Summary – Actual Collision Rate, and 2.1.9-15, Collision Summary – Statewide Average Collision Rate, below, summarize the Fatal and Fatal plus Injury collision rates for the Actual Collision Rates and Statewide Average Collision Rates. Table 2.1.9-16, Primary Collision Factors, summarizes the collision types for the interchange.

Table 2.1.9-14: Collision Summary – Actual Collision Rate

Location	Post Mile	Fatal[1]	Fatal + Injury[1]	Total[1]
I-10 Mainline from Singleton Road to Oak Valley Parkway	R2.1 to R3.8	0.000	0.21	0.75
I-10 Eastbound Off-Ramp to Cherry Valley Boulevard	R2.867	0.000	0.13	0.38
I-10 Eastbound On-Ramp from Cherry Valley Boulevard	R3.189	0.000	0.00	**0.68**
I-10 Westbound Off-Ramp to Cherry Valley Boulevard	R3.246	0.000	0.00	0.00
I-10 Westbound On-Ramp from Cherry Valley Boulevard	R2.896	0.000	0.12	0.25

*Notes: **Bold** text indicates that actual collision rate is greater than statewide average collision rate.*
1. Ramp collisions are per Million Vehicle (MV). Mainline collisions are per Million Vehicle Miles (MVM).

Table 2.1.9-15: Collision Summary – Statewide Average Collision Rate

Location	Post Mile	Fatal[1]	Fatal + Injury[1]	Total[1]
I-10 Mainline from Singleton Road to Oak Valley Parkway	R2.1 to R3.8	0.004	0.28	0.87
I-10 Eastbound Off-Ramp to Cherry Valley Boulevard	R2.867	0.008	0.39	1.03
I-10 Eastbound On-Ramp from Cherry Valley Boulevard	R3.189	0.002	0.23	0.63
I-10 Westbound Off-Ramp to Cherry Valley Boulevard	R3.246	0.008	0.39	1.03
I-10 Westbound On-Ramp from Cherry Valley Boulevard	R2.896	0.002	0.23	0.63

*Notes: **Bold** text indicates that actual collision rate is greater than statewide average collision rate.*
1. Ramp collisions are per Million Vehicle (MV). Mainline collisions are per Million Vehicle Miles (MVM).

Table 2.1.9-16: Ramp Collision Types

Location	Head-On	Side Swipe	Rear End	Broadside	Hit Object	Overturn	Auto-Pedestrian	Other
I-10 Mainline from Singleton Road to Oak Valley Parkway	1.2%	22.2%	50.0%	1.2%	19.8%	3.1%	0.0%	2.5%
I-10 Eastbound Off-Ramp to Cherry Valley Boulevard	0.0%	66.7%	0.0%	0.0%	33.3%	0.0%	0.0%	0.0%
I-10 Eastbound On-Ramp from Cherry Valley Boulevard	0.0%	0.0%	0.0%	0.0%	100%	0.0%	0.0%	0.0%
I-10 Westbound Off-Ramp to Cherry Valley Boulevard	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
I-10 Westbound On-Ramp from Cherry Valley Boulevard	0.0%	0.0%	0.0%	0.0%	50.0	50.0%	0.0%	0.0%

Notes: 1. Represents a total of 12 ramp collisions during this time period.

As shown in Table 2.1.9-16, collision data shows that rear end (50 percent) and side swipe (22.2 percent) are the majority of collisions along I-10. The majority of the collisions along the eastbound off-ramp are side swipe (66.7 percent), while the eastbound on-ramp are hit object (100 percent). Majority of the collisions along the westbound on-ramp are hit object (50 percent) and overturn (50 percent), while the westbound off-ramp had no collisions recorded. No pedestrian collisions were reported under the current stop-controlled configuration according to TASAS and TIMS (Transportation Injury Mapping System) data in the past three years, from October 1, 2017 to September 30, 2020.

Table 2.1.9-17, Primary Collision Factors, below, summarizes the primary collision factors for the interchange. Collision data shows that majority of the collision factors along I-10 are speeding (48.8 percent) and other violations (17.9 percent). Majority of the collision factors along the eastbound off-ramp (66.7 percent) and on-ramp (100 percent) are improper turns. Majority of the collisions along the westbound on-ramp are influence of alcohol (50 percent) and improper turns (50 percent), while the westbound off-ramp had no collision factors.

Table 2.1.9-17: Primary Collision Factors

Location	HBD	FTC	FTY	IT	SPD	OV	ID	OTD	UNK	FA	NS
I-10 Mainline from Singleton Road to Oak Valley Parkway	6.8%	1.2%	0.0%	18.5%	48.8%	17.9%	0.0%	4.9%	1.2%	0.0%	0.0%
I-10 Eastbound Off-Ramp to Cherry Valley Boulevard	0.0%	0.0%	0.0%	66.7%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	0.0%
I-10 Eastbound On-Ramp from Cherry Valley Boulevard	0.0%	0.0%	0.0%	100%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
I-10 Westbound Off-Ramp to Cherry Valley Boulevard	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
I-10 Westbound On-Ramp from Cherry Valley Boulevard	50.0%	0.0%	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Notes: HBD = Influence of Alcohol; FTC = Following Too Closely; FTY = Failure to Yield; ID = Improper Driving; IT = Improper Turn; SPD = Speeding; OV = Other Violations; NS = Not Stated; OTD = Other Than Driver; UNK = Unknown; FA = Fell Asleep

Environmental Consequences

Temporary Impacts

No-Build Alternative

Under the No-Build Alternative, no reconstruction or improvements would be made to the existing I-10/Cherry Valley Boulevard Interchange or the local roadway (Calimesa Boulevard). As a result, the No-Build Alternative would not result in temporary adverse effects related to traffic and circulation.

Build Alternatives 3 and 4

Construction activities associated with the Build Alternatives would result in temporary traffic effects related to the circulation of vehicles, bicyclists, and pedestrians in the project area. Construction under Build Alternatives 3 and 4 are anticipated to take approximately 24 months. Full freeway closures on I-10 would be required for placement of the new pre-cast Cherry Boulevard structure. Ramps would require closures at intersections with local roads. Short-term or weekend closures are expected for certain phases; however, no long-term street closures are anticipated or would be allowed. Proposed ramp closures would be identified during the plans, specifications, and estimates (PS&E) phase. Traffic-handling plans and stage-construction plans will be developed to minimize queueing on the I-10 mainline. These efforts will include off-peak hour construction hours (primarily in the late night, early morning, and weekends) and clearly marked detours near the closures.

Implementation of the Build Alternatives would include preparation and implementation of a Transportation Management Plan (TMP) during the PS&E phase. The Caltrans Transportation Management Plan Guidelines

(TMP Guidelines) identifies the processes, roles, and responsibilities for preparing and implementing TMPs, as well as useful strategies for reducing congestion and managing work zone traffic impacts. The primary objective of the TMP is to maintain safe movement for vehicles, pedestrians, and bicyclists through the construction zone, as well as minimize traffic delays during the construction period. The TMP prepared for the project will implement alternate route strategies to minimize adverse effects to roadways and reduce potential congestion.

The TMP will include, but not be limited to, the following six major elements:

- Public information/public awareness campaign
- Traveler information strategies
- Incident management
- Construction strategies
- Demand management
- Alternate route strategies

With implementation of the TMP for the Build Alternatives, adverse temporary effects related to traffic, pedestrian, and bicyclists would be minimized.

Permanent Impacts

As noted above, the following scenarios are considered in the traffic analysis:

- Opening Year (2025) No-Build Alternative
- Opening Year (2025) Build Alternatives 3 and 4
- Design Year (2045) No-Build Alternative
- Design Year (2045) Build Alternatives 3 and 4

Future traffic volumes and turning movements for all study scenarios for I-10 and Cherry Valley Boulevard are presented in this section of the IS/EA and/or in Figures 2.1.9-4 through 2.1.9-15.

No-Build Alternative

Under the No-Build Alternative, no improvements would be made to the existing I-10/Cherry Valley Boulevard interchange or the roadways associated with the project other than routine roadway maintenance. Both Opening Year 2025 and Design Year 2045 scenarios assume background improvements over existing conditions.

- Opening Year (2025): The ramp intersections are signalized as an interim improvement.
- Design Year (2045): Cherry Valley Boulevard is widened from two to four lanes between Desert Lawn Drive and Noble Street in 2035 (RTP ID

3A04WT144). Left-turn and right-turn pockets are not constructed, and the ramp intersections operate with permissive left-turn phasing.

Opening Year (2025): The No-Build Alternative during Opening Year 2025 conditions would assume no improvements to the existing I-10/Cherry Valley Boulevard interchange. Traffic operations for the No-Build Alternative were evaluated under the Opening Year 2025 conditions.

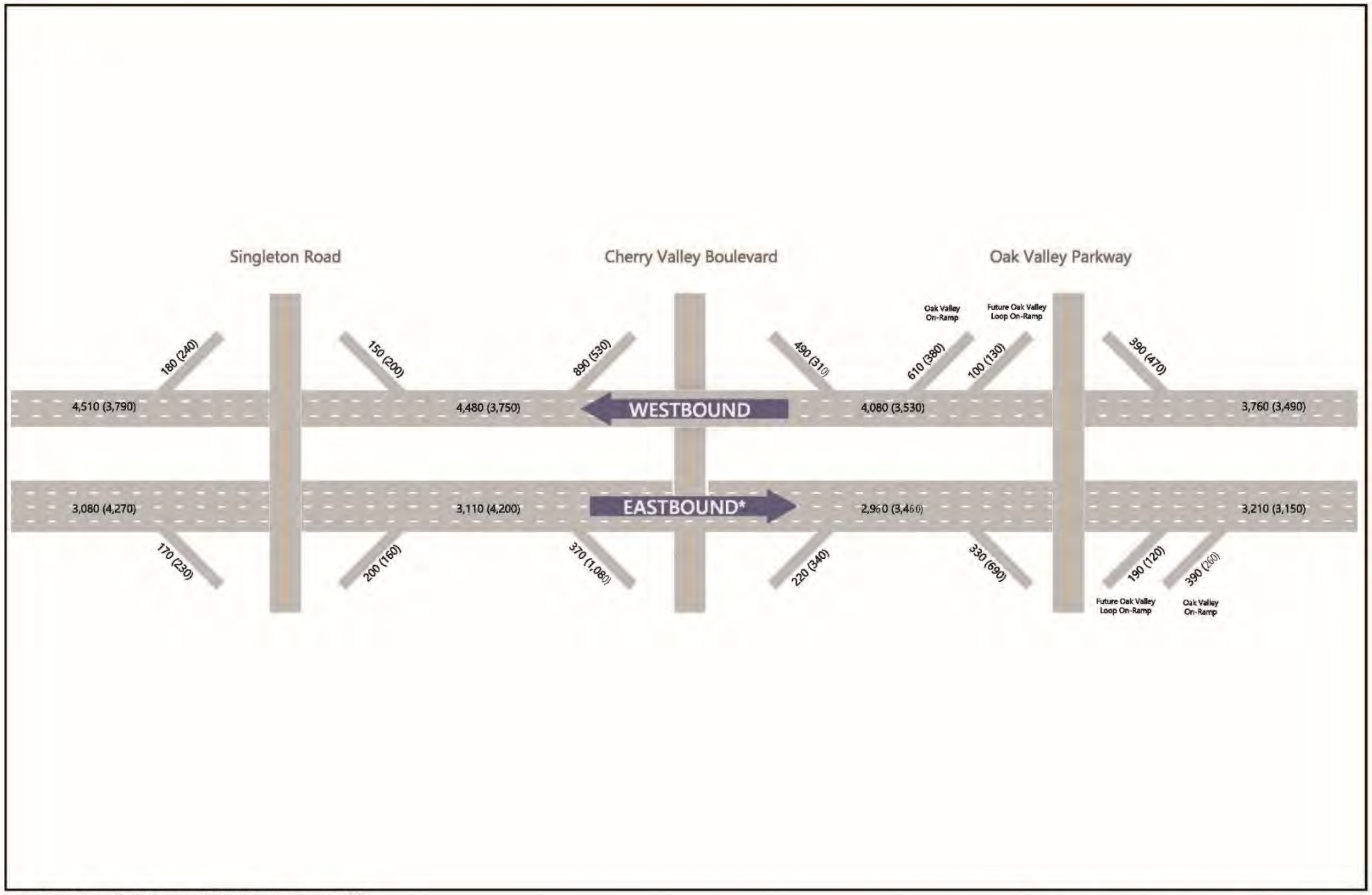
Freeway operations were analyzed under Opening Year 2025 conditions for the No-Build Alternative. Figure 2.1.9-4, Opening Year (No-Build) 2025 Peak Hour Freeway Volumes and Tables 2.1.9-18 through 2.1.9-21 show the AM and PM peak hour LOS and delay for the eastbound and westbound I-10 study segments. As shown in Tables 2.1.9-18 and 2.1.9-19, during the AM peak hour, westbound I-10 segments at the Cherry Valley on-ramp to Singleton off-ramp and Singleton off-ramp would operate at an unacceptable LOS D. As shown in Tables 2.1.9-20 and 2.1.9-21, during the PM peak hour, eastbound I-10 segments at the Singleton Road on-ramp and Cherry Valley Boulevard off-ramp would operate at an unacceptable LOS D or worse. All other eastbound and westbound I-10 segments would perform at an acceptable LOS C or better.

Table 2.1.9-18: Opening Year 2025 - Freeway Operations (No-Build Alternative) (AM Peak Hour)

Eastbound I-10 Segments	Facility Type	LOS	Density
North of Singleton Road	Basic	B	10.1
Singleton Road On-Ramp	Merge	B	11.4
Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	B	12.0
Cherry Valley Boulevard Off-Ramp	Diverge	B	13.8
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	B	11.4
Cherry Valley Boulevard On-Ramp	Merge	A	8.8
Cherry Valley Boulevard On-Ramp to Oak Valley Parkway Off-Ramp	Basic	B	12.1
Oak Valley Parkway Off-Ramp	Diverge	B	11.4
Oak Valley Parkway Off-Ramp to On-Ramp	Basic	B	10.3
Oak Valley Parkway On-Ramp	Merge	B	10.4
South of Oak Valley Parkway	Basic	B	12.4

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
*2. **Bold** font indicates LOS D conditions, **bold** and underline font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Figure 2.1.9-4: Opening Year (No-Build) 2025 Peak Hour Freeway Volumes



Source: Fehr & Peers, Traffic Operations Analysis Report, November 2020

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Opening Year (No-Build) 2025 Peak Hour Freeway Volumes

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Figure 2.1.9-4

Table 2.1.9-19: Opening Year 2025 - Freeway Operations (No-Build Alternative) (AM Peak Hour)

Westbound I-10 Segment	Facility Type	LOS	Density
South of Oak Valley Parkway	Basic	C	21.5
Oak Valley Parkway Off-Ramp	Diverge	C	20.1
Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp	Basic	B	18.1
Oak Valley Parkway On-Ramp	Merge	C	20.6
Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	C	25.3
Cherry Valley Boulevard Off-Ramp	Diverge	C	25.0
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	C	22.8
Cherry Valley Boulevard On-Ramp	Merge	C	25.0
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Basic	**D**	**28.7**
Singleton Road Off-Ramp	Diverge	**D**	**29.4**
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Weave	--	--
North of Singleton Road	Basic	C	27.7

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
2. ***Bold*** *font indicates LOS D conditions,* ***bold*** *and* <u>*underline*</u> *font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-20: Opening Year 2025 - Freeway Operations (No-Build Alternative) (PM Peak Hour)

Eastbound I-10 Segments	Facility Type	LOS	Density
North of Singleton Road	Basic	B	14.2
Singleton Road On-Ramp	Merge	**D**	**33.9**
Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	B	19.0
Cherry Valley Boulevard Off-Ramp	Diverge	<u>**F**</u>	<u>**43.2**</u>
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	B	13.5
Cherry Valley Boulevard On-Ramp	Merge	A	6.7
Cherry Valley Boulevard On-Ramp to Oak Valley Parkway Off-Ramp	Basic	B	13.7
Oak Valley Parkway Off-Ramp	Diverge	B	13.2
Oak Valley Parkway Off-Ramp to On-Ramp	Basic	B	10.4
Oak Valley Parkway On-Ramp	Merge	B	10.5
South of Oak Valley Parkway	Basic	B	12.5

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
2. **Bold** *font indicates LOS D conditions,* **bold** *and* <u>underline</u> *font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

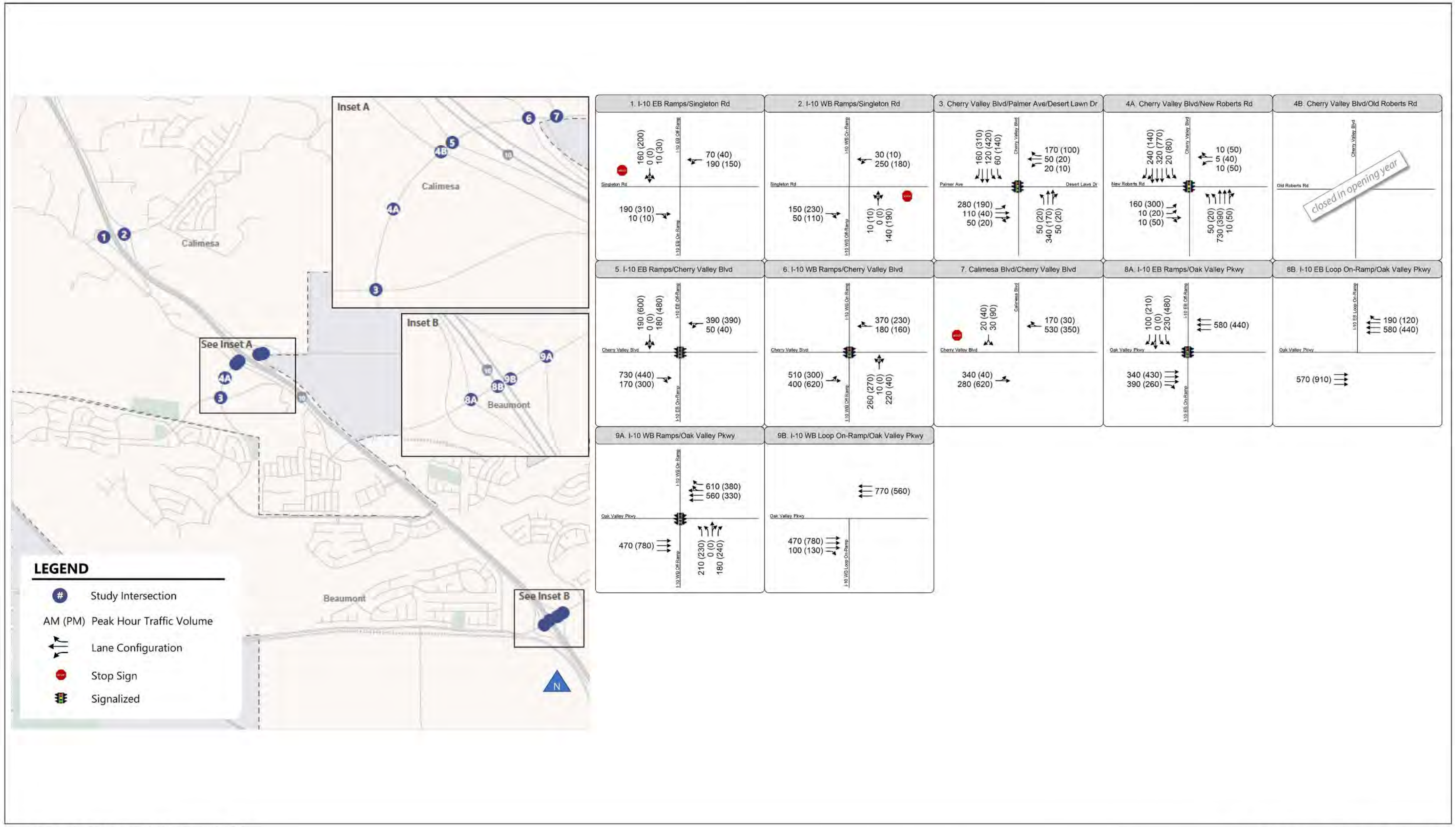
Table 2.1.9-21: Opening Year 2025 - Freeway Operations (No-Build Alternative) (PM Peak Hour)

Westbound I-10 Segment	Facility Type	LOS	Density
South of Oak Valley Parkway	Basic	B	20.0
Oak Valley Parkway Off-Ramp	Diverge	B	19.2
Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp	Basic	B	16.2
Oak Valley Parkway On-Ramp	Merge	B	16.8
Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	C	20.8
Cherry Valley Boulevard Off-Ramp	Diverge	B	19.0
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	B	18.8
Cherry Valley Boulevard On-Ramp	Merge	B	17.1
Cherry Valley Boulevard On-Ramp to Singleton Off-Ramp	Basic	C	22.3
Singleton Road Off-Ramp	Diverge	C	21.5
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Weave	--	--
North of Singleton Road	Basic	C	20.8

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
*2. **Bold** font indicates LOS D conditions, **bold** and underline font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

The AM and PM peak hour LOS and delay for each intersection is summarized in Figure 2.1.9-5, Opening Year (No-Build) 2025 Peak Hour Intersection Volumes, and Tables 2.1.9-22, Opening Year 2025 Conditions - Intersection Operations (No-Build Alternative) (AM Peak Hour) and 2.1.9-23, Opening Year 2025 Conditions - Intersection Operations (No-Build Alternative) (PM Peak Hour). As shown in Table 2.1.9-22 and 2.1.9-23, during the AM peak hour, the Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive, Cherry Valley Boulevard/Roberts Road, I-10 eastbound off/on-ramps/Cherry Valley Boulevard, I-10 westbound off/on-ramps/Cherry Valley Boulevard, and Calimesa Boulevard/Cherry Valley Boulevard intersections would operate at an unacceptable LOS E or worse. As shown in Table 2.1.9-23, during the PM peak hour, the Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive, Cherry Valley Boulevard/Roberts Road, I-10 eastbound off/on-ramps/Cherry Valley Boulevard. All other intersections would operate at an acceptable LOS C or better under the Opening Year 2025 conditions. It is therefore anticipated that, as local development continues to occur and I-10 mainline traffic conditions worsen over time, these intersections would experience overcapacity by the year 2025.

Figure 2.1.9-5: Opening Year (No-Build) 2025 Peak Hour Intersection Volumes



Source: Fehr & Peers, Traffic Operations Analysis Report, November 2020

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Opening Year (No-Build) 2025 Peak Hour Intersection Volumes

Figure 2.1.9-5

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Table 2.1.9-22: Opening Year 2025 Conditions - Intersection Operations (No-Build Alternative) (AM Peak Hour)

Intersection	Control	LOS	Delay
1. I-10 Eastbound Off/On-Ramps/Singleton Road	Side Street Stop	A	9.9 (SBR)
2. I-10 Westbound Off/On-Ramps/Singleton Road	Side Street Stop	A	8.0 (NBR)
3. Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive	Signal	**<u>F</u>**	**<u>499.7</u>**
4A. Cherry Valley Boulevard/Roberts Road	Signal	**<u>F</u>**	**<u>166.5</u>**
4B. Old Roberts Road/Cherry Valley Boulevard	--	--	--
5. I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard	Signal	**<u>E</u>**	**<u>70.4</u>**
6. I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard	Signal	**<u>E</u>**	**<u>57.4</u>**
7. Calimesa Boulevard/Cherry Valley Boulevard	Side Street Stop/Signal	**<u>F</u>**	**<u>146.4 (WBT)</u>**
8. I-10 Eastbound Off/On-Ramps/Oak Valley Parkway	Signal	B	11.1
9. I-10 Westbound Off/On-Ramps/Oak Valley Parkway	Signal	A	8.4

Notes: SBR=southbound right; NBR= northbound right; WBT=westbound through
1. For signal, all-way-stop, and roundabout control, the overall intersection LOS and average delay (in seconds per vehicle) are reported.
2. For side-street stop-control, the worst movement LOS and delay are reported with the worst movement listed in parentheses.
*3. **Bold** and <u>underline</u> font indicate LOS D (for City of Calimesa intersections), E or F conditions (for Caltrans intersections).*
4. Intersection 4B is closed under Opening Year (2025) Conditions.
5. Intersections 5 and 6 are signalized under No-Build and Build Alternatives 3 and 4 scenarios.
6. Intersection 6 becomes an uncontrolled on-ramp, and the off-ramp and loop on-ramp are aligned with Intersection 7 under Build Alternative 4.
7. Intersection 7 is side-street stop-controlled under the No-Build scenario, and is signalized under all other scenarios.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-23: Opening Year 2025 Conditions - Intersection Operations (No-Build Alternative) (PM Peak Hour)

Intersection	Control	LOS	Delay
I-10 Eastbound Off/On-Ramps/Singleton Road	Side Street Stop	B	12.6 (SBL)
I-10 Westbound Off/On-Ramps/Singleton Road	Side Street Stop	B	11.1 (NBR)
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive	Signal	**<u>F</u>**	**<u>378.1</u>**
Cherry Valley Boulevard/Roberts Road	Signal	**<u>F</u>**	**<u>318.6</u>**
Old Roberts Road/Cherry Valley Boulevard	--	--	--
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard	Signal	**<u>F</u>**	**<u>125.8</u>**
I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard	Signal	C	27.1
Calimesa Boulevard/Cherry Valley Boulevard	Side Street Stop/Signal	C	14.2 (SBL)
I -10Eastbound Off/On-Ramps/Oak Valley Parkway	Signal	B	17.1
I-10 Westbound Off/On-Ramps/Oak Valley Parkway	Signal	B	11.0

Notes: SBL=southbound left; NBR= northbound right
1. For signal, all-way-stop, and roundabout control, the overall intersection LOS and average delay (in seconds per vehicle) are reported.
2. For side-street stop-control, the worst movement LOS and delay are reported with the worst movement listed in parentheses.
*3. **Bold** and <u>underline</u> font indicate LOS D (for City of Calimesa intersections), E or F conditions (for Caltrans*

intersections).
4. Intersection 4B is closed under Opening Year (2025) Conditions.
5. Intersections 5 and 6 are signalized under No-Build and Build Alternatives 3 and 4 scenarios.
6. Intersection 6 becomes an uncontrolled on-ramp, and the off-ramp and loop on-ramp are aligned with Intersection 7 under Build Alternative 4.
7. Intersection 7 is side-street stop-controlled under the No-Build scenario, and is signalized under all other scenarios.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Turning movements and queuing for each intersection and ramp terminal were analyzed and reported under the Opening Year 2025 conditions. The following turning movements would exceed storage capacity under the No-Build Scenario during AM and PM peak hour:

- Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive
  - Northbound Left
  - Southbound Left (PM Only)
  - Eastbound Left
  - Westbound Left (AM Only)
- Cherry Valley Boulevard /Roberts Road
  - Northbound Through
  - Northbound Right
  - Southbound Through (PM Only)
  - Southbound Right
- I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard
  - Southbound Left (PM Only)
  - Southbound Through (PM Only)
  - Southbound Right (PM Only)
  - Eastbound Through
  - Eastbound Right
  - Westbound Left (PM Only)
  - Westbound Through (PM Only)
- I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard

  - Eastbound Through (AM Only)
  - Eastbound Left (AM Only)
- Calimesa Boulevard/Cherry Valley Boulevard
  - Eastbound Left
  - Eastbound Through (AM Only)
  - Westbound Right (AM Only)
- I-10 Eastbound Off/On-Ramps/Oak Valley Parkway
  - Southbound Left
  - Eastbound Right
- I-10 Eastbound Off/On-Ramps/Oak Valley Parkway
  - Northbound Left

Queuing: As summarized in Table 2.1.9-24, No-Build Alternative Intersection Queue Summary (Opening Year 2025), substantial queueing would occur on I-10 eastbound off/on-ramps/Cherry Valley Boulevard with spillback onto the freeway mainline during the PM peak hour. In addition, extended queues would occur on eastbound Palmer Avenue and westbound Calimesa Boulevard during the AM peak hour, and eastbound Palmer Avenue during the PM peak hour.

System-wide Performance: Under the No-Build Alternative, the travel time, average delay, and traffic volume of the I-10/Cherry Valley Boulevard overcrossing's existing transportation system were taken into account. Table 2.1.9-25, No-Build Alternative (Opening Year 2025) Performance Summary, shows that, higher levels of congestion occur during the PM peak hour in the study area, reflected by the increase in average delay per vehicle, 158.8 seconds during the PM peak hour compared to 117.5 seconds during the AM peak hour under the No-Build Alternative. Table 2.1.9-26, Travel Time – Eastbound I-10: Singleton Road to Oak Valley Parkway, shows that the travel time for both cars and trucks increase during the PM peak hour under the No Build Alternative. Table 2.1.9-27, Travel Time – Westbound I-10: Singleton Road to Oak Valley Parkway (Opening Year 2025), reflects an increase travel time for both cars and trucks in the AM and PM peak hours under the No Build Alternative.

Table 2.1.9-24: No-Build Alternative Intersection Queue Summary (Opening Year 2025)

Intersection/ Movement	Storage Length	AM Peak Hour	PM Peak Hour
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / NBL	125	**<u>1350</u>**	**<u>890</u>**
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / SBL	175	150	**<u>630</u>**
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / EBL	125	**<u>1900</u>**	**<u>1,910</u>**
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / EBR	100	40	40
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / WBL	175	**<u>240</u>**	50
Cherry Valley Boulevard/Roberts Road / NBT	550	**<u>740</u>**	**<u>750</u>**
Cherry Valley Boulevard/Roberts Road / NBR	550	**<u>740</u>**	**<u>750</u>**
Cherry Valley Boulevard/Roberts Road / SBT	500	290	**<u>650</u>**
Cherry Valley Boulevard/Roberts Road / SBR	150	**<u>290</u>**	**<u>660</u>**
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / SBL	1150	490	**<u>3710</u>**
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / SBT	1150	490	**<u>3710</u>**
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / SBR	1150	460	**<u>3710</u>**
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / EBT	600	**<u>780</u>**	**<u>780</u>**
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / EBR	600	**<u>770</u>**	**<u>770</u>**
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / WBL	575	380	**<u>630</u>**
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / WBT	575	380	**<u>630</u>**
I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard / EBL	575	**<u>670</u>**	530
I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard / EBT	550	**<u>670</u>**	530
Calimesa Boulevard/Cherry Valley Boulevard / NBT	225	--	--
Calimesa Boulevard/Cherry Valley Boulevard / NBR	225	--	--
Calimesa Boulevard/Cherry Valley Boulevard / EBL	175	**<u>280</u>**	190
Calimesa Boulevard/Cherry Valley Boulevard / WBT	1000	**<u>1060</u>**	230
Calimesa Boulevard/Cherry Valley Boulevard / EBR	200	**<u>1060</u>**	230
I-10 Eastbound Off/On- Ramps/Oak Valley Parkway / SBL	175	180	**<u>480</u>**
I-10 Eastbound Off/On- Ramps/Oak Valley Parkway / EBR	100	**<u>210</u>**	**<u>150</u>**
I-10 Westbound Off/On-Ramps/Oak Valley Parkway / NBL	150	**<u>180</u>**	**<u>230</u>**

Notes: EB=eastbound; WB=westbound; NBR=northbound right; NBL=northbound left; NBT=northbound through; EBR=eastbound right; EBL=eastbound left; EBT=eastbound through; SBR=southbound right; SBL=southbound left; SBT=southbound through; WBR=westbound right; WBL=westbound left; WBT=westbound through

1. The storage and average maximum queue length (in feet) is reported for key movements. ***Bold*** *and <u>underline</u> font indicate a queue that exceeds the storage.*

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-25: No-Build Alternative (Opening Year 2025) Performance Summary

Performance Measure	Metric	AM	PM
Average Speed	Miles Per Hour (mph)	36.6	35.2
Volume Served (vph)	Vehicles per Hour (vph)	10,783	10,781
Total Distance Traveled	Vehicle Miles Travelled [VMT] (miles)	37,221	37,161
Total Travel Time [VHT] (hours)	Vehicle Hours Travelled (hours)	1,018.2	1,154.7
Average Delay Per Vehicle (seconds)	Seconds	117.5	158.8
Total Delay [VHD] (hours)	Vehicle Hours Delay (hours)	385	532

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-26: Travel Time – Eastbound I-10: Singleton Road to Oak Valley Parkway (Opening Year 2025)

Performance Measure	Metric	AM Peak Hour	PM Peak Hour
Cars	Minutes	4.0	4.3
Trucks	Minutes	4.5	7.2
All	Minutes	4.1	4.5

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

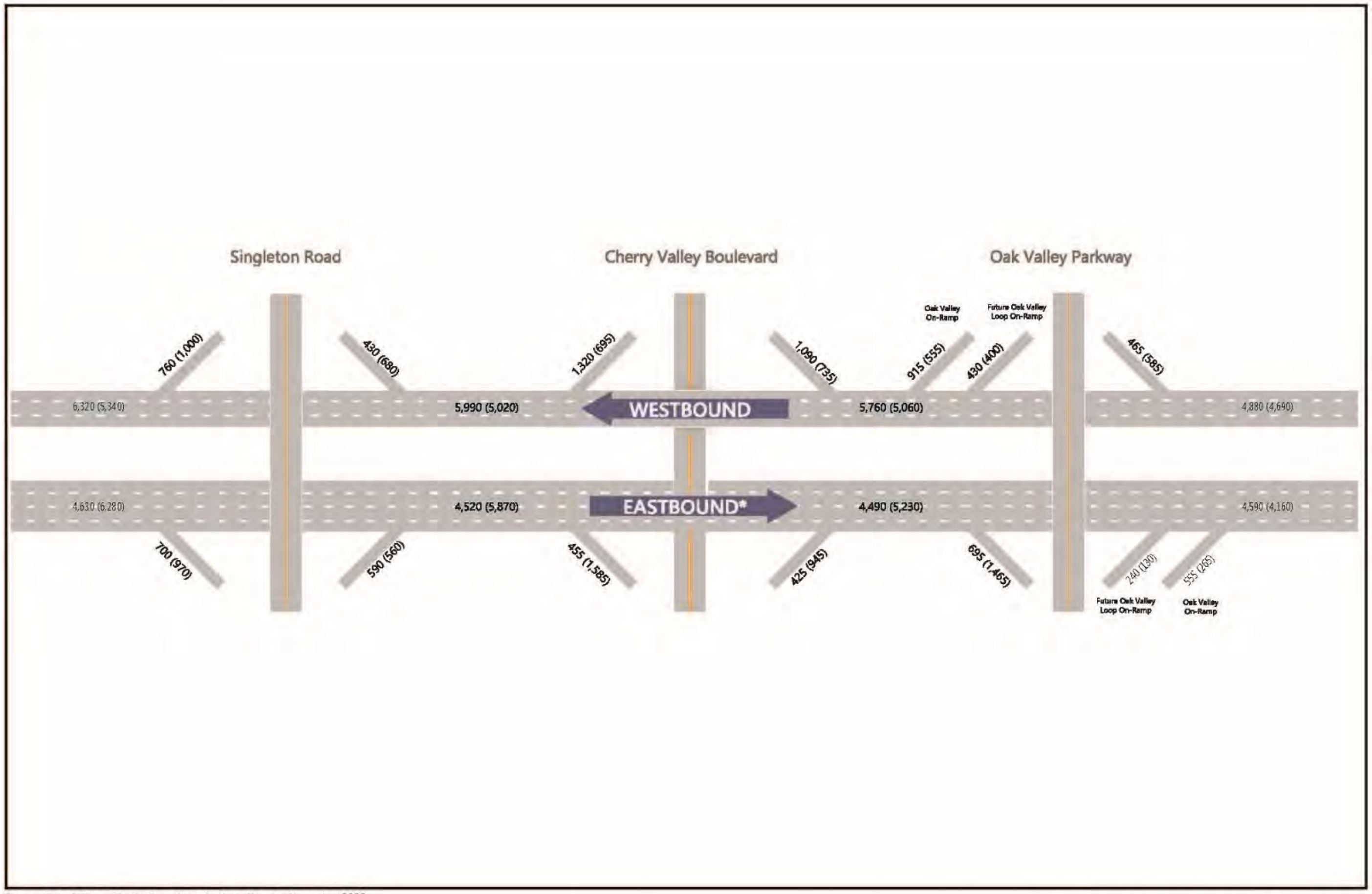
Table 2.1.9-27: Travel Time – Westbound I-10: Singleton Road to Oak Valley Parkway (Opening Year 2025)

Performance Measure	Metric	AM Peak Hour	PM Peak Hour
Cars	Minutes	4.8	4.4
Trucks	Minutes	6.1	5.6
All	Minutes	4.9	4.5

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Design Year (2045): For the No-Build Alternative, the Design Year 2045 AM and PM peak hour traffic forecasts for the eastbound and westbound I-10 mainline segments/ramps are shown in Figure 2.1.9-6, Design Year (No-Build) 2045 Peak Hour Freeway Volumes and Figure 2.1.9-7, Design Year (No-Build) 2045 Peak Hour Intersection Volumes.

Figure 2.1.9-6: Design Year (No-Build) 2045 Peak Hour Freeway Volumes



Source: Fehr & Peers, Traffic Operations Analysis Report, November 2020

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Design Year (No-Build) 2045 Peak Hour Freeway Volumes

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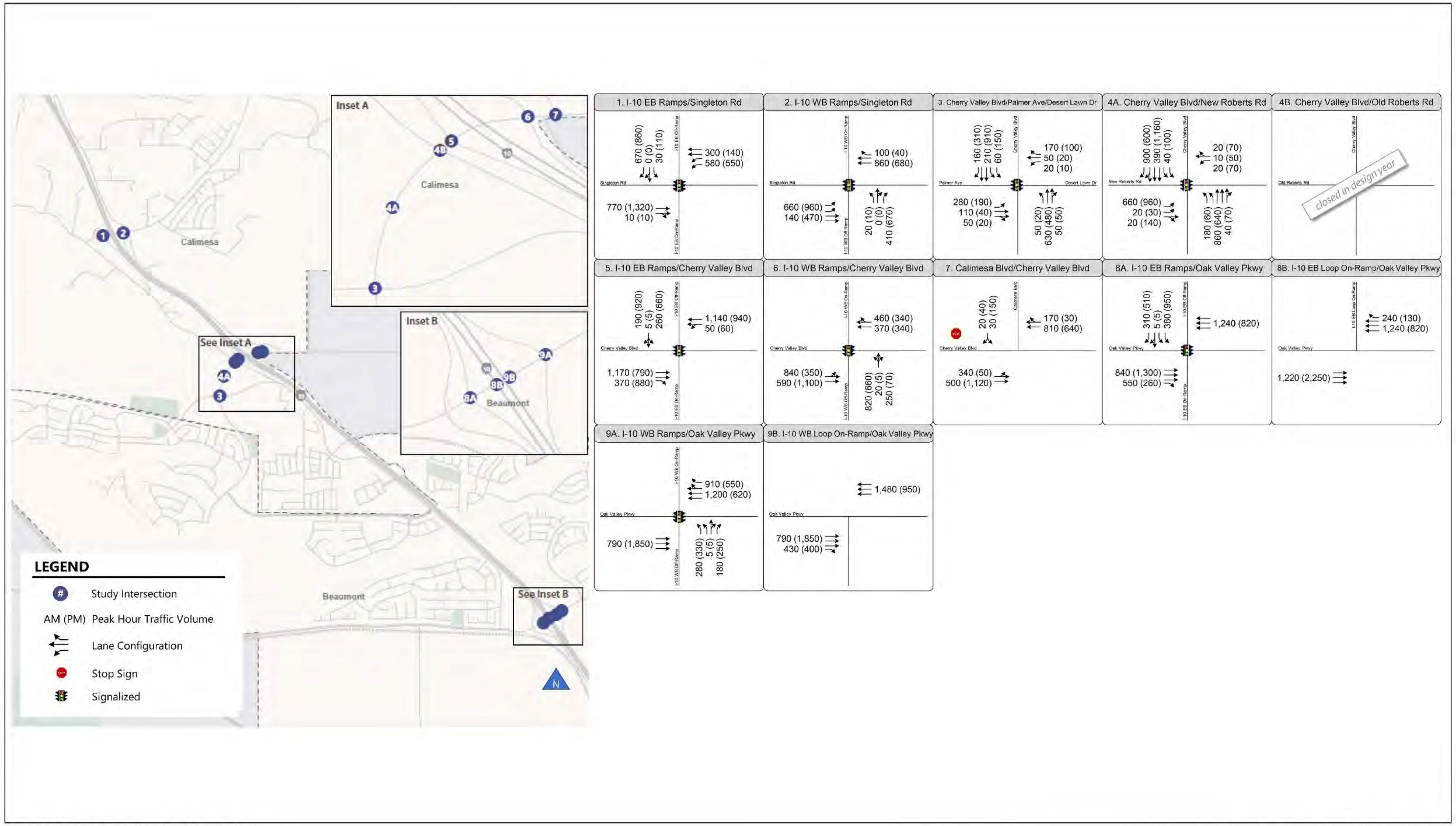
Figure 2.1.9-6

Figure 2.1.9-7: Design Year (No-Build Alternative) 2045 Peak Hour Intersection Volumes



Source: Fehr & Peers, Traffic Operations Analysis Report, November 2020

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Design Year (No-Build) 2045 Peak Hour Intersection Volumes

Figure 2.1.9-7

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As shown in Table 2.1.9-28, Design Year 2045 - Freeway Operations (No-Build Alternative) (AM Peak Hour), eastbound I-10 study segments would operate at an acceptable LOS B. As shown in Table 2.1.9-29, Design Year 2045 - Freeway Operations (No-Build Alternative) (PM Peak Hour), the eastbound I-10 study segments north of Singleton Road, Singleton Road on-ramp, Singleton Road on-ramp to Cherry Valley Boulevard off-ramp, and Cherry Valley Boulevard off-ramp operate at an unacceptable LOS D or F during the PM peak hour under Design Year 2045 conditions. As shown in Tables 2.1.9-30 and 2.1.9-31, the westbound I-10 study segments south of Oak Valley Parkway, Oak Valley Parkway off-ramp (AM peak hour), Oak Valley Parkway off-ramp to Oak Valley Parkway on-ramp, Oak Valley Parkway on-ramp, Oak Valley Parkway on-ramp to Cherry Valley Boulevard off-ramp, Cherry Valley Boulevard off-ramp, Cherry Valley Boulevard off-ramp to on-ramp (PM peak hour), Cherry Valley Boulevard on-ramp, Cherry Valley Boulevard on-ramp to Singleton Road off-ramp, Singleton Road off-ramp, north of Singleton Road (AM peak hour) would operate at an unacceptable LOS F during the AM and PM peak hour under Design Year 2045 conditions. All other eastbound and westbound I-10 segments would operate at an acceptable LOS C or better under Design Year 2045 conditions.

As shown in Tables 2.1.9-32, Intersection Operations – Design Year 2045 Conditions (No-Build Alternative) (AM Peak Hour) and 2.1.9-33, Intersection Operations – Design Year 2045 Conditions (No-Build Alternative) (PM Peak Hour), multiple study intersections would operate at an unacceptable LOS E or worse during the AM and PM peak hour under Design Year 2045 conditions: I-10 eastbound off/on-ramps/Singleton Road (PM peak hour), I-10 westbound off/on-ramps/Singleton Road, Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive, Cherry Valley Boulevard/Roberts Road, I-10 eastbound off/on-ramps/Cherry Valley Boulevard, I-10 westbound off/on-ramps/Cherry Valley Boulevard, and I-10 westbound off/on-ramps/Oak Valley Parkway (AM peak hour). All other study intersections would operate at acceptable LOS C conditions under the Design Year 2045 conditions for the No-Build Alternative.

Table 2.1.9-28: Design Year 2045 - Freeway Operations (No-Build Alternative) (AM Peak Hour)

Eastbound I-10 Segment	Facility Type	LOS	Density
North of Singleton Road	Basic	B	15.9
Singleton Road On-Ramp	Merge	B	17.1
Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	B	17.5
Cherry Valley Boulevard Off-Ramp	Diverge	B	17.9
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	B	17.2
Cherry Valley Boulevard On-Ramp	Merge	B	11.8
Cherry Valley Boulevard On-Ramp to Oak Valley Parkway Off-Ramp	Basic	B	17.9
Oak Valley Parkway Off-Ramp	Diverge	B	17.6
Oak Valley Parkway Off-Ramp to On-Ramp	Basic	B	14.8
Oak Valley Parkway On-Ramp	Merge	B	14.0
South of Oak Valley Parkway	Basic	B	17.4

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
*2. **Bold** font indicates LOS D conditions, **bold** and <u>underline</u> font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-29: Design Year 2045 - Freeway Operations (No-Build Alternative) (PM Peak Hour)

Eastbound I-10 Segment	Facility Type	LOS	Density
North of Singleton Road	Basic	**D**	**35.0**
Singleton Road On-Ramp	Merge	**<u>F</u>**	**<u>105.8</u>**
Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	**<u>F</u>**	**<u>48.0</u>**
Cherry Valley Boulevard Off-Ramp	Diverge	**<u>F</u>**	**<u>120.0</u>**
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	B	12.2
Cherry Valley Boulevard On-Ramp	Merge	A	7.9
Cherry Valley Boulevard On-Ramp to Oak Valley Parkway Off-Ramp	Basic	B	13.4
Oak Valley Parkway Off-Ramp	Diverge	B	14.4
Oak Valley Parkway Off-Ramp to On-Ramp	Basic	A	9.3
Oak Valley Parkway On-Ramp	Merge	A	7.0
South of Oak Valley Parkway	Basic	B	10.3

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
*2. **Bold** font indicates LOS D conditions, **bold** and <u>underline</u> font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-30: Design Year 2045 - Freeway Operations (No-Build Alternative) (AM Peak Hour)

Westbound I-10 Segment	Facility Type	LOS	Density
South of Oak Valley Parkway	Basic	**<u>F</u>**	**<u>105.5</u>**
Oak Valley Parkway Off-Ramp	Diverge	**<u>F</u>**	**<u>121.0</u>**
Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp	Basic	**<u>F</u>**	**<u>100.2</u>**
Oak Valley Parkway On-Ramp	Merge	**<u>F</u>**	**<u>108.5</u>**
Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	**<u>F</u>**	**<u>94.3</u>**
Cherry Valley Boulevard Off-Ramp	Diverge	**<u>F</u>**	**<u>98.5</u>**
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	C	27.4
Cherry Valley Boulevard On-Ramp	Merge	**D**	**28.8**
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Basic	**D**	**32.5**
Singleton Road Off-Ramp	Diverge	**D**	**33.8**
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Weave	--	--
North of Singleton Road	Basic	**D**	**28.5**

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
*2. **Bold** font indicates LOS D conditions, **bold** and <u>underline</u> font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-31: Design Year 2045 - Freeway Operations (No-Build Alternative) (PM Peak Hour)

Westbound I-10 Segment	Facility Type	LOS	Density
South of Oak Valley Parkway	Basic	**<u>F</u>**	**<u>49.9</u>**
Oak Valley Parkway Off-Ramp	Diverge	C	25.4
Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp	Basic	**<u>F</u>**	**<u>71.4</u>**
Oak Valley Parkway On-Ramp	Merge	**<u>F</u>**	**<u>87.8</u>**
Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	**<u>F</u>**	**<u>56.5</u>**
Cherry Valley Boulevard Off-Ramp	Diverge	**<u>F</u>**	**<u>96.0</u>**
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	**D**	**29.7**
Cherry Valley Boulevard On-Ramp	Merge	**D**	**29.2**
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Basic	**D**	**34.5**
Singleton Road Off-Ramp	Diverge	**D**	**34.6**
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Weave	--	--
North of Singleton Road	Basic	C	26.5

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
*2. **Bold** font indicates LOS D conditions, **bold** and <u>underline</u> font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-32: Intersection Operations – Design Year 2045 Conditions (No-Build Alternative) (AM Peak Hour)

Intersection	Control	LOS	Delay
1. I-10 Eastbound Off/On-Ramps/Singleton Road	Signal	C	29.3
2. I-10 Westbound Off/On-Ramps/Singleton Road	Signal	**<u>E</u>**	**<u>60.8</u>**
3. Cherry Valley Boulevard/Palmer Ave/Desert Lawn Drive	Signal	**<u>F</u>**	**<u>994.6</u>**
4A. Cherry Valley Boulevard/Roberts Road	Signal	**<u>F</u>**	**<u>264.8</u>**
4B. Old Roberts Road/Cherry Valley Boulevard	--	--	--
5. I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard	Signal	**<u>F</u>**	**<u>108.9</u>**
6. I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard	Signal	**<u>F</u>**	**<u>100</u>**
7. Calimesa Boulevard/Cherry Valley Boulevard	Side Street Stop/Signal	C	20.5 (SBL)
8. I -10 Eastbound Off/On-Ramps/Oak Valley Parkway	Signal	B	15.4
9. I-10 Westbound Off/On-Ramps/Oak Valley Parkway	Signal	**<u>E</u>**	**<u>56</u>**

Notes: 1. For signal, all-way-stop, and roundabout control, the overall intersection LOS and average delay (in seconds per vehicle) are reported.
2. For side-street stop-control, the worst movement LOS and delay are reported with the worst movement listed in parentheses.
*3. **Bold** and <u>underline</u> font indicate LOS D (for City of Calimesa intersections), E or F conditions (for Caltrans intersections).*
4. Intersection 4B is closed under Design Year (2045) Conditions.
5. Intersections 5 and 6 are signalized under No-Build and Build Alternatives 3 and 4 scenarios.
6. Intersection 6 becomes an uncontrolled on-ramp, and the off-ramp and loop on-ramp are aligned with Intersection 7 under Build Alternative 4.
7. Intersection 7 is side-street stop-controlled under the No-Build scenario, and is signalized under all other scenarios.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-33: Intersection Operations – Design Year 2045 Conditions (No-Build Alternative) (PM Peak Hour)

Intersection	Control	LOS	Delay
1. I-10 Eastbound Off/On-Ramps/Singleton Road	Signal	**<u>F</u>**	**<u>143.6</u>**
2. I-10 Westbound Off/On-Ramps/Singleton Road	Signal	**<u>F</u>**	**<u>150.5</u>**
3. Cherry Valley Boulevard/Palmer Ave/Desert Lawn Drive	Signal	**<u>F</u>**	**<u>171.4</u>**
4A. Cherry Valley Boulevard/Roberts Road	Signal	**<u>F</u>**	**<u>174.7</u>**
4B. Old Roberts Road/Cherry Valley Boulevard	--	--	--
5. I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard	Signal	**<u>F</u>**	**<u>103.8</u>**
6. I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard	Signal	**<u>E</u>**	**<u>64.6</u>**
7. Calimesa Boulevard/Cherry Valley Boulevard	Side Street Stop/Signal	C	21.1 (SBL)
8. I -10 Eastbound Off/On-Ramps/Oak Valley Pkwy	Signal	B	18.4
9. I-10 Westbound Off/On-Ramps/Oak Valley Pkwy	Signal	B	12

Notes: 1. For signal, all-way-stop, and roundabout control, the overall intersection LOS and average delay (in seconds per vehicle) are reported.
2. For side-street stop-control, the worst movement LOS and delay are reported with the worst movement listed in parentheses.
*3. **Bold** and <u>underline</u> font indicate LOS D (for City of Calimesa intersections), E or F conditions (for Caltrans intersections).*
4. Intersection 4B is closed under Design Year (2045) Conditions.
5. Intersections 5 and 6 are signalized under No-Build and Build Alternatives 3 and 4 scenarios.
6. Intersection 6 becomes an uncontrolled on-ramp, and the off-ramp and loop on-ramp are aligned with

Intersection 7 under Build Alternative 4.
7. Intersection 7 is side-street stop-controlled under the No-Build scenario, and is signalized under all other scenarios.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Queuing: Table 2.1.9-34, No-Build Alternatives Intersection Queue Summary (Design Year 2045), summarizes the average queue results under Design Year of 2045 conditions for the No-Build Alternative. The following turning movements would exceed storage capacity under the No-Build Scenario during AM and PM peak hour:

- I-10 Eastbound Off/On-Ramps/Singleton Road
  - Eastbound Through (PM Only)
  - Eastbound Right (PM Only)
  - Westbound Left
- I-10 Westbound Off/On-Ramps/Singleton Road
  - Eastbound Left
- Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive
  - Northbound Left
  - Southbound Left
  - Eastbound Left
  - Eastbound Right
  - Westbound Left (AM Only)
  - Westbound Through (AM Only)
  - Westbound Right (AM Only)
- Cherry Valley Boulevard /Roberts Road
  - Northbound Left
  - Northbound Through
  - Northbound Right
  - Southbound Right
- I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard

- Southbound Left (PM Only)
- Southbound Through (PM Only)
- Southbound Right (PM Only)
- Eastbound Through
- Eastbound Right

- I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard
  - Northbound Left
  - Northbound Through
  - Northbound Right
  - Eastbound Through
  - Eastbound Left
- Calimesa Boulevard/Cherry Valley Boulevard
  - Eastbound Left (AM Only)
- I-10 Eastbound Off/On-Ramps/Oak Valley Parkway
  - Southbound Left
  - Eastbound Right
- I-10 Eastbound Off/On-Ramps/Oak Valley Parkway
  - Northbound Left

As summarized in Table 2.1.9-34, under the Design Year of 2045 conditions, substantial queueing would occur on I-10 eastbound off/on-ramps/Cherry Valley Boulevard with spillback onto the freeway mainline during the PM peak hour, and would occur on I-10 westbound off/on-ramps/Cherry Valley Boulevard with spillback onto the freeway mainline during both AM and PM peak hours. In addition, extended queues would occur on eastbound Palmer Avenue, westbound Desert Lawn Drive, and westbound Calimesa Boulevard during the AM peak hour, and eastbound Palmer Avenue during the PM peak hour.

Table 2.1.9-34: No-Build Alternatives Intersection Queue Summary (Design Year 2045)

Intersection	Storage Length	AM Peak Hour	PM Peak Hour
I-10 EB Off/On-Ramps/Singleton Road / EBT	525	450	**590**
I-10 EB Off/On-Ramps/Singleton Road / EBR	525	450	**590**
I-10 EB Off/On-Ramps/Singleton Road / WBL	525	**610**	**670**
I-10 WB Off/On-Ramps/Singleton Road / EBL	600	**640**	**660**
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / NBL	125	**980**	**830**
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / SBL	175	**480**	**400**
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / EBL	125	**1,920**	**1,850**
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / EBR	100	**240**	**470**
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / WBL	175	**270**	50
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / WBT	1,980	**1,970**	130
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / WBR	1,970	**1,970**	200
Cherry Valley Boulevard/Roberts Road / NBL	175	**540**	**340**
Cherry Valley Boulevard/Roberts Road / NBT	550	**730**	**740**
Cherry Valley Boulevard/Roberts Road / NBR	550	**730**	**740**
Cherry Valley Boulevard/Roberts Road / SBT	500	410	260
Cherry Valley Boulevard/Roberts Road / SBR	150	**440**	**290**
I-10 EB Off/On-Ramps/Cherry Valley Boulevard / SBL	1,150	720	**5,070**
I-10 EB Off/On-Ramps/Cherry Valley Boulevard / SBT	1,150	720	**5,070**
I-10 EB Off/On-Ramps/Cherry Valley Boulevard / SBR	1,150	710	**5,070**
I-10 EB Off/On-Ramps/Cherry Valley Boulevard / EBT	600	**790**	**790**
I-10 EB Off/On-Ramps/Cherry Valley Boulevard / EBR	600	**780**	**780**
I-10 EB Off/On-Ramps/Cherry Valley Boulevard / WBL	375/575[4]	380	**560**
I-10 EB Off/On-Ramps/Cherry Valley Boulevard / WBT	375/575[4]	380	**560**
I-10 WB Off/On-Ramps/Cherry Valley Boulevard / NBL	1,050	**5,080**	**5,070**
I-10 WB Off/On-Ramps/Cherry Valley Boulevard / NBT	1,050	**5,080**	**5,070**
I-10 WB Off/On-Ramps/Cherry Valley Boulevard / NBR	1,050	**5,080**	**5,070**
I-10 WB Off/On-Ramps/Cherry Valley Boulevard / EBL	550	**690**	**560**
I-10 WB Off/On-Ramps/Cherry Valley Boulevard / EBT	550	**690**	**560**
Calimesa Boulevard/Cherry Valley Boulevard[3] / NBT	225	--	--
Calimesa Boulevard/Cherry Valley Boulevard[3] / NBL	225	--	--
Calimesa Boulevard/Cherry Valley Boulevard[3] / SBL	225	100	230
Calimesa Boulevard/Cherry Valley Boulevard[3] / EBL	175	**260**	70
I-10 EB Off/On-Ramps/Oak Valley Parkway / SBL	175	**260**	**770**
I-10 EB Off/On-Ramps/Oak Valley Parkway / SBT	1,175	140	270
I-10 EB Off/On-Ramps/Oak Valley Parkway /SBR	1,175	140	270
I-10 EB Off/On-Ramps/Oak Valley Parkway / EBR	100	**370**	**260**
I-10 WB Off/On-Ramps/Oak Valley Parkway/ NBL	150	**240**	**400**

Notes: EB=eastbound; WB=westbound; NBR=northbound right; NBL=northbound left; NBT=northbound through; EBR=eastbound right; EBL=eastbound left; EBT=eastbound through; SBR=southbound right; SBL=southbound left; SBT=southbound through; WBR=westbound right; WBL=westbound left; WBT=westbound through

1. The storage and average maximum queue length (in feet) is reported for key movements.

*2. **Bold** and underline font indicate a queue that exceeds the storage.*

3. In Alternative 4, Partial Cloverleaf Interchange the intersection of Calimesa Boulevard is realigned with the I-10 westbound off-ramp to Cherry Valley Boulevard.

4. The storage length is listed in the following order: Diverging Diamond Storage/Partial Cloverleaf Storage (XXX'/XXX').

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

System-wide Performance: Under the No-Build Alternative, the travel time, average delay, and traffic volume of the I-10/Cherry Valley Boulevard overcrossing's existing transportation system were taken into account for Design Year 2045 conditions. Table 2.1.9-35, No-Build Alternative (Design Year 2045) Performance Summary, shows slightly higher levels of congestion occur during the PM peak hour in the study area, reflected by the increase in average delay per vehicle, 366.4 seconds during the PM peak hour compared to 352.9 seconds during the AM peak hour under the No-Build Alternative. Table 2.1.9-36, Travel Time Eastbound I-10: Singleton Road to Oak Valley Parkway (No Build Alternative), shows increases in travel times in travel times during the AM peak hours compared to the 2025 Opening Year, with 4.1 minutes for cars and 4.8 minutes for trucks. Table 2.1.9-37, Travel Time Westbound I-10: Singleton Road to Oak Valley Parkway (No Build Alternative) (Design Year 2045), shows an increase in travel times that ranges from 8.7 to 19.2 minutes in travel time for AM and PM peak hours, when compared to the 2025 Opening Year.

Table 2.1.9-35: No-Build Alternative (Design Year 2045) Performance Summary

Performance Measure	Metric	AM	PM
Average Speed	Miles per Hour (mph)	18.4	17.4
Volume Served	Vehicles per Hour (vph)	14,962	14,435
Total Distance Traveled	Miles	46,219	43,200
Total Travel Time	Vehicle Hours Travelled (hours)	2,507.0	2,496.0
Average Delay Per Vehicle	Seconds	352.9	366.4
Total Delay	Vehicle Hours Delay (hours)	1,714	1,750

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-36: Travel Time Eastbound I-10: Singleton Road to Oak Valley Parkway (No Build Alternative) (Design Year 2045)

Performance Measure	Metric	AM Peak Hour	PM Peak Hour
Cars	Minutes	4.1	4.1
Trucks	Minutes	4.8	4.7
All	Minutes	4.2	4.2

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-37: Travel Time Westbound I-10: Singleton Road to Oak Valley Parkway (No Build Alternative) (Design Year 2045)

Performance Measure	Metric	AM Peak Hour	PM Peak Hour
Cars	Minutes	12.6	10.5
Trucks	Minutes	19.2	8.7
All	Minutes	13.2	10.5

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Build Alternatives 3 and 4

Opening Year (2025): Figures 2.1.9-8 through 2.1.9-11 and Tables 2.1.9-38 through 2.1.9-45 show Opening Year 2025 LOS and density under Build Alternatives 3 and 4 for study area roadway and freeway segments and intersections.

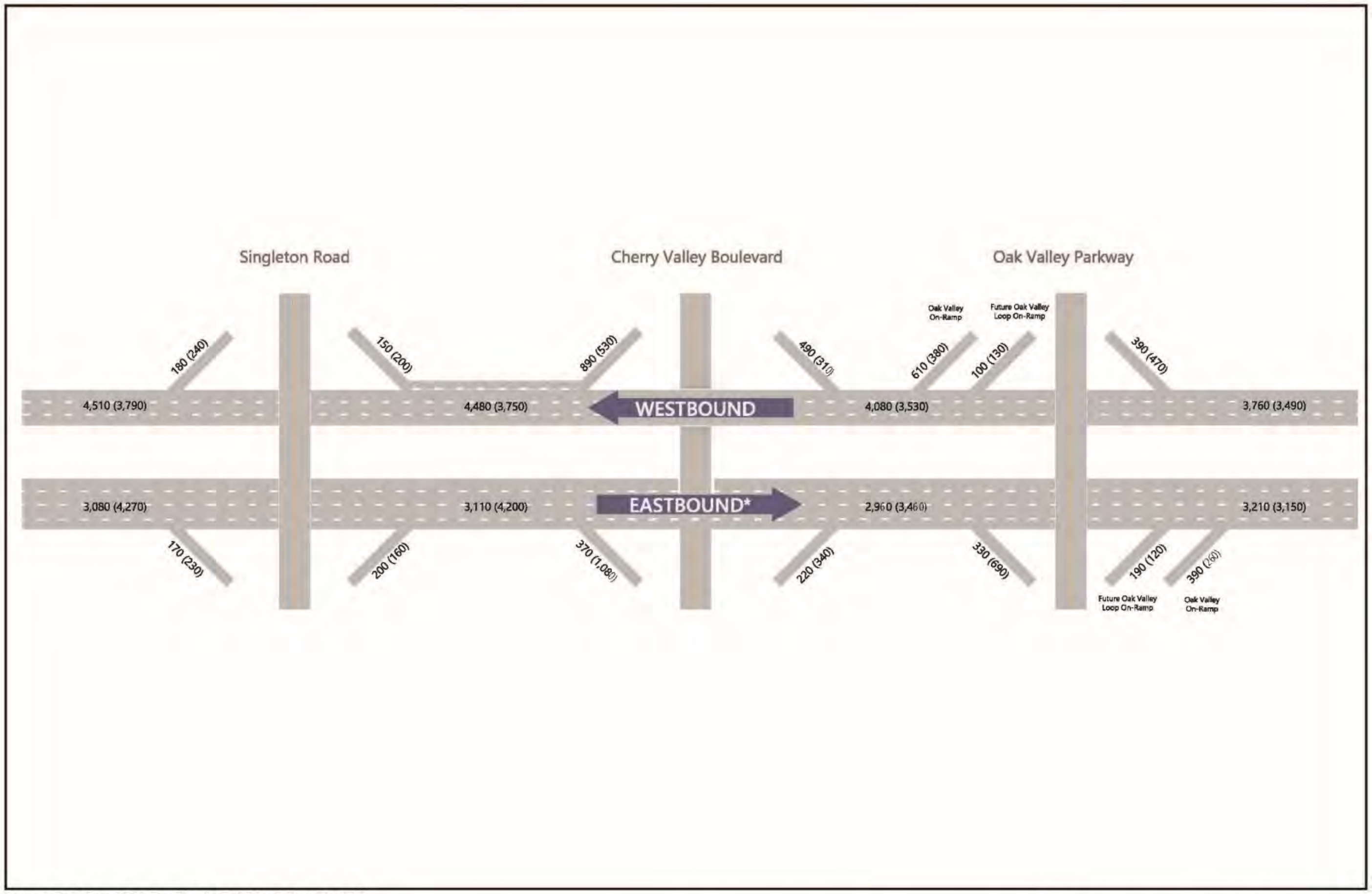
As shown in Tables 2.1.9-38 through 2.1.9-45, Build Alternatives 3 and 4 perform similarly based on LOS and volume densities on freeways and would improve freeway operations within the project area during opening Year 2025 conditions with the exception of the westbound I-10 segment north of Singleton, which would operate at an unacceptable LOS D in the AM peak hour under Build Alternatives 3 and 4. During the PM peak hour, Build Alternatives 3 and 4 would improve the eastbound I-10 segment at Cherry Valley off-ramp from an unacceptable LOS F in the No-Build condition to an acceptable LOS B. During the AM peak hour, Build Alternatives 3 and 4 would improve westbound I-10 segments at Cherry Valley on-ramp to Singleton off-ramp and the Singleton off-ramp from an unacceptable LOS D in the No-Build condition to an acceptable LOS C or better.

Table 2.1.9-38: Opening Year 2025 Eastbound Segment Build Alternative 3 (AM Peak Hour)

Eastbound I-10 Segment	Facility Type	LOS	Density
North of Singleton Road	Basic	B	13.6
Singleton Road On-Ramp	Merge	B	10.7
Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	B	12.6
Cherry Valley Boulevard Off-Ramp	Diverge	B	9.7
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	A	11.2
Cherry Valley Boulevard On-Ramp	Merge	B	10.2
Cherry Valley Boulevard On-Ramp to Oak Valley Parkway Off-Ramp	Basic	B	12.2
Oak Valley Parkway Off-Ramp	Diverge	B	11.5
Oak Valley Parkway Off-Ramp to On-Ramp	Basic	B	10.4
Oak Valley Parkway On-Ramp	Merge	B	10.3
South of Oak Valley Parkway	Basic	B	12.4

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
2. ***Bold*** *font indicates LOS D conditions,* ***bold*** *and* <u>*underline*</u> *font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Figure 2.1.9-8: Opening Year (2025) Peak Hour Freeway Volumes Build Alternative 3



Source: Fehr & Peers, Traffic Operations Analysis Report, November 2020

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Opening Year (2025) Peak Hour Freeway Volumes Build Alternative 3

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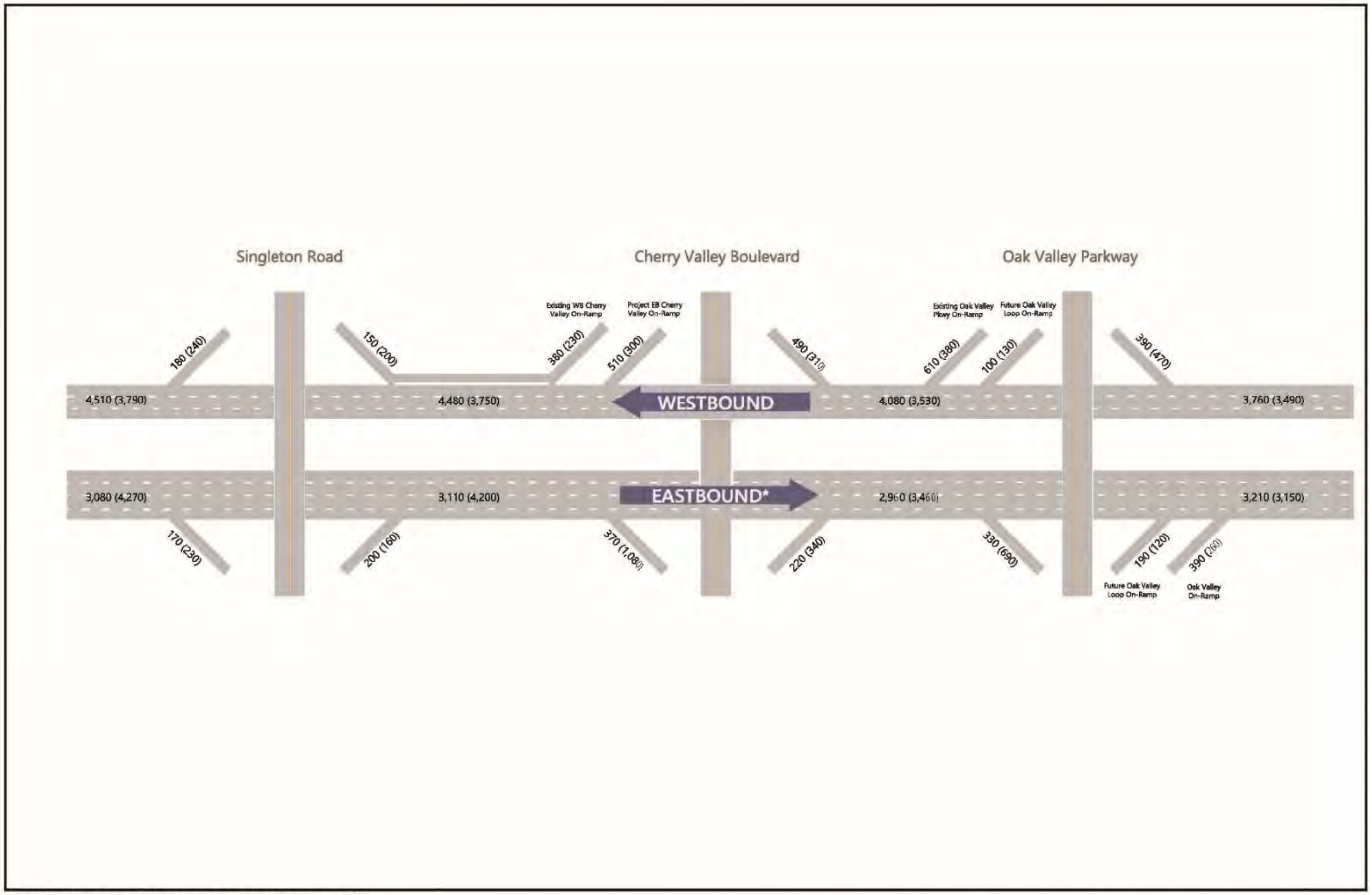
Figure 2.1.9-8

Figure 2.1.9-9: Opening Year (2025) Peak Hour Freeway Volumes Build Alternative 4



Source: Fehr & Peers, Traffic Operations Analysis Report, November 2020

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Opening Year (2025) Peak Hour Freeway Volumes Build Alternative 4

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Figure 2.1.9-9

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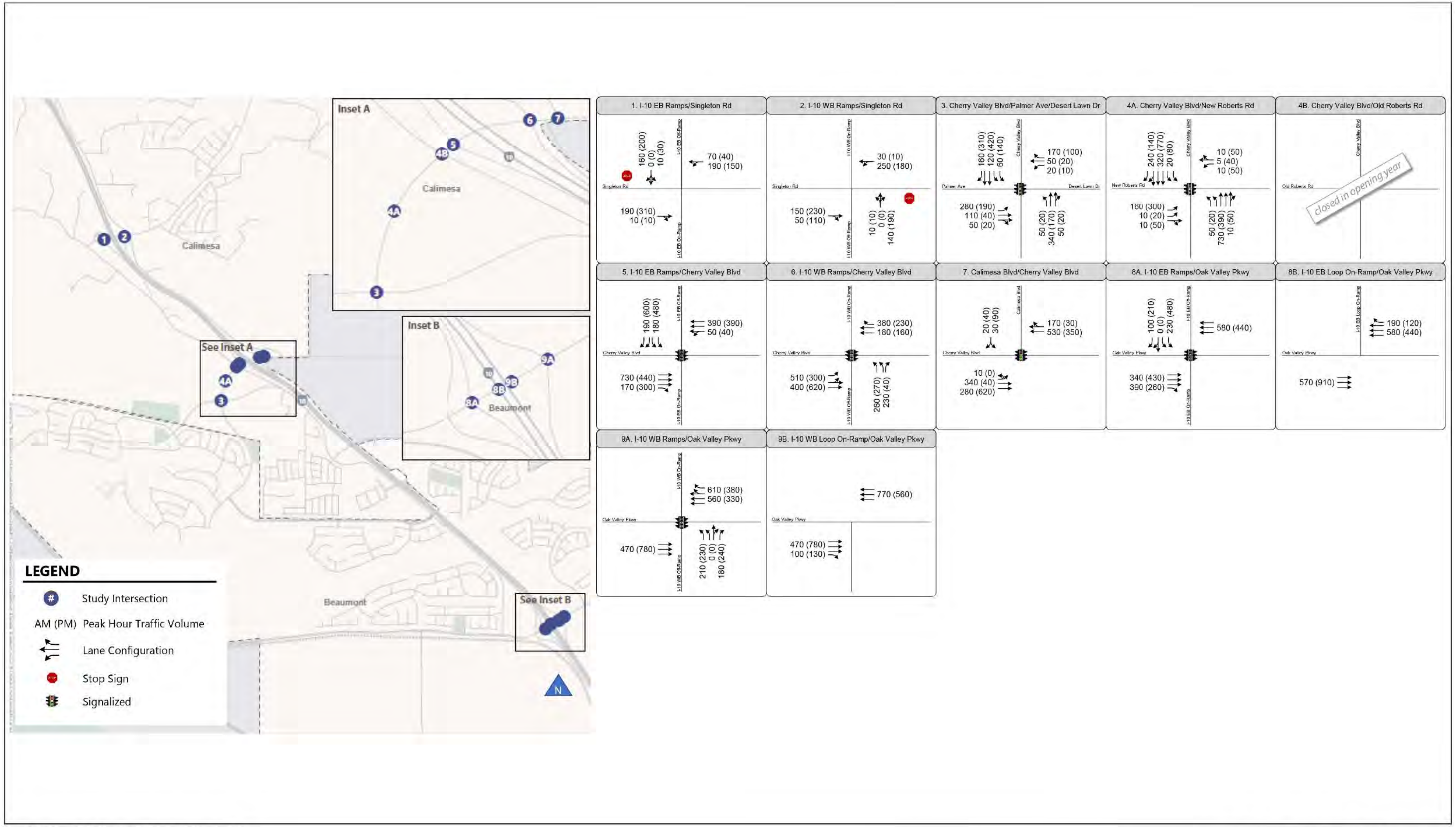
Figure 2.1.9-10: Opening Year (2025) Peak Hour Intersection Volumes Build Alternative 3



Source: Fehr & Peers, Traffic Operations Analysis Report, November 2020

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Opening Year (2025) Peak Hour Intersection Volumes Build Alternative 3

Figure 2.1.9-10

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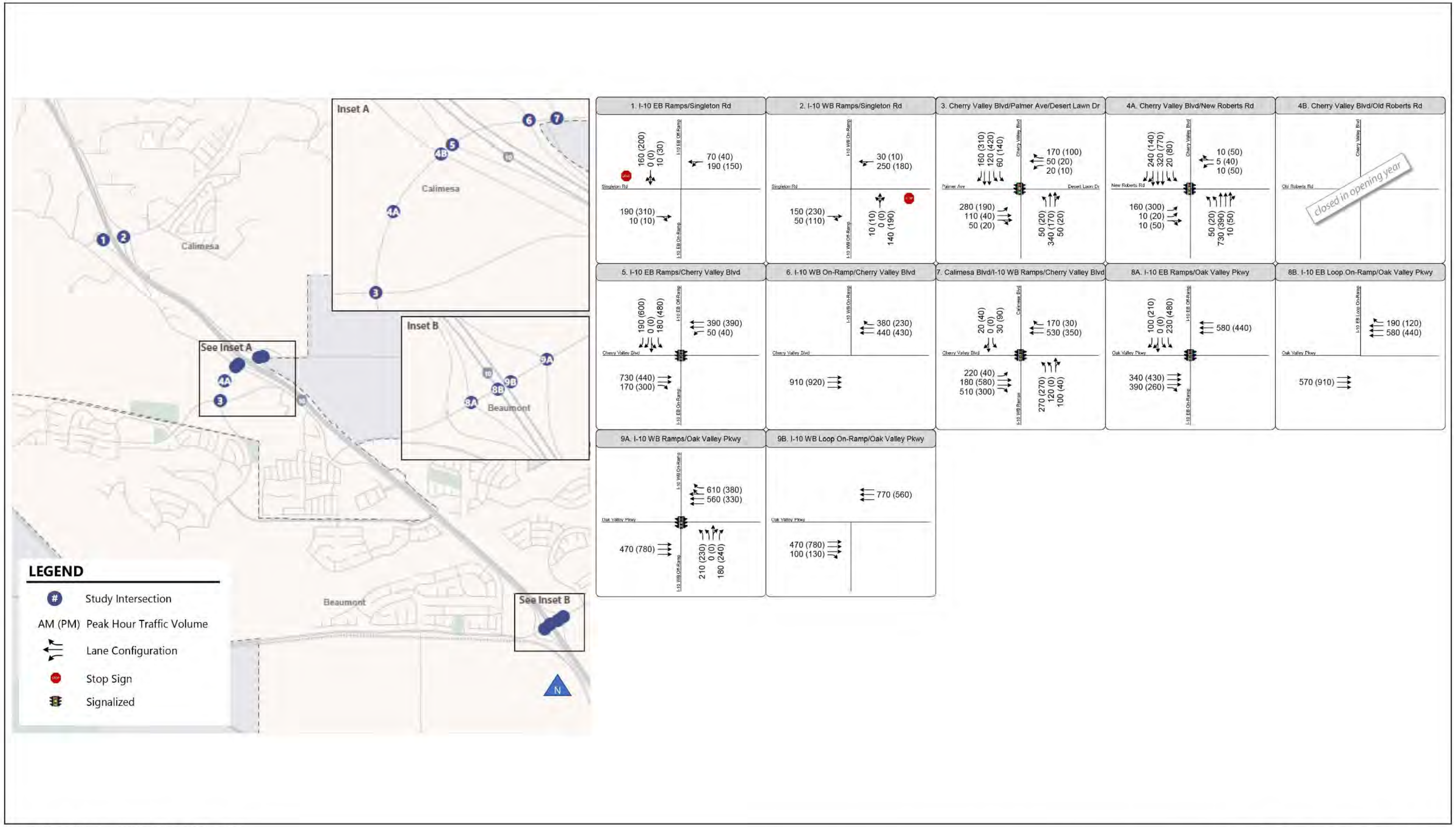
Figure 2.1.9-11: Opening Year (2025) Peak Hour Intersection Volumes Build Alternative 4



Source: Fehr & Peers, Traffic Operations Analysis Report, November 2020

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Opening Year (2025) Peak Hour Intersection Volumes Build Alternative 4

Figure 2.1.9-11

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Table 2.1.9-39: Opening Year 2025 Eastbound Segment Build Alternative 3 (PM Peak Hour)

Eastbound I-10 Segment	Facility Type	LOS	Density
North of Singleton Road	Basic	B	15.5
Singleton Road On-Ramp	Merge	B	17.0
Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	B	17.3
Cherry Valley Boulevard Off-Ramp	Diverge	B	13.6
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	B	13.3
Cherry Valley Boulevard On-Ramp	Merge	B	11.7
Cherry Valley Boulevard On-Ramp to Oak Valley Parkway Off-Ramp	Basic	B	14.6
Oak Valley Parkway Off-Ramp	Diverge	B	15.5
Oak Valley Parkway Off-Ramp to On-Ramp	Basic	B	11.1
Oak Valley Parkway On-Ramp	Merge	A	8.9
South of Oak Valley Parkway	Basic	B	12.1

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
*2. **Bold** font indicates LOS D conditions, **bold** and underline font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-40: Opening Year 2025 Westbound Segment Build Alternative 3 (AM Peak Hour)

Westbound I-10 Segment	Facility Type	LOS	Density
South of Oak Valley Parkway	Basic	C	21.3
Oak Valley Parkway Off-Ramp	Diverge	C	21.5
Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp	Basic	B	18.0
Oak Valley Parkway On-Ramp	Merge	C	20.9
Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	C	27.9
Cherry Valley Boulevard Off-Ramp	Diverge	B	18.8
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	C	24.1
Cherry Valley Boulevard On-Ramp	Merge	--	
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Basic	--	
Singleton Road Off-Ramp	Diverge	--	
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Weave	C	22.8
North of Singleton Road	Basic	**D**	**29.9**

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
*2. **Bold** font indicates LOS D conditions, **bold** and underline font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-41: Opening Year 2025 Westbound Segment Build Alternative 3 (PM Peak Hour)

Westbound I-10 Segment	Facility Type	LOS	Density
South of Oak Valley Parkway	Basic	C	20.0
Oak Valley Parkway Off-Ramp	Diverge	C	20.3
Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp	Basic	B	16.3
Oak Valley Parkway On-Ramp	Merge	B	17.5
Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	C	22.4
Cherry Valley Boulevard Off-Ramp	Diverge	B	13.7
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	C	20.2
Cherry Valley Boulevard On-Ramp	Merge	--	--
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Basic	--	--
Singleton Road Off-Ramp	Diverge	--	--
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Weave	--	--
North of Singleton Road	Basic	C	22.0

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
*2. **Bold** font indicates LOS D conditions, **bold** and underline font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-42: Opening Year 2025 Eastbound Segment Build Alternatives 4 (AM Peak Hour)

Eastbound I-10 Segment	Facility Type	LOS	Density
North of Singleton Road	Basic	B	10.7
Singleton Road On-Ramp	Merge	B	11.5
Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	B	12.6
Cherry Valley Boulevard Off-Ramp	Diverge	A	9.7
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	B	11.2
Cherry Valley Boulevard On-Ramp	Merge	B	10.2
Cherry Valley Boulevard On-Ramp to Oak Valley Parkway Off-Ramp	Basic	B	12.2
Oak Valley Parkway Off-Ramp	Diverge	B	11.8
Oak Valley Parkway Off-Ramp to On-Ramp	Basic	B	10.3
Oak Valley Parkway On-Ramp	Merge	B	10.4
South of Oak Valley Parkway	Basic	B	12.3

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
*2. **Bold** font indicates LOS D conditions, **bold** and underline font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-43: Opening Year 2025 Eastbound Segment Build Alternative 4 (PM Peak Hour)

Eastbound I-10 Segment	Facility Type	LOS	Density
North of Singleton Road	Basic	B	15.0
Singleton Road On-Ramp	Merge	B	16.8
Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	B	17.2
Cherry Valley Boulevard Off-Ramp	Diverge	B	14.3
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	B	13.0
Cherry Valley Boulevard On-Ramp	Merge	B	11.6
Cherry Valley Boulevard On-Ramp to Oak Valley Parkway Off-Ramp	Basic	B	14.4
Oak Valley Parkway Off-Ramp	Diverge	B	15.0
Oak Valley Parkway Off-Ramp to On-Ramp	Basic	B	11.0
Oak Valley Parkway On-Ramp	Merge	A	9.0
South of Oak Valley Parkway	Basic	B	12.1

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
*2. **Bold** font indicates LOS D conditions, **bold** and **underline** font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-44: Opening Year 2025 Westbound Segment Build Alternatives 4 (AM Peak Hour)

Westbound I-10 Segment	Facility Type	LOS	Density
South of Oak Valley Parkway	Basic	C	21.3
Oak Valley Parkway Off-Ramp	Diverge	C	21.6
Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp	Basic	B	18.0
Oak Valley Parkway On-Ramp	Merge	C	20.8
Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	C	27.6
Cherry Valley Boulevard Off-Ramp	Diverge	B	17.8
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	C	21.95
Cherry Valley Boulevard On-Ramp	Merge	B	16.6
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Basic	C	26.0
Singleton Road Off-Ramp	Diverge	C	24.9
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Weave	--	
North of Singleton Road	Basic	**D**	**33.4**

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
*2. **Bold** font indicates LOS D conditions, **bold** and underline font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the

*westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).*

Table 2.1.9-45: Opening Year 2025 Westbound Segment Build Alternatives 4 (PM Peak Hour)

Westbound I-10 Segment	Facility Type	LOS	Density
South of Oak Valley Parkway	Basic	B	19.6
Oak Valley Parkway Off-Ramp	Diverge	C	20.0
Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp	Basic	B	16.0
Oak Valley Parkway On-Ramp	Merge	B	17.0
Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	C	21.8
Cherry Valley Boulevard Off-Ramp	Diverge	B	13.3
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	B	18.6
Cherry Valley Boulevard On-Ramp	Merge	B	11.4
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Basic	B	18.7
Singleton Road Off-Ramp	Diverge	B	18.6
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Weave	--	--
North of Singleton Road	Basic	C	23.6

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
*2. **Bold** font indicates LOS D conditions, **bold** and <u>underline</u> font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Build Alternatives 3 and 4 perform similarly, with all intersections operating acceptably, based on LOS and the delay at all the study intersections. As shown in Tables 2.1.9-46 through 2.1.9-50, and Figures 2.1.9-10 and 2.1.9-11, all study intersections that operated at an unacceptable LOS D or worse during the AM and PM peak hours under the No-Build Alternative scenario would improve to operate at LOS C or better under Build Alternatives 3 and 4.

Table 2.1.9-46: Intersection Operations – Opening Year 2025 Conditions Build Alternative 3 (AM Peak Hour)

Intersection	Control	LOS	Delay
1. I-10 Eastbound Off/On-Ramps/Singleton Road	Side Street Stop	B	10.3 (SBL)
2. I-10 Westbound Off/On-Ramps/Singleton Road	Side Street Stop	A	9.0 (NBL)
3. Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive	Signal	C	27.7
4A. Cherry Valley Boulevard/Roberts Road	Signal	B	13.5
4B. Old Roberts Road/Cherry Valley Boulevard	--	--	--
5. I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard	Signal	C	22.0
6. I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard	Signal	A	7.1
7. Calimesa Boulevard/Cherry Valley Boulevard	Side Street Stop/Signal	C	22.0
8. I -10 Eastbound Off/On-Ramps/Oak Valley Parkway	Signal	B	11.1
9. I-10 Westbound Off/On-Ramps/Oak Valley Parkway	Signal	A	8.6

Notes: SBL=southbound left; NBL=northbound left
1. For signal, all-way-stop, and roundabout control, the overall intersection LOS and average delay (in seconds per vehicle) are reported.
2. For side-street stop-control, the worst movement LOS and delay are reported with the worst movement listed in parentheses.
3. Bold and underline font indicate LOS D (for City of Calimesa intersections), E or F conditions (for Caltrans intersections).
4. Intersection 4B is closed under Opening Year (2025) Conditions.
5. Intersections 5 and 6 are signalized under No-Build and Build Alternatives 3 and 4 scenarios.
6. Intersection 6 becomes an uncontrolled on-ramp, and the off-ramp and loop on-ramp are aligned with Intersection 7 under Build Alternative 4.
7. Intersection 7 is side-street stop-controlled under the No Build scenario, and is signalized under all other scenarios.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-47: Intersection Operations – Opening Year 2025 Conditions Build Alternatives 3 (PM Peak Hour)

Intersection	Control	LOS	Delay
1. I-10 Eastbound Off/On-Ramps/Singleton Road	Side Street Stop	B	11.4 (SBL)
2. I-10 Westbound Off/On-Ramps/Singleton Road	Side Street Stop	B	14.4 (NBL)
3. Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive	Signal	C	22.1
4A. Cherry Valley Boulevard/Roberts Road	Signal	B	13.5
4B. Old Roberts Road/Cherry Valley Boulevard	--	--	--
5. I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard	Signal	B	14.7
6. I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard	Signal	A	5.7
7. Calimesa Boulevard/Cherry Valley Boulevard	Side Street Stop/Signal	A	9.5
8. I -10 Eastbound Off/On-Ramps/Oak Valley Parkway	Signal	B	17.4
9. I-10 Westbound Off/On-Ramps/Oak Valley Parkway	Signal	B	14.7

Notes: SBL=southbound left; NBL=northbound left
1. For signal, all-way-stop, and roundabout control, the overall intersection LOS and average delay (in

seconds per vehicle) are reported.
2. For side-street stop-control, the worst movement LOS and delay are reported with the worst movement listed in parentheses.
*3. **Bold** and <u>underline</u> font indicate LOS D (for City of Calimesa intersections), E or F conditions (for Caltrans intersections).*
4. Intersection 4B is closed under Opening Year (2025) Conditions.
5. Intersections 5 and 6 are signalized under No-Build and Build Alternatives 3 and 4 scenarios.
6. Intersection 6 becomes an uncontrolled on-ramp, and the off-ramp and loop on-ramp are aligned with Intersection 7 under Build Alternative 4.
7. Intersection 7 is side-street stop-controlled under the No-Build scenario, and is signalized under all other scenarios.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-48: Intersection Operations – Opening Year 2025 Conditions Build Alternative 4 (AM Peak Hour)

Intersection	Control	LOS	Delay
1. I-10 Eastbound Off/On-Ramps/Singleton Road	Side Street Stop	B	10.7 (SBL)
2. I-10 Westbound Off/On-Ramps/Singleton Road	Side Street Stop	B	10.2 (NBL)
3. Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive	Signal	C	25.8
4A. Cherry Valley Boulevard/Roberts Road	Signal	B	12.3
4B. Old Roberts Road/Cherry Valley Boulevard	--	--	--
5. I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard	Signal	B	11.4
6. I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard	Signal	--	--
7. Calimesa Boulevard/Cherry Valley Boulevard	Side Street Stop/ Signal	C	20.6
8. I -10 Eastbound Off/On-Ramps/Oak Valley Parkway	Signal	B	11.6
9. I-10 Westbound Off/On-Ramps/Oak Valley Parkway	Signal	A	8.9

Notes: 1. For signal, all-way-stop, and roundabout control, the overall intersection LOS and average delay (in seconds per vehicle) are reported.
2. For side-street stop-control, the worst movement LOS and delay are reported with the worst movement listed in parentheses.
*3. **Bold** and <u>underline</u> font indicate LOS D (for City of Calimesa intersections), E or F conditions (for Caltrans intersections).*
4. Intersection 4B is closed under Opening Year (2025) Conditions.
5. Intersections 5 and 6 are signalized under No-Build and Build Alternatives 3 and 4 scenarios.
6. Intersection 6 becomes an uncontrolled on-ramp, and the off-ramp and loop on-ramp are aligned with Intersection 7 under Build Alternative 4.
7. Intersection 7 is side-street stop-controlled under the No-Build scenario, and is signalized under all other scenarios.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-49: Intersection Operations – Opening Year 2025 Conditions Build Alternatives 4 (PM Hour)

Intersection	Control	LOS	Delay
1. I-10 Eastbound Off/On-Ramps/Singleton Road	Side Street Stop	B	11.2 (SBL)
2. I-10 Westbound Off/On-Ramps/Singleton Road	Side Street Stop	B	11.3 (NBR)
3. Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive	Signal	C	20.8
4A. Cherry Valley Boulevard/Roberts Road	Signal	B	19.0
4B. Old Roberts Road/Cherry Valley Boulevard	--	--	--
5. I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard	Signal	B	15.2
6. I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard	Signal	--	--
7. Calimesa Boulevard/Cherry Valley Boulevard	Side Street Stop/ Signal	B	15.2
8. I -10 Eastbound Off/On-Ramps/Oak Valley Parkway	Signal	B	17.0
9. I-10 Westbound Off/On-Ramps/Oak Valley Parkway	Signal	B	11.1

Notes: 1. For signal, all-way-stop, and roundabout control, the overall intersection LOS and average delay (in seconds per vehicle) are reported.
2. For side-street stop-control, the worst movement LOS and delay are reported with the worst movement listed in parentheses.
*3. **Bold** and <u>underline</u> font indicate LOS D (for City of Calimesa intersections), E or F conditions (for Caltrans intersections).*
4. Intersection 4B is closed under Opening Year (2025) Conditions.
5. Intersections 5 and 6 are signalized under No-Build and Build Alternatives 3 and 4 scenarios.
6. Intersection 6 becomes an uncontrolled on-ramp, and the off-ramp and loop on-ramp are aligned with Intersection 7 under the Build Alternative 4.
7. Intersection 7 is side-street stop-controlled under the No-Build scenario, and is signalized under all other scenarios.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Queueing: As shown in Tables 2.1.9-50 and 2.1.9-51, Build Alternatives 3 and 4 would eliminate the queues at the I-10 eastbound off/on-ramps/Cherry Valley Boulevard intersection, and substantially reduce queueing at other ramp terminal and intersection locations as compared to the No-Build Alternative. In addition, the eastbound right turning movement at Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive under the Build Alternatives would have much longer queue lengths than the No-Build Alternative. The only movements where the queues would exceed the storage lengths under Build Alternatives 3 and 4 are listed below, with much shorter queues compared to the No-Build Alternative.

- Northbound left at Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive (AM Only)
- Southbound left at Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive (PM Only)
- Eastbound left at Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive
- Eastbound right at Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive

- Southbound right at Cherry Valley Boulevard/Roberts Road (PM Only)
- Northbound through at Calimesa Boulevard/Cherry Valley Boulevard (AM Only)
- Northbound right at Calimesa Boulevard/Cherry Valley Boulevard (AM Only)
- Eastbound left at Calimesa Boulevard/Cherry Valley Boulevard (AM Only)
- Southbound left at I-10 Eastbound Off/On-Ramps/Oak Valley Parkway
- Eastbound right at I-10 Eastbound Off/On-Ramps/Oak Valley Parkway
- Northbound left at I-10 Westbound Off/On-Ramps/Oak Valley Parkway

Table 2.1.9-50: Build Alternative 3 Intersection Queue Summary (Opening Year 2025)

Intersection/ Movement	Storage Length	AM Peak Hour	PM Peak Hour
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / NBL	125	**<u>160</u>**	90
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / SBL	175	110	160
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / EBL	125	**<u>600</u>**	**<u>420</u>**
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / EBR	100	**<u>190</u>**	90
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / WBL	175	100	60
Cherry Valley Boulevard/Roberts Road / NBT	550	160	170
Cherry Valley Boulevard/Roberts Road / NBR	550	170	170
Cherry Valley Boulevard/Roberts Road / SBT	625	150	200
Cherry Valley Boulevard/Roberts Road / SBR	625	**<u>180</u>**	**<u>230</u>**
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard/ SBL	990	160	290
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / SBT	950	490	**<u>3,710</u>**
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / SBR	950	460	**<u>3,710</u>**
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / EBT	575	**<u>780</u>**	**<u>780</u>**
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / EBR	525	**<u>770</u>**	**<u>770</u>**
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / WBL	375	380	**<u>630</u>**
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / WBT	375	380	**<u>630</u>**
I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard / EBL	425	**<u>670</u>**	530
I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard / EBT	425	**<u>670</u>**	530
Calimesa Boulevard/Cherry Valley Boulevard / NBT	1050	--	--
Calimesa Boulevard/Cherry Valley Boulevard / NBR	310	--	--
Calimesa Boulevard/Cherry Valley Boulevard / EBL	850	520	110
Calimesa Boulevard/Cherry Valley Boulevard/ WBT	1000	**<u>1060</u>**	230
Calimesa Boulevard/Cherry Valley Boulevard / EBR	1000	**<u>1060</u>**	230
I-10 Eastbound Off/On- Ramps/Oak Valley Parkway / SBL	175	**<u>180</u>**	**<u>480</u>**
I-10 Eastbound Off/On-Ramps/Oak Valley Parkway / EBL	100	**<u>210</u>**	**<u>150</u>**
I-10 Westbound Off/On-Ramps/Oak Valley Parkway / NBL	150	**<u>180</u>**	**<u>230</u>**

Notes: EB=eastbound; WB=westbound; NBR=northbound right; NBL=northbound left; NBT=northbound through; EBR=eastbound right; EBL=eastbound left; EBT=eastbound through; SBR=southbound right; SBL=southbound left; SBT=southbound through; WBR=westbound right; WBL=westbound left; WBT=westbound through

1. The storage and average maximum queue length (in feet) is reported for key movements. ***Bold*** *and <u>underline</u> font indicate a queue that exceeds the storage.*

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-51: Build Alternative 4 Intersection Queue Summary (Opening Year 2025)

Intersection/ Movement	Storage Length	AM Peak Hour	PM Peak Hour
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / NBL	125	**<u>130</u>**	90
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / SBL	175	100	30
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / EBL	125	**<u>550</u>**	100
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / EBR	100	**<u>160</u>**	**<u>400</u>**
Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive / WBL	175	80	60
Cherry Valley Boulevard/Roberts Road / NB Through	550	190	180
Cherry Valley Boulevard/Roberts Road / NBR	550	220	210
Cherry Valley Boulevard/Roberts Road / SBT	600	140	240
Cherry Valley Boulevard/Roberts Road / SBR	600	**<u>190</u>**	**<u>290</u>**
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / SBL	1150	140	250
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / SBT	1150	140	250
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / SBR	1150	100	160
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / EBT	600	380	250
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / EBR	600	30	80
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / WBL	575	140	120
I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard / WBT	575	110	100
I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard / EBL	175	310	100
I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard / EB T	1000	120	240
Calimesa Boulevard/Cherry Valley Boulevard / NBT	1050	**<u>310</u>**	**<u>200</u>**
Calimesa Boulevard/Cherry Valley Boulevard / NBR	310	**<u>310</u>**	90
Calimesa Boulevard/Cherry Valley Boulevard / EBL	250	**<u>280</u>**	100
Calimesa Boulevard/Cherry Valley Boulevard / WBT	1000	320	190
Calimesa Boulevard/Cherry Valley Boulevard / EBR	200	120	50
I-10 Eastbound Off/On- Ramps/Oak Valley Parkway / SBL	175	170	**<u>410</u>**
I-10 Eastbound Off/On- Ramps/Oak Valley Parkway / EBR	100	**<u>190</u>**	**<u>130</u>**
I-10 Westbound Off/On-Ramps/Oak Valley Parkway / NBL	150	**<u>180</u>**	**<u>250</u>**

Notes: EB=eastbound; WB=westbound; NBR=northbound right; NBL=northbound left; NBT=northbound through; EBR=eastbound right; EBL=eastbound left; EBT=eastbound through; SBR=southbound right; SBL=southbound left; SBT=southbound through; WBR=westbound right; WBL=westbound left; WBT=westbound through

*1. The storage and average maximum queue length (in feet) is reported for key movements. **Bold** and <u>underline</u> font indicate a queue that exceeds the storage.*

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

System-wide Performance: Under Build Alternatives 3 and 4, the travel time, average delay, and the traffic volumes of the overcrossing's existing transportation system were taken into account for Opening Year 2025 conditions. Tables 2.1.9-52 and 2.1.9-55 show an overall reduced delay under Build Alternatives 3 and 4 compared to the No-Build Alternative under Opening Year 2025 conditions. Tables 2.1.9-53 and 2.1.9-54 shows the estimated time travel time on I-10, between the Singleton Road and Oak Valley Parkway overcrossings, for Build Alternative 3 during the 2025 Opening Year. Tables 2.1.9-56 and 2.1.9-57 shows the estimated time travel time on I-10, between the Singleton Road and Oak Valley Parkway overcrossings, for Build Alternative 4 during the 2025 Opening Year.

Table 2.1.9-52: Build Alternative 3 (Opening Year 2025)

Performance Measure	Metric	AM	PM
Average Speed	Miles per Hour (mph)	48.0	50.5
Volume Served (vph)	Vehicles per Hour (vph)	11,283	11,239
Total Distance Traveled	Miles	38,371	38,474
Total Travel Time [VHT] (hours)	Vehicle Hours Travelled (hours)	799.1	761.6
Average Delay Per Vehicle (seconds)	Seconds	42.0	33.9
Total Delay [VHD] (hours)	Vehicle Hours Delay (hours)	141	123

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-53: Travel Time Eastbound I-10: Singleton Road to Oak Valley Parkway (Build Alternative 3) (Opening Year 2025)

Performance Measure	Metric	AM Peak Hour	PM Peak Hour
Cars	Minutes	4.0	4.1
Trucks	Minutes	4.5	4.6
All	Minutes	4.1	4.1

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-54: Travel Time Westbound I-10: Singleton Road to Oak Valley Parkway (Build Alternative 3) (Opening Year 2025)

Performance Measure	Metric	AM Peak Hour	PM Peak Hour
Cars	Minutes	4.8	4.4
Trucks	Minutes	6.1	5.5
All	Minutes	4.9	4.5

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-55: Build Alternative 4 (Opening Year 2025)

Performance Measure	Metric	AM	PM
Average Speed	Miles per Hour	47.9	49.9
Volume Served (vph)	Vehicles per Hour (vph)	11,272	11,255
Total Distance Traveled	Miles	38,530	38,599
Total Travel Time [VHT] (hours)	Vehicle Hours Travelled (hours)	805.0	772.9
Average Delay Per Vehicle (seconds)	Seconds	39.5	36.1
Total Delay [VHD] (hours)	Vehicle Hours Delay (hours)	132	121

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-56: Travel Time Eastbound I-10: Singleton Road to Oak Valley Parkway (Build Alternative 4) (Opening Year 2025)

Performance Measure	Metric	AM Peak Hour	PM Peak Hour
Cars	Minutes	4.0	4.1
Trucks	Minutes	4.5	4.6
All	Minutes	4.1	4.1

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

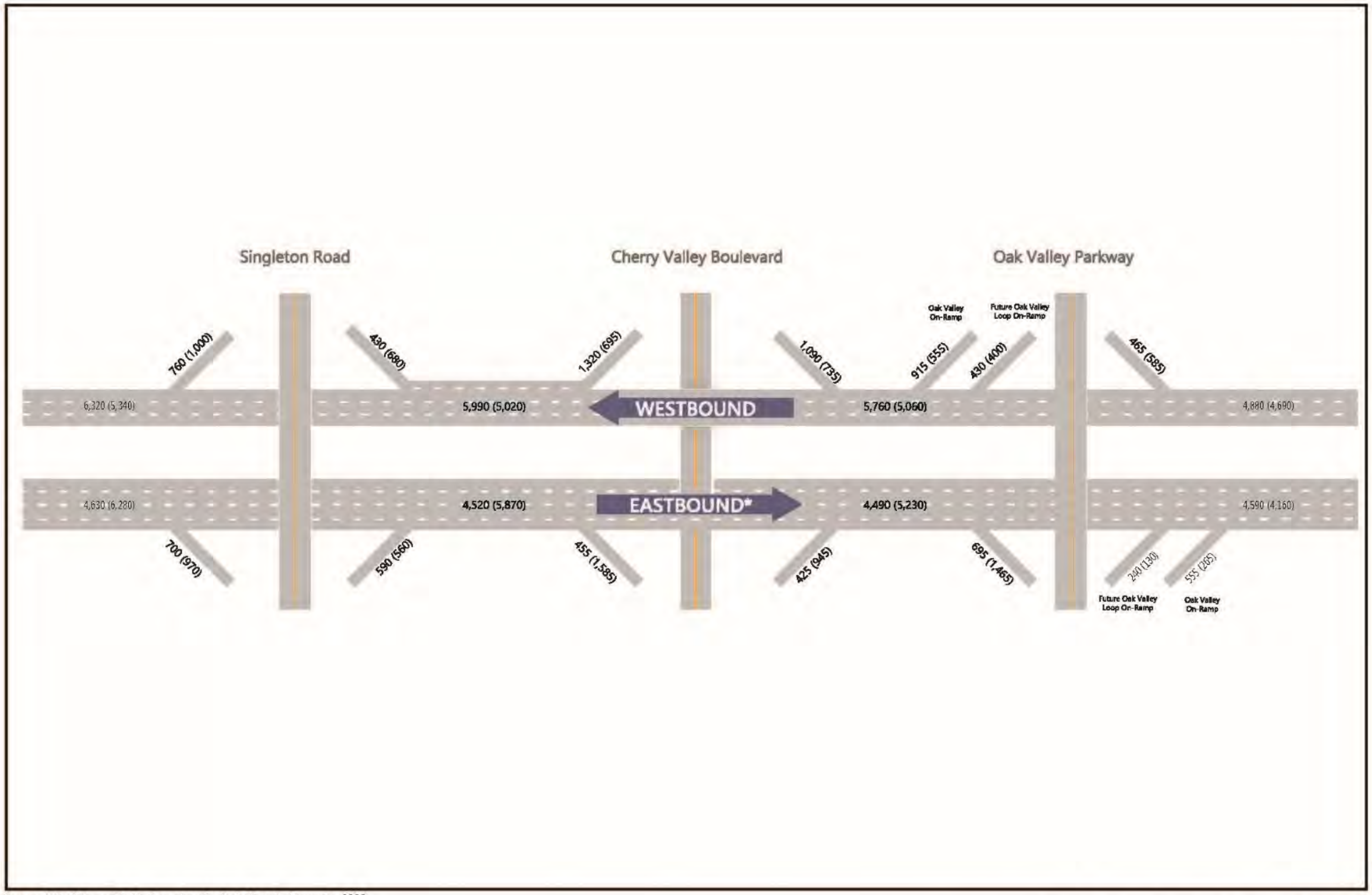
Table 2.1.9-57: Travel Time Westbound I-10: Singleton Road to Oak Valley Parkway (Build Alternative 4) (Opening Year 2025)

Performance Measure	Metric	AM Peak Hour	PM Peak Hour
Cars	Minutes	4.8	4.4
Trucks	Minutes	6.2	5.6
All	Minutes	4.9	4.5

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Design Year (2045): Figures 2.1.9-12 and 2.1.9-13 and Tables 2.1.9-58 through 2.1.9-65 show the future Design Year 2045 LOS and density under Build Alternatives 3 and 4 for study freeway segments and intersections. As shown in Tables 2.1.9-58 through 2.1.9-59 and 2.1.9-63 through 2.1.9-64, Build Alternatives 3 and 4 would improve eastbound I-10 freeway operations to an acceptable LOS C or better at the study segments as compared to the No-Build Alternative, with the exception of eastbound I-10 segment north of Singleton, which would operate at an unacceptable LOS D in the PM peak hour for Build Alternative 3, similar to the No-Build Alternative; this I-10 segment would improve to an acceptable LOS C in the PM peak hour for Build Alternative 4. Additionally, the eastbound I-10 segment at Oak Valley Parkway off-ramp would worsen to an unacceptable LOS E in the PM peak hour for Build Alternatives 3 and 4, compared to the No-Build Alternative, which would operate at an acceptable LOS B in the PM peak hour.

Figure 2.1.9-12: Design Year (2045) Peak Hour Freeway Volumes Build Alternative 3



Source: Fehr & Peers, Traffic Operations Analysis Report, November 2020

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
INTERSTATE 10/CHERRY VALLEY BOULEVARD INTERCHANGE PROJECT

NOT TO SCALE

Design Year (2045) Peak Hour Freeway Volumes Build Alternative 3

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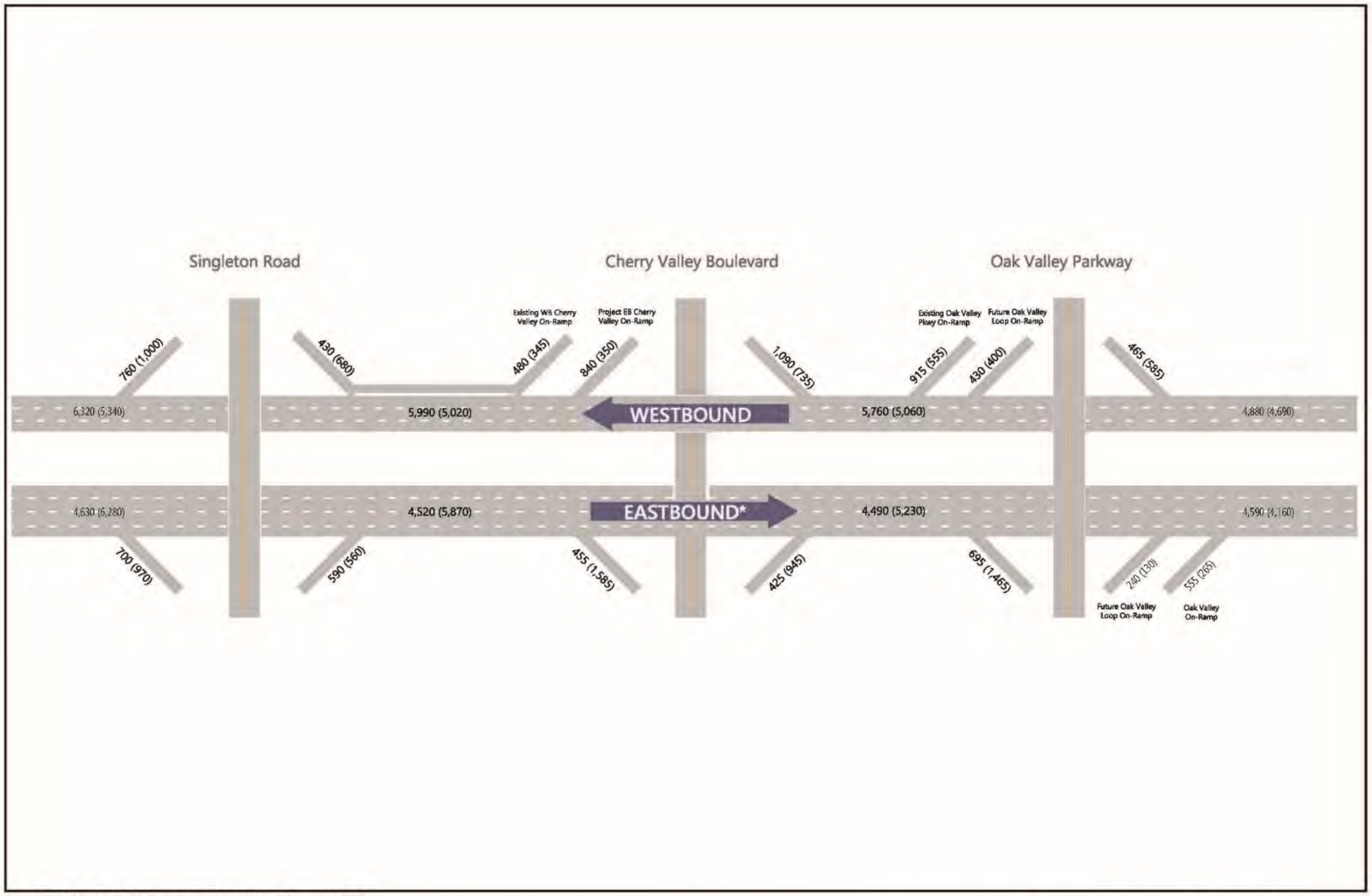
Figure 2.1.9-12

Figure 2.1.9-13: Design Year (2045) Peak Hour Freeway Volumes Build Alternative 4



Source: Fehr & Peers, Traffic Operations Analysis Report, November 2020

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
INTERSTATE 10/CHERRY VALLEY BOULEVARD INTERCHANGE PROJECT

NOT TO SCALE

Design Year (2045) Peak Hour Freeway Volumes Build Alternative 4

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Figure 2.1.9-13

As shown on Tables 2.1.9-60 through 2.1.9-61 and 2.1.9-64 through 2.1.9-65, the majority of the eastbound and westbound I-10 segments under Build Alternatives 3 and 4 improve operations to an acceptable LOS C or better. The westbound I-10 segments at Oak Valley Parkway on-ramp to Cherry Valley Boulevard off-ramp and Cherry Valley Boulevard off-ramp (AM peak hour for Build Alternative 3 only) would operate at an unacceptable LOS E or worse under Build Alternatives 3 and 4, similar to the No-Build Alternative. The westbound I-10 segment at Cherry Valley Boulevard off-ramp to on-ramp would deteriorate to an unacceptable LOS E in the AM peak hour for Build Alternative 3 only. The westbound I-10 segments at Cherry Valley Boulevard on-ramp to Singleton Road off-ramp (basic facility type) and Singleton Road off-ramp would deteriorate to an unacceptable LOS F in the AM peak hour for Build Alternative 4 only (these segments do not exist under Build Alternative 3). The westbound I-10 segment north of Singleton Road would deteriorate to an unacceptable LOS F in the AM peak hour for Build Alternatives 3 and 4. The westbound I-10 segment at Cherry Valley Boulevard on-ramp to Singleton Road off-ramp (weave facility type) would deteriorate to an unacceptable LOS F in the AM peak hour for Build Alternative 3 only (this segment does not exist under the No-Build and Build Alternative 3). This is due to an anticipated queue spillback from the Singleton Road Off-Ramp diverge segment that would occur outside of project impacts. Additionally, as discussed in the TOAR, planned development is expected to occur within the City and project area, that would result in additional background population growth.

This growth would cause excessive traffic and additional queuing within the project area, and result in eastbound and the westbound segments mentioned above to operate at a deficient LOS during the AM and/or PM peak hour.

Table 2.1.9-58: Design Year 2045 Eastbound Segment Build Alternative 3 (AM Peak Hour)

Eastbound I-10 Segment	Facility Type	LOS	Density
North of Singleton Road	Basic	B	16.3
Singleton Road On-Ramp	Merge	B	17.3
Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	B	18.6
Cherry Valley Boulevard Off-Ramp	Diverge	B	14.3
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	B	16.9
Cherry Valley Boulevard On-Ramp	Merge	B	15.0
Cherry Valley Boulevard On-Ramp to Oak Valley Parkway Off-Ramp	Basic	B	19.0
Oak Valley Parkway Off-Ramp	Diverge	B	17.7
Oak Valley Parkway Off-Ramp to On-Ramp	Basic	B	15.4
Oak Valley Parkway On-Ramp	Merge	B	14.2
South of Oak Valley Parkway	Basic	B	18.0

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
*2. **Bold** font indicates LOS D conditions, **bold** and <u>underline</u> font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-59: Design Year 2045 Eastbound Segment Build Alternative 3 (PM Peak Hour)

Eastbound I-10 Segment	Facility Type	LOS	Density
North of Singleton Road	Basic	**D**	**29.7**
Singleton Road On-Ramp	Merge	C	25.6
Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	C	25.4
Cherry Valley Boulevard Off-Ramp	Diverge	B	19.6
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	B	18.4
Cherry Valley Boulevard On-Ramp	Merge	B	17.3
Cherry Valley Boulevard On-Ramp to Oak Valley Parkway Off-Ramp	Basic	C	22.3
Oak Valley Parkway Off-Ramp	Diverge	**<u>E</u>**	**<u>44.0</u>**
Oak Valley Parkway Off-Ramp to On-Ramp	Basic	B	15.8
Oak Valley Parkway On-Ramp	Merge	A	9.7
South of Oak Valley Parkway	Basic	B	15.8

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
2. Bold font indicates LOS D conditions, bold and underline font indicate LOS E or F conditions.
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard Off-Ramp to westbound I-10 Cherry Valley Boulevard Loop On-Ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-60: Design Year 2045 Westbound Segment Build Alternative 3 (AM Peak Hour)

Westbound I-10 Segment	Facility Type	LOS	Density
South of Oak Valley Parkway	Basic	**D**	**28.9**
Oak Valley Parkway Off-Ramp	Diverge	C	27.9
Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp	Basic	C	24.3
Oak Valley Parkway On-Ramp	Merge	C	21.7
Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	**<u>E</u>**	**<u>40.0</u>**
Cherry Valley Boulevard Off-Ramp	Diverge	**<u>F</u>**	**<u>48.8</u>**
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	**<u>E</u>**	**<u>36.1</u>**
Cherry Valley Boulevard On-Ramp	Merge	--	
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Basic	--	
Singleton Road Off-Ramp	Diverge	--	
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Weave	**<u>F</u>**	**<u>44.6</u>**
North of Singleton Road	Basic	**<u>F</u>**	**<u>72.9</u>**

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
*2. **Bold** font indicates LOS D conditions, **bold** and <u>underline</u> font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-61: Design Year 2045 Westbound Segment Build Alternative 3 (PM Peak Hour)

Westbound I-10 Segment	Facility Type	LOS	Density
South of Oak Valley Parkway	Basic	C	27.5
Oak Valley Parkway Off-Ramp	Diverge	C	27.4
Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp	Basic	C	22.4
Oak Valley Parkway On-Ramp	Merge	C	27.5
Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	**<u>E</u>**	**<u>36.3</u>**
Cherry Valley Boulevard Off-Ramp	Diverge	C	25.1
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	**D**	**30.8**
Cherry Valley Boulevard On-Ramp	Merge	--	
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Basic	--	
Singleton Road Off-Ramp	Diverge	--	
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Weave	C	26.0
North of Singleton Road	Basic	**D**	**30.5**

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
*2. **Bold** font indicates LOS D conditions, **bold** and <u>underline</u> font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-62: Design Year 2045 Eastbound Segment Build Alternative 4 (AM Peak Hour)

Eastbound I-10 Segment	Facility Type	LOS	Density
North of Singleton Road	Basic	B	15.4
Singleton Road On-Ramp	Merge	B	17.3
Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	B	18.6
Cherry Valley Boulevard Off-Ramp	Diverge	B	12.9
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	B	16.9
Cherry Valley Boulevard On-Ramp	Merge	B	14.9
Cherry Valley Boulevard On-Ramp to Oak Valley Parkway Off-Ramp	Basic	B	18.9
Oak Valley Parkway Off-Ramp	Diverge	B	17.8
Oak Valley Parkway Off-Ramp to On-Ramp	Basic	B	15.4
Oak Valley Parkway On-Ramp	Merge	B	14.4
South of Oak Valley Parkway	Basic	B	18.0

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
*2. **Bold** font indicates LOS D conditions, **bold** and <u>underline</u> font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-63: Design Year 2045 Eastbound Segment Build Alternative 4 (PM Peak Hour)

Eastbound I-10 Segment	Facility Type	LOS	Density
North of Singleton Road	Basic	C	26.0
Singleton Road On-Ramp	Merge	C	25.9
Singleton Road On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	C	25.1
Cherry Valley Boulevard Off-Ramp	Diverge	B	19.2
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	B	18.3
Cherry Valley Boulevard On-Ramp	Merge	B	17.2
Cherry Valley Boulevard On-Ramp to Oak Valley Parkway Off-Ramp	Basic	C	22.0
Oak Valley Parkway Off-Ramp	Diverge	**E**	**40.6**
Oak Valley Parkway Off-Ramp to On-Ramp	Basic	B	15.6
Oak Valley Parkway On-Ramp	Merge	A	9.9
South of Oak Valley Parkway	Basic	B	15.8

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
*2. **Bold** font indicates LOS D conditions, **bold** and underline font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-64: Design Year 2045 Westbound Segment Build Alternative 4 (AM Peak Hour)

Westbound I-10 Segment	Facility Type	LOS	Density
South of Oak Valley Parkway	Basic	**D**	**29.1**
Oak Valley Parkway Off-Ramp	Diverge	C	27.8
Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp	Basic	C	24.0
Oak Valley Parkway On-Ramp	Merge	C	22.6
Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	**F**	**47.9**
Cherry Valley Boulevard Off-Ramp	Diverge	D	32.3
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	D	34.4
Cherry Valley Boulevard On-Ramp	Merge		30.4
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Basic	**F**	**63.8**
Singleton Road Off-Ramp	Diverge	**F**	**66.0**
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Weave	--	
North of Singleton Road	Basic	**F**	**81.8**

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
*2. **Bold** font indicates LOS D conditions, **bold** and underline font indicate LOS E or F conditions.*
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard off-ramp to westbound I-10 Cherry Valley Boulevard loop on-ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-65: Design Year 2045 Westbound Segment Build Alternative 4 (PM Peak Hour)

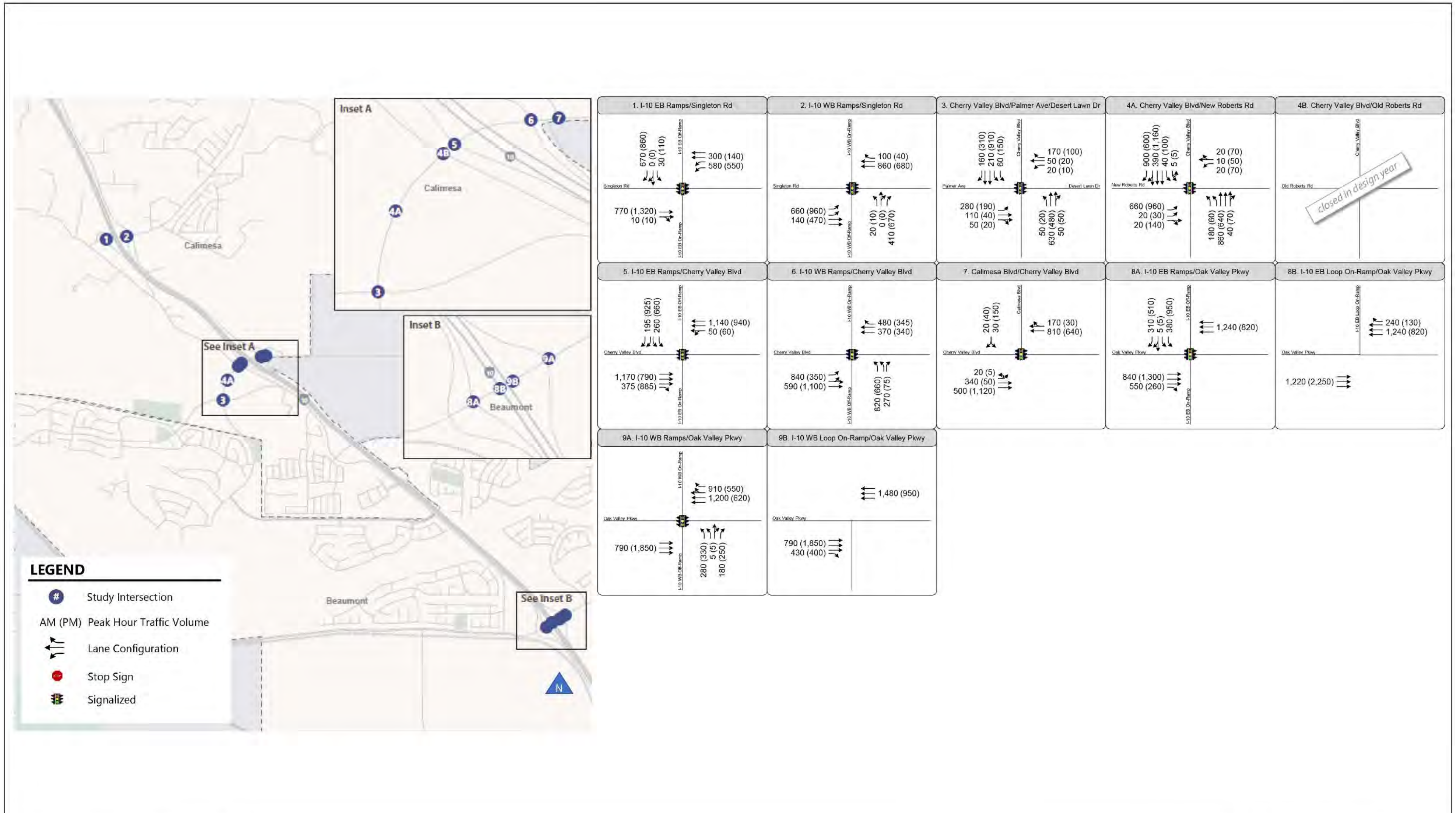
Westbound I-10 Segment	Facility Type	LOS	Density
South of Oak Valley Parkway	Basic	C	27.4
Oak Valley Parkway Off-Ramp	Diverge	C	27.4
Oak Valley Parkway Off-Ramp to Oak Valley Parkway On-Ramp	Basic	C	22.3
Oak Valley Parkway On-Ramp	Merge	C	27.5
Oak Valley Parkway On-Ramp to Cherry Valley Boulevard Off-Ramp	Basic	**E**	**35.7**
Cherry Valley Boulevard Off-Ramp	Diverge	C	23.7
Cherry Valley Boulevard Off-Ramp to On-Ramp	Basic	C	24.1
Cherry Valley Boulevard On-Ramp	Merge	B	19.6
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Basic	C	29.2
Singleton Road Off-Ramp	Diverge	C	27.1
Cherry Valley Boulevard On-Ramp to Singleton Road Off-Ramp	Weave	--	
North of Singleton Road	Basic	**D**	**32.0**

Notes: 1. The LOS and density (in vehicles per lane per mile) are reported.
2. Bold font indicates LOS D conditions, bold and underline font indicate LOS E or F conditions.
3. A lane add occurs at the on-ramp, so the segment is analyzed as a Basic segment.
4. Two dashes – indicate that the segment does not exist under that alternative.
5. A loop on-ramp from Cherry Valley Boulevard was added in Alternative 4. This segment is from the westbound I-10 Cherry Valley Boulevard Off-Ramp to westbound I-10 Cherry Valley Boulevard Loop On-Ramp.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Figures 2.1.9-14 and 2.1.9-15 and Tables 2.1.9-66 through 2.1.9-69 show the LOS and delay of the study intersections under the Build Alternatives 3 and 4 Design Year (2045) conditions.

Tables 2.1.9-66 through 2.1.9-69 show that, with the exception of the I-10 Westbound Off/On-Ramps/Singleton Road intersection, intersection operations would improve with implementation of Build Alternatives 3 and 4 compared to intersection conditions under the No-Build Alternative. I-10 eastbound off/on-ramps/Singleton Road (PM peak Hour), I-10 westbound off/on ramps/Singleton Road, and Cherry Valley Boulevard/Roberts Road (PM peak hour) would operate at an unacceptable LOS D or worse. According to the TOAR, the intersections that are operating at a deficient LOS under Build Alternative 3 are not a result of project implementation. All other intersections would operate at an acceptable LOS C or better.

Figure 2.1.9-14: Design Year (2045) Peak Hour Intersection Volumes Build Alternative 3



Source: Fehr & Peers, Traffic Operations Analysis Report, November 2020

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INTERSTATE 10/CHERRY VALLEY BOULEVARD INTERCHANGE PROJECT

Design Year (2045) Peak Hour Intersection Volumes Build Alternative 3

Figure 2.1.9-14

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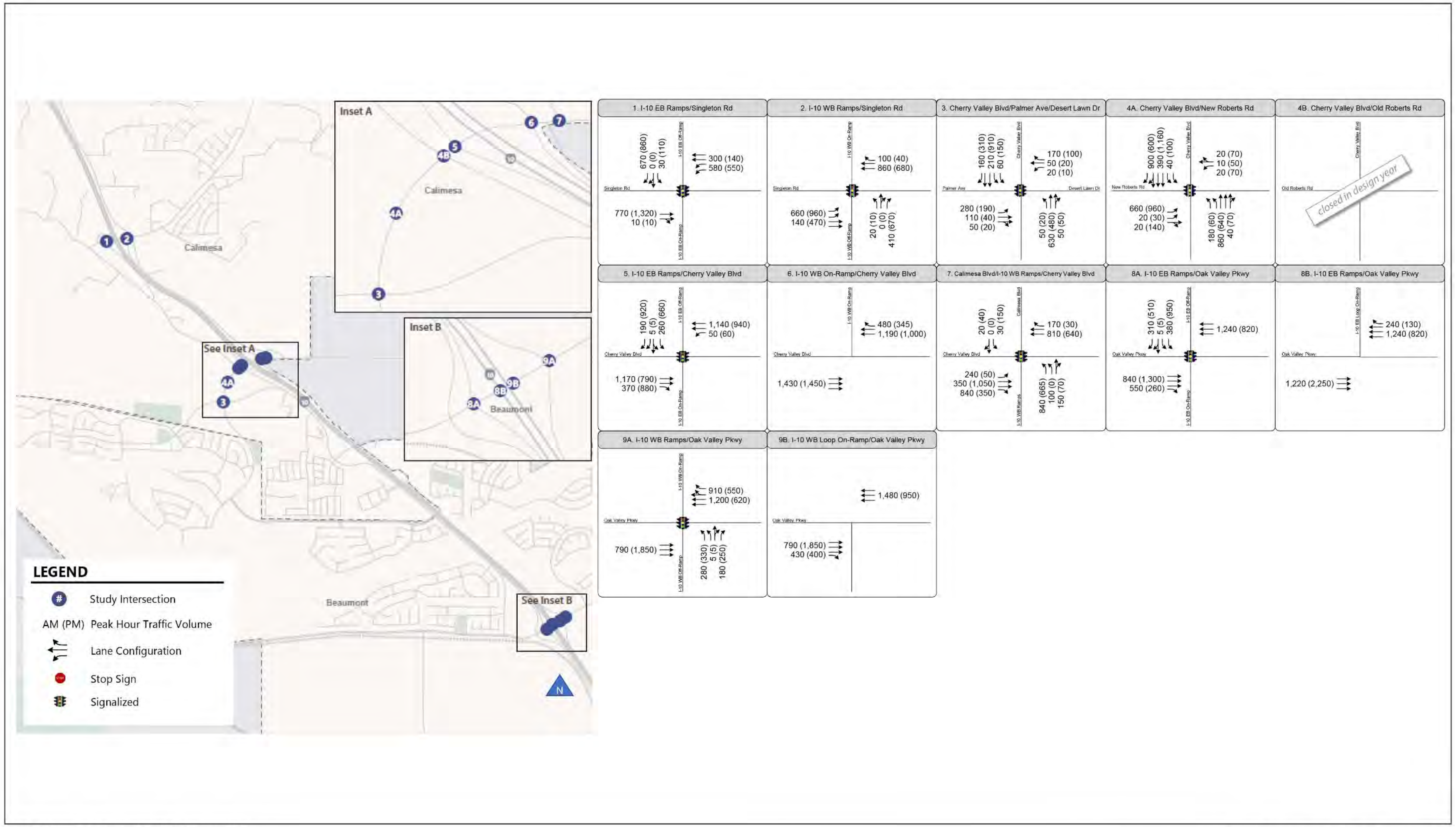
Figure 2.1.9-15: Design Year (2045) Peak Hour Intersection Volumes Build Alternative 4



Source: Fehr & Peers, Traffic Operations Analysis Report, November 2020

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Design Year (2045) Peak Hour Intersection Volumes Build Alternative 4

Figure 2.1.9-15

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Table 2.1.9-66: Intersection Operations – Design Year 2045 Conditions Build Alternative 3 (AM Peak Hour)

Intersection	Control	LOS	Delay
1. I-10 Eastbound Off/On-Ramps/Singleton Road	Side Street Stop	C	29.1
2. I-10 Westbound Off/On-Ramps/Singleton Road	Side Street Stop	**E**	**71.2**
3. Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive	Signal	C	25.9
4A. Cherry Valley Boulevard/Roberts Road	Signal	C	26.1
4B. Old Roberts Road/Cherry Valley Boulevard	--	--	--
5. I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard	Signal	C	24.3
6. I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard	Signal	B	11.3
7. Calimesa Boulevard/Cherry Valley Boulevard	Side Street Stop/Signal	C	22.1
8. I -10 Eastbound Off/On-Ramps/Oak Valley Parkway	Signal	B	14.3
9. I-10 Westbound Off/On-Ramps/Oak Valley Parkway	Signal	B	10.8

Notes: 1. For signal, all-way-stop, and roundabout control, the overall intersection LOS and average delay (in seconds per vehicle) are reported.
2. For side-street stop-control, the worst movement LOS and delay are reported with the worst movement listed in parentheses.
3. **Bold** and underline font indicate LOS D (for City of Calimesa intersections), E or F conditions (for Caltrans intersections).
4. Intersection 4B is closed under Design Year (2045) Conditions.
5. Intersections 5 and 6 are signalized under No-Build and Build Alternatives 3 and 4 scenarios.
6. Intersection 6 becomes an uncontrolled on-ramp, and the off-ramp and loop on-ramp are aligned with Intersection 7 under Build Alternative 4.
7. Intersection 7 is side-street stop-controlled under the No-Build scenario, and is signalized under all other scenarios.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-67: Intersection Operations – Design Year 2045 Conditions Build Alternative 3 (PM Peak Hour)

Intersection	Control	LOS	Delay
1. I-10 Eastbound Off/On-Ramps/Singleton Road	Side Street Stop	**E**	**57.2**
2. I-10 Westbound Off/On-Ramps/Singleton Road	Side Street Stop	**D**	**53.8**
3. Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive	Signal	B	18.2
4A. Cherry Valley Boulevard/Roberts Road	Signal	**E**	**63.8**
4B. Old Roberts Road/Cherry Valley Boulevard	--	--	--
5. I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard	Signal	B	16.9
6. I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard	Signal	A	8.9
7. Calimesa Boulevard/Cherry Valley Boulevard	Side Street Stop/Signal	A	9.3
8. I -10 Eastbound Off/On-Ramps/Oak Valley Parkway	Signal	C	31.2
9. I-10 Westbound Off/On-Ramps/Oak Valley Parkway	Signal	B	12.7

Notes: 1. For signal, all-way-stop, and roundabout control, the overall intersection LOS and average delay (in seconds per vehicle) are reported.

2. For side-street stop-control, the worst movement LOS and delay are reported with the worst movement listed in parentheses.
*3. **Bold** and <u>underline</u> font indicate LOS D (for City of Calimesa intersections), E or F conditions (for Caltrans intersections).*
4. Intersection 4B is closed under Design Year (2045) Conditions.
5. Intersections 5 and 6 are signalized under No-Build and Build Alternatives 3 and 4 scenarios.
6. Intersection 6 becomes an uncontrolled on-ramp, and the off-ramp and loop on-ramp are aligned with Intersection 7 under Build Alternative 4.
7. Intersection 7 is side-street stop-controlled under the No-Build scenario, and is signalized under all other scenarios.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-68: Intersection Operations – Design Year 2045 Conditions Build Alternative 4 (AM Peak Hour)

Intersection	Control	LOS	Delay
1. I-10 Eastbound Off/On-Ramps/Singleton Road	Side Street Stop	C	29.1
2. I-10 Westbound Off/On-Ramps/Singleton Road	Side Street Stop	**<u>E</u>**	**<u>69.0</u>**
3. Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive	Signal	C	23.8
4A. Cherry Valley Boulevard/Roberts Road	Signal	C	23.4
4B. Old Roberts Road/Cherry Valley Boulevard	--	--	--
5. I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard	Signal	B	10.4
6. I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard	Signal	--	--
7. Calimesa Boulevard/Cherry Valley Boulevard	Side Street Stop/ Signal	C	25.5
8. I -10 Eastbound Off/On-Ramps/Oak Valley Parkway	Signal	B	14.5
9. I-10 Westbound Off/On-Ramps/Oak Valley Parkway	Signal	B	11

Notes: 1. For signal, all-way-stop, and roundabout control, the overall intersection LOS and average delay (in seconds per vehicle) are reported.
2. For side-street stop-control, the worst movement LOS and delay are reported with the worst movement listed in parentheses.
*3. **Bold** and <u>underline</u> font indicate LOS D (for City of Calimesa intersections), E or F conditions (for Caltrans intersections).*
4. Intersection 4B is closed under Design Year (2045) Conditions.
5. Intersections 5 and 6 are signalized under No-Build and Build Alternatives 3 and 4 scenarios.
6. Intersection 6 becomes an uncontrolled on-ramp, and the off-ramp and loop on-ramp are aligned with Intersection 7 under Build Alternative 4.
7. Intersection 7 is side-street stop-controlled under the No-Build scenario, and is signalized under all other scenarios.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-69: Intersection Operations – Design Year 2045 Conditions Build Alternative 4 (PM Hour)

Intersection	Control	LOS	Delay
1. I-10 Eastbound Off/On-Ramps/Singleton Road	Side Street Stop	**E**	**56.1**
2. I-10 Westbound Off/On-Ramps/Singleton Road	Side Street Stop	**E**	**57.0**
3. Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive	Signal	B	17.2
4A. Cherry Valley Boulevard/Roberts Road	Signal	**E**	**66.5**
4B. Old Roberts Road/Cherry Valley Boulevard	--	--	--
5. I-10 Eastbound Off/On-Ramps/Cherry Valley Boulevard	Signal	B	19.7
6. I-10 Westbound Off/On-Ramps/Cherry Valley Boulevard	Signal	--	--
7. Calimesa Boulevard/Cherry Valley Boulevard	Side Street Stop/Signal	C	25.5
8. I -10 Eastbound Off/On-Ramps/Oak Valley Parkway	Signal	C	32.4
9. I-10 Westbound Off/On-Ramps/Oak Valley Parkway	Signal	B	13.0

Notes: 1. For signal, all-way-stop, and roundabout control, the overall intersection LOS and average delay (in seconds per vehicle) are reported.
2. For side-street stop-control, the worst movement LOS and delay are reported with the worst movement listed in parentheses.
3. Bold and underline font indicate LOS D (for City of Calimesa intersections), E or F conditions (for Caltrans intersections).
4. Intersection 4B is closed under Design Year (2045) Conditions.
5. Intersections 5 and 6 are signalized under No-Build and Build Alternatives 3 and 4 scenarios.
6. Intersection 6 becomes an uncontrolled on-ramp, and the off-ramp and loop on-ramp are aligned with Intersection 7 under Build Alternative 4.
7. Intersection 7 is side-street stop-controlled under the No-Build scenario, and is signalized under all other scenarios.
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Queuing: As shown in Tables 2.1.9-70 through 2.1.9-71, Build Alternatives 3 and 4 would eliminate queues at I-10 eastbound off/on-ramps/Cherry Valley Boulevard and the I-10 westbound off/on-ramps/Cherry Valley Boulevard intersections. In addition, the queues at the southbound approach at Cherry Valley Boulevard/Roberts Road and the southbound approach at I-10 eastbound off/on-ramps/Oak Valley Parkway under Build Alternatives 3 and 4 would have longer queue lengths than the No-Build Alternative. The only movements where the queues would exceed the storage lengths under Build Alternatives 3 and 4 are listed below, with much shorter queues compared to the No-Build Alternative.

- Eastbound through at I-10 Eastbound Off/On-Ramps/Singleton Road (PM Only)
- Eastbound right at I-10 Eastbound Off/On-Ramps/Singleton Road (PM Only)
- Westbound left at I-10 Eastbound Off/On-Ramps/Singleton Road
- Eastbound left at I-10 Westbound Off/On-Ramps/Singleton Road

- Northbound left at Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive (AM Only)
- Eastbound left at Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive
- Eastbound right at Cherry Valley Boulevard/Palmer Avenue/Desert Lawn Drive (AM Only Diverging Diamond and Partial Cloverleaf)
- Northbound Left at Cherry Valley Boulevard/Roberts Road (AM Only, Partial Cloverleaf)
- Southbound through at Cherry Valley Boulevard/Roberts Road (PM Only, Diverging Diamond)
- Southbound right at Cherry Valley Boulevard/Roberts Road (PM Only, Diverging Diamond)
- Eastbound through at I-10 Eastbound Off/On-ramps/Cherry Valley Boulevard (Partial Cloverleaf)
- Westbound left at I-10 Eastbound Off/On-ramps/Cherry Valley Boulevard (AM Only, Diverging Diamond)
- Westbound through at I-10 Eastbound Off/On-ramps/Cherry Valley Boulevard (AM Only, Diverging Diamond)
- Southbound left at I-10 Westbound Off/On-Ramps/Calimesa Boulevard/Cherry Valley Boulevard (PM Only, Partial Cloverleaf)
- Eastbound left at I-10 Westbound Off/On-Ramps/Calimesa Boulevard/Cherry Valley Boulevard (AM Only, Partial Cloverleaf)
- Northbound through at Calimesa Boulevard/Cherry Valley Boulevard (AM Only)
- Northbound right at Calimesa Boulevard/Cherry Valley Boulevard (AM Only)
- Eastbound left at Calimesa Boulevard/Cherry Valley Boulevard (AM Only)
- Southbound left at I-10 Eastbound Off/On-Ramps/Oak Valley Parkway
- Southbound through at I-10 Eastbound Off/On-Ramps/Oak Valley Parkway (PM Only)
- Southbound right at I-10 Eastbound Off/On-Ramps/Oak Valley Parkway (PM Only)
- Eastbound right at I-10 Eastbound Off/On-Ramps/Oak Valley Parkway
- Northbound left at I-10 Westbound Off/On-Ramps/Oak Valley Parkway

Table 2.1.9-70: Design Year (2045) Intersection Queue Summary - Build Alternative 3

Intersection/ Movement	Storage Length	AM Peak Hour	PM Peak Hour
I-10 EB Off/On-Ramps/Singleton Road / EBL	525	420	580
I-10 EB Off/On-Ramps/Singleton Road / EBR	525	480	640
I-10 EB Off/On-Ramps/Singleton Road / WBL	525	**<u>670</u>**	**<u>670</u>**
I-10 WB Off/On- Ramps/Singleton Road / EBL	600	**<u>610</u>**	**<u>690</u>**
Cherry Valley Boulevard/Palmer Ave/Desert Lawn Drive / NBL	125	**<u>150</u>**	100
Cherry Valley Boulevard/Palmer Ave/Desert Lawn Drive / SBL	175	110	150
Cherry Valley Boulevard/Palmer Ave/Desert Lawn Drive / EBL	125	**<u>590</u>**	**<u>420</u>**
Cherry Valley Boulevard/Palmer Ave/Desert Lawn Drive / EBR	100	**<u>180</u>**	90
Cherry Valley Boulevard/Palmer Ave/Desert Lawn Drive / WBL	175	100	50
Cherry Valley Boulevard/Palmer Ave/Desert Lawn Drive / WBT	550	160	100
Cherry Valley Boulevard/Palmer Ave/Desert Lawn Drive / WBR	550	40	10
Cherry Valley Boulevard/Roberts Road / NBL	125	220	110
Cherry Valley Boulevard/Roberts Road / NBT	550	290	280
Cherry Valley Boulevard/Roberts Road / NBR	550	290	280
Cherry Valley Boulevard/Roberts Road / SBT	625	510	**<u>680</u>**
Cherry Valley Boulevard/Roberts Road / SBR	625	540	**<u>710</u>**
I-10 EB Off/On-Ramps/Cherry Valley Boulevard / SBL	1,150	170	500
I-10 EB Off/On-Ramps/Cherry Valley Boulevard / SBT	1,150	--	--
I-10 EB Off/On-Ramps/Cherry Valley Boulevard / SBR	1,150	130	510
I-10 EB Off/On-Ramps/Cherry Valley Boulevard / EBT	575	450	260
I-10 EB Off/On-Ramps/Cherry Valley Boulevard / EBR	525	10	30
I-10 EB Off/On-Ramps/Cherry Valley Boulevard / WBL	375	**<u>420</u>**	270
I-10 EB Off/On-Ramps/Cherry Valley Boulevard / WBT	375	**<u>460</u>**	310
I-10 WB Off/On-Ramps/Cherry Valley Boulevard / NBL	1,050	310	190
I-10 WB Off/On-Ramps/Cherry Valley Boulevard / NBT	1,050	--	--
I-10 WB Off/On-Ramps/Cherry Valley Boulevard / NBR	1,050	200	60
I-10 WB Off/On-Ramps/Cherry Valley Boulevard / EBL	175	50	10
I-10 WB Off/On-Ramps/Cherry Valley Boulevard / EBT	1000	220	390
Calimesa Boulevard/Cherry Valley Boulevard[3] / NBT	1,050	--	--
Calimesa Boulevard/Cherry Valley Boulevard[3] / NBL	310	--	--
Calimesa Boulevard/Cherry Valley Boulevard[3] / SBL	1000	-	-
Calimesa Boulevard/Cherry Valley Boulevard[3] / EBL	850	**<u>580</u>**	140
I-10 EB Off/On-Ramps/Oak Valley Parkway / SBL	175	**<u>290</u>**	**<u>3,570</u>**
I-10 EB Off/On-Ramps/Oak Valley Parkway / SBT	1,175	190	**<u>2,310</u>**
I-10 EB Off/On-Ramps/Oak Valley Parkway / SBR	1,175	190	**<u>2,340</u>**
I-10 EB Off/On-Ramps/Oak Valley Parkway / EBR	100	340	**<u>250</u>**
I-10 WB Off/On-Ramps/Oak Valley Parkway / NBL	150	**<u>250</u>**	**<u>390</u>**

Notes: EB=eastbound; WB=westbound; NBR=northbound right; NBL=northbound left; NBT=northbound through; EBR=eastbound right; EBL=eastbound left; EBT=eastbound through; SBR=southbound right; SBL=southbound left; SBT=southbound through; WBR=westbound right; WBL=westbound left; WBT=westbound through
1. The storage and average maximum queue length (in feet) is reported for key movements.
*2. **Bold** and <u>underline</u> font indicate a queue that exceeds the storage.*
Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-71: Design Year (2045) Intersection Queue Summary - Build Alternative 4

Intersection / Movement	Storage Length	AM Peak Hour	PM Peak Hour
I-10 EB Off/On-Ramps/Singleton Road / EBL	525	450	**590**
I-10 EB Off/On-Ramps/Singleton Road / EBR	525	500	**640**
I-10 EB Off/On-Ramps/Singleton Road / WBL	525	**650**	**670**
I-10 WB Off/On-Ramps/Singleton Road / EBL	600	**630**	**700**
Cherry Valley Boulevard/Palmer Ave/Desert Lawn Drive / NBL	125	**130**	90
Cherry Valley Boulevard/Palmer Ave/Desert Lawn Drive / SBL	175	100	160
Cherry Valley Boulevard/Palmer Ave/Desert Lawn Drive / EBL	125	**530**	**410**
Cherry Valley Boulevard/Palmer Ave/Desert Lawn Drive / EBR	100	**160**	100
Cherry Valley Boulevard/Palmer Ave/Desert Lawn Drive / WBL	175	80	60
Cherry Valley Boulevard/Palmer Ave/Desert Lawn Drive / WBT	1,980	150	100
Cherry Valley Boulevard/Palmer Ave/Desert Lawn Drive / WBR	1,970	30	10
Cherry Valley Boulevard/Roberts Road / NBL	175	**250**	120
Cherry Valley Boulevard/Roberts Road / NBT	550	390	360
Cherry Valley Boulevard/Roberts Road / NBR	550	420	390
Cherry Valley Boulevard/Roberts Road / SBT	600	350	510
Cherry Valley Boulevard/Roberts Road / SBR	600	400	560
I-10 EB Off/On-Ramps/Cherry Valley Boulevard / SBL	1,150	180	375
I-10 EB Off/On-Ramps/Cherry Valley Boulevard / SBT	1,150	180	270
I-10 EB Off/On-Ramps/Cherry Valley Boulevard / SBR	1,150	100	**730**
I-10 EB Off/On-Ramps/Cherry Valley Boulevard / EBT	600	**610**	270
I-10 EB Off/On-Ramps/Cherry Valley Boulevard / EBR	600	80	160
I-10 EB Off/On-Ramps/Cherry Valley Boulevard / WBL	575	220	230
I-10 EB Off/On-Ramps/Cherry Valley Boulevard / WBT	575	--	--
I-10 WB Off/On-Ramps/Cherry Valley Boulevard / NBL	1,050	--	--
I-10 WB Off/On-Ramps/Cherry Valley Boulevard / NBT	1,050	--	--
I-10 WB Off/On-Ramps/Cherry Valley Boulevard / NBR	1,050	--	--
I-10 WB Off/On-Ramps/Cherry Valley Boulevard / EBL	175	--	--
I-10 WB Off/On-Ramps/Cherry Valley Boulevard / EBT	1000	--	--
Calimesa Boulevard/Cherry Valley Boulevard[3] / NBT	1050	**310**	100
Calimesa Boulevard/Cherry Valley Boulevard[3] / NBL	310	**310**	110
Calimesa Boulevard/Cherry Valley Boulevard[3] / SBL	1000	90	**250**
Calimesa Boulevard/Cherry Valley Boulevard[3] / EBL	250	**360**	130
I-10 EB Off/On-Ramps/Oak Valley Parkway / SBL	175	**290**	**3,300**
I-10 EB Off/On-Ramps/Oak Valley Parkway / SBT	1,175	170	**2,530**
I-10 EB Off/On-Ramps/Oak Valley Parkway / SBR	1,175	170	**2,530**
I-10 EB Off/On-Ramps/Oak Valley Parkway / EBR	100	**360**	**300**
I-10 WB Off/On-Ramps/Oak Valley Parkway / NBL	150	**270**	**380**

Notes: EB=eastbound; WB=westbound; NBR=northbound right; NBL=northbound left; NBT=northbound through; EBR=eastbound right; EBL=eastbound left; EBT=eastbound through; SBR=southbound right; SBL=southbound left; SBT=southbound through; WBR=westbound right; WBL=westbound left; WBT=westbound through

1. The storage and average maximum queue length (in feet) is reported for key movements.

*2. **Bold** and underline font indicate a queue that exceeds the storage.*

3. In Alternative 4, Partial Cloverleaf Interchange the intersection of Calimesa Boulevard is realigned with the I-10 westbound off-ramp to Cherry Valley Boulevard.

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

System-wide Performance: For Build Alternatives 3 and 4, the travel time, average delay, and the traffic volumes of the overcrossing's existing transportation system were taken into account for the Design Year 2045 conditions. Table 2.1.9-72 and 2.1.9-75 show reduced delay under Build Alternatives 3 and 4 compared the No-Build Alternative. Tables 2.1.9-73 and 2.1.9-74 show reduced travel time for cars and trucks under Build Alternative 3. Tables 2.1.9-76 and 2.1.9-77 show reduced travels time for cars and trucks under Build Alternative 4.

Table 2.1.9-72: Build Alternative 3 (Design Year 2045) Performance Summary

Performance Measure	Metric	AM	PM
Average Speed	Miles per Hour	39.4	39.1
Volume Served	Vehicles per Hour (vph)	17,811	18,680
Total Distance Traveled	Miles	55,789	56,409
Total Travel Time	Vehicle Hours Travelled (hours)	1,416.3	1,442.6
Average Delay Per Vehicle	Seconds	83.2	84.2
Total Delay	Vehicle Hours Delay (hours)	444	470

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-73: Travel Time Eastbound I-10: Singleton Road to Oak Valley Parkway (Build Alternative 3) (Design Year 2045)

Performance Measure	Metric	AM Peak Hour	PM Peak Hour
Cars	Minutes	4.1	4.3
Trucks	Minutes	4.8	5.8
All	Minutes	4.2	5.1

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-74: Travel Time Westbound I-10: Singleton Road to Oak Valley Parkway Build Alternative 3) (Design Year 2045)

Performance Measure	Metric	AM Peak Hour	PM Peak Hour
Cars	Minutes	8.7	6.6
Trucks	Minutes	10.5	7.7
All	Minutes	8.9	6.6

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-75: Build Alternative 4 (Design Year 2045) Performance Summary

Performance Measure	Metric	AM	PM
Average Speed	Miles per Hour	38.9	39.0
Volume Served	Vehicles per Hour (vph)	17,831	18,628
Total Distance Traveled	Miles	56,327	56,523
Total Travel Time	Vehicle Hours Travelled (hours)	1,448.1	1,449.4
Average Delay Per Vehicle	Seconds	83.6	84.0
Total Delay	Vehicle Hours Delay (hours)	448	468

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-76: Travel Time Eastbound I-10: Singleton Road to Oak Valley Parkway (Build Alternative 4) (Design Year 2045)

Performance Measure	Metric	AM Peak Hour	PM Peak Hour
Cars	Minutes	4.1	4.2
Trucks	Minutes	4.7	5.5
All	Minutes	4.2	4.3

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Table 2.1.9-77 Travel Time – Westbound I-10: Singleton Road to Oak Valley Parkway Build Alternative 4) (Design Year 2045)

Performance Measure	Metric	AM Peak Hour	PM Peak Hour
Cars	Minutes	6.9	5.1
Trucks	Minutes	8.1	6.1
All	Minutes	7.0	5.2

Source: Fehr & Peers, I-10 Cherry Valley Boulevard Interchange Traffic Operations Analysis Report (November 2020).

Study Conclusions

Existing Conditions

Under Existing Conditions (2019), all freeway segments were found to operate acceptably at LOS D or better in the eastbound direction during the AM and PM peak hours, and in the westbound direction during the PM peak hour. Five segments were determined to operate unacceptably in the westbound direction during the AM peak hour.

All intersections were determined to operate acceptably during the PM peak hour. Five intersections were found to operate unacceptably during the AM peak hour.

All intersections were determined to exceed queuing lengths during the AM peak hour, while one intersection was determined to exceed queuing lengths during the PM peak hour.

In regards to system-wide performance, travel time and average speed are similar in both directions during both peak hours with small variations due to directionality during commute periods. In addition, other system-wide traffic metrics (number of vehicles served by the network, vehicle-hours-delay, and average delay per vehicle) were reported for both the AM and PM peak hours. Consistent with observations in the field, higher levels of congestion occur during the AM peak hour. This is confirmed by the increase in average delay per vehicle, 176.6 seconds during the AM peak hour compared to 15.2 seconds during the PM peak hour. Total delay during the AM peak hour also indicates higher levels of congestion during the AM peak hour.

Opening Year (2025)

Build Alternative 3

Under Opening Year (2025), for Build Alternative 3 all freeway segments were found to operate acceptably at LOS D or better in both eastbound and westbound directions during the AM and PM peak hours. In addition, all intersections were determined to operate acceptably during the AM and PM peak hours. Four intersections were determined exceed queuing storage capacity during the AM peak hour, with three intersections exceeding queuing storage capacity during the PM peak hour. In regards to system-wide performance, under Build Alternative 3, travel time, average delay, and the traffic volumes of the overcrossing’s existing transportation system were taken into account for Opening Year 2025 conditions. Build Alternative 3 resulted in reduced delay compared to the No-Build Alternative under Opening Year 2025 conditions.

Build Alternative 4

Under Opening Year (2025), for Build Alternative 4 all freeway segments were found to operate acceptably at LOS D or better in both eastbound and westbound directions during the AM and PM peak hours. In addition, all intersections were determined to operate acceptably during the AM and PM peak hours. Four intersections were determined exceed queuing storage capacity during the AM peak hour, with three intersections exceeding queuing storage capacity during the PM peak hour. In regards to system-wide performance, under Build Alternative 4, travel time, average delay, and the traffic volumes of the overcrossing’s existing transportation system were taken into account for Opening Year 2025 conditions. Build Alternative 3 resulted in reduced delay compared to the No-Build Alternative under Opening Year 2025 conditions.

Design Year (2045)

Build Alternative 3

Under Design Year (2045), for Build Alternative 3 a number of freeway segments were determined to be degraded from an acceptable LOS D or better to LOS E or F. This is caused by shifting bottleneck locations around in the corridor due to mainline capacity constraints on the freeway system. As such, it is important to review overall freeway operations to ensure that the density degradation is actually impacting the freeway mainline. Reviewing the system-wide information indicates the following:

- The project decreases travel time along the corridor as total travel time is decreased from approximately 2,500 vehicle hours of travel in the peak hours in the No-Build Alternative to approximately 1,400 to 2,200 (depending on the build alternative).
- The project increases average travel speeds from 17/18 miles per hour during peak periods in the No-Build Alternative to 22-49 miles per hour.
- The project increases the volume of vehicles served from 14,962 in the AM peak period to between 15,762 and 17,831 (depending on the build alternative). Similarly, the PM peak hour volume served increases from 14,435 to between 18,251 and 18,680. This represents approximately 5 percent to 19 percent more vehicles served in the AM peak period and approximately 26 percent more vehicles served in the PM peak period.

It was also determined that Build Alternative 3 would result in a degradation at the I-10 WB Off/On-Ramps/Singleton Road intersection during the AM peak hour where it would result in an increase in delay. This intersection operates at LOS E under the No-Build Alternative. It should be noted that the addition of west/north facing ramps at the I-10/Singleton Road interchange is a programed improvement in the SCAG RTP/SCS. Given that the project has not yet been defined through the Caltrans oversight process, an assumption was made related to intersection geometrics. As that project goes through the full Caltrans oversight process, it will be required to assess a 20-year design life and, accordingly, may include additional capacity that is not reflected in this traffic analysis. As such, when the oversight process commences for that effort, Caltrans will ensure that the intersection includes an additional eastbound left-turn lane or an alternative interchange configuration (e.g. a partial cloverleaf or diverging diamond interchange). With these improvements, the intersection would operate acceptably.

Four intersections were determined exceed queuing storage capacity during the AM peak hour, with four intersections exceeding queuing storage capacity during the PM peak hour.

Build Alternative 4

Under Design Year (2045), for Build Alternative 4 a number of freeway segments were determined to be degraded from an acceptable LOS D or better to LOS E or F. This is caused by shifting bottleneck locations around in the corridor due to mainline capacity constraints on the freeway system. As such, it is important to review overall freeway operations to ensure that the density degradation is actually impacting the freeway mainline. Reviewing the system-wide information indicates the following:

- The project decreases travel time along the corridor as total travel time is decreased from approximately 2,500 vehicle hours of travel in the peak hours in the No-Build Alternative to approximately 1,400 to 2,200 (depending on the build alternative).

- The project increases average travel speeds from 17/18 miles per hour during peak periods in the No-Build Alternative to 22-49 miles per hour.
- The project increases the volume of vehicles served from 14,962 in the AM peak period to between 15,762 and 17,831 (depending on the build alternative). Similarly, the PM peak hour volume served increases from 14,435 to between 18,251 and 18,680. This represents approximately 5 percent to 19 percent more vehicles served in the AM peak period and approximately 26 percent more vehicles served in the PM peak period.

It was also determined that Build Alternative 4 would result in a degradation at the I-10 WB Off/On-Ramps/Singleton Road intersection during the AM peak hour where it would result in an increase in delay. This intersection operates at LOS E under the No-Build Alternative. It should be noted that the addition of west/north facing ramps at the I-10/Singleton Road interchange is a programed improvement in the SCAG RTP/SCS. Given that the project has not yet been defined through the Caltrans oversight process, an assumption was made related to intersection geometrics. As that project goes through the full Caltrans oversight process, it will be required to assess a 20-year design life and, accordingly, may include additional capacity that is not reflected in this traffic analysis. As such, when the oversight process commences for that effort, Caltrans will ensure that the intersection includes an additional eastbound left-turn lane or an alternative interchange configuration (e.g. a partial cloverleaf or diverging diamond interchange). With these improvements, the intersection would operate acceptably.

Five intersections were determined exceed queuing storage capacity during the AM peak hour, with four intersections exceeding queuing storage capacity during the PM peak hour.

Pedestrian and Bicycle Facilities

Under Build Alternative 3, sidewalks would be provided on each side of Cherry Valley Boulevard, excluding the overcrossing structures. An eight-foot sidewalk would be provided on the eastbound structure to serve both directions of pedestrian travel. Crosswalks would be provided and would connect to the eastbound structure's sidewalk to the sidewalk on both sides of Cherry Valley Boulevard. Right turn pockets would be provided approaching the westbound on-ramp and eastbound on-ramp. These right turn pockets would include a four-foot bicycle buffer and bypass the Cherry Valley Boulevard crossovers.

Under Build Alternative 4, Cherry Valley Boulevard would be widened to two lanes in each direction with sidewalk in the eastbound direction. The I-10/Cherry Valley Boulevard overcrossing would be reconstructed to include an eight-foot sidewalk. A six-foot bicycle buffer would be provided on all proposed right turn pockets within the project limits.

The Build Alternatives would result in permanent beneficial impacts to bicycle and pedestrian movement within the study area, as it would provide non-motorized facilities in areas where limited facilities exist. As such, transportation connectivity would be enhanced as a result of these improvements, and adverse effects would not occur in this regard.

Avoidance, Minimization, and/or Mitigation Measures

TT-1 A Traffic Management Plan (TMP) shall be prepared during Plans, Specifications, and Estimates (PS&E) phase of the project.

The Caltrans Transportation Management Plan Guidelines (TMP Guidelines) identifies the processes, roles, and responsibilities for preparing and implementing TMPs, as well as useful strategies for reducing congestion and managing work zone traffic impacts. The primary objective of the TMP is to maintain safe movement for vehicles, pedestrians, and bicyclists through the construction zone, as well as minimize traffic delays during the construction period. The TMP prepared for the project shall implement alternate route strategies to minimize adverse effects to roadways and reduce potential congestion.

The TMP shall include, but not be limited to, the following six major elements:

- Public information/public awareness campaign
- Traveler information strategies
- Incident management
- Construction strategies
- Demand management
- Alternate route strategies

The TMP shall be submitted to Caltrans for review and approval.

2.1.10 Visual/Aesthetics

Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and aesthetically (emphasis added) and culturally pleasing surroundings (42 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]).

California Streets and Highways Code Section 92.3 directs Caltrans to use drought resistant landscaping and recycled water when feasible, and incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate (Measure VIS-4).

Affected Environment

This section is based on the Visual Impact Assessment for the Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (July 2021).

Project Location and Setting

The project location and setting provide the context for determining the type of changes to the existing visual environment. The project is located between Singleton Road and Oak Valley Parkway in the City of Calimesa and, between the San Gorgonio Pass and Yucaipa Valley in western Riverside County. The landscape north of I-10 is characterized by a rural community with large-lot residential, agricultural and animal-keeping uses, with a commercial core along Beaumont Avenue, north of Cherry Valley Boulevard. Existing views in the project area, north of I-10 encompass vegetated hillsides, rural residential, single-family residential, and commercial development, I-10, and surrounding roadways (i.e., Cherry Valley Boulevard, Roberts Street, Calimesa Boulevard, and Coit Avenue).

The landscape south of I-10 is characterized by suburban residential and commercial development. Existing views in the project area, south of I-10 encompass single-family residential, commercial development with ornamental landscaping and pockets of vacant land, I-10, and surrounding roadways (i.e., Roberts Road, Desert Lawn Drive, Cooper Drive, Peachtree Lane, and Plantation Drive).

Cherry Valley Boulevard is classified as a major arterial by the City of Calimesa General Plan and connects the City to the west-northwest with the unincorporated community of Cherry Valley to the east. The project corridor is defined as the area of land that is visible from, adjacent to, and outside the highway right-of-way, and is determined by topography, vegetation, and viewing distance.

Generally, the project site affords uninterrupted views of the surrounding rolling terrain and valley floors, as well as of the prominent but more distant San Bernardino and San Jacinto mountains. According to the State Scenic

Highways Mapping System, there are no officially-designated State Scenic Highways within the project vicinity. The nearest designated State Scenic Highway is State Route 243 (SR-243), located more than eight miles southeast of the project site. Views of the project corridor from SR-243 are not readily afforded due to topographic conditions and intervening structures and vegetation.

Visual Resources

Within the project corridor, I-10 is predominately situated in relatively low-lying areas surrounded by rolling hills. Existing views encompass the existing interchange, as well as northern views toward vegetated hillsides and rural residential development and southern views toward built single-family residential and commercial development. The most prominent visual resources include areas of vegetated hillsides and mature trees. In addition, distant views to the San Bernardino and San Jacinto mountains are available to the northeast and southeast, respectively.

As stated above, the project site does not include any officially designated or eligible State scenic highways and does not afford views to or from local/county-designated scenic corridors, views, or vistas. However, the Calimesa General Plan considers small-town/natural character and hillsides as protected visual resources and includes provisions related to the preservation of these visual resources.

Public views of the project site include motorists utilizing I-10 and Cherry Valley Boulevard, residents of the surrounding Cherry Valley community (rural and single-family residents), commercial users, and recreational viewers utilizing local trails (including the Singleton/Bryant Connector trail and the PASEO trails).

Light and Glare

Existing lighting sources within the project area include street lighting and vehicle lighting along Cherry Valley Boulevard, as well as interior lighting and exterior security lighting associated with nearby residences and commercial uses.

Environmental Consequences

Temporary Impacts

No-Build Alternative

With implementation of the No Build Alternative, the I-10 Cherry Valley Boulevard interchange would not be reconstructed; therefore, neither temporary nor construction-related effects on the existing visual setting or aesthetic conditions within the vicinity would occur.

Build Alternatives 3 and 4

Build Alternatives 3 and 4 would result in temporary impacts from construction staging areas, equipment storage, and night-time construction activities that would require lighting. Exposed surfaces, construction debris, equipment, truck traffic, and other common construction activities would be exposed to motorists, community residents, and recreational users. However, these visual impacts would be short-term and would cease upon project completion (construction is scheduled to be completed in approximately 24 months).

Both Build Alternatives could require nighttime construction activities which could potentially result in light impacts to nearby residents and motorists traveling on roadways through and adjacent to the project site. However, the project area contains existing sources of nighttime lighting (i.e., vehicle headlights, streetlights, residential lights, etc.) and therefore the new light source may not be perceived as obtrusive by viewers. Additionally, Measure VIS-1 is recommended to minimize temporary project-related light and glare effects by directing construction lighting away from off-site land uses, containing and directing lighting toward the specific area of construction. As such, Build Alternatives 3 and 4 would not result in substantial temporary adverse effects in this regard.

Permanent Impacts

No-Build Alternative

With implementation of the No Build Alternative, the I-10 Cherry Valley Boulevard interchange would not be reconstructed; however, maintenance of the facility would continue, and planned projects would be constructed in the project vicinity. With implementation of the No-Build Alternative, the overall visual setting or aesthetic condition of the project corridor would not be altered.

Build Alternatives 3 and 4

Build Alternatives 3 and 4 would involve the reconstruction of a new bridge overcrossing, reconstructing the eastbound and westbound on- and off-ramps, installing retaining walls, sound walls, and signalized intersections, constructing an auxiliary lane along I-10, and realigning Calimesa Boulevard. Both Build Alternatives 3 and 4 would include similar improvements to the I-10/Cherry Valley Boulevard interchange; however, Build Alternative 3 would result in a more developed appearance, given the diverging diamond interchange would be larger than the existing interchange. The proposed partial cloverleaf interchange under Build Alternative 4 would result in a new bridge structure that is generally similar in appearance to the existing bridge.

Both Build Alternatives 3 and 4 would be constructed in an existing setting that is already comprised of roadway infrastructure and suburban development similar in form, line, color, and texture to the existing transportation uses south of I-10. The proposed sound walls and retaining walls for both Build Alternatives would also be similar in character to the existing development south of I-10. Disturbed areas and slopes would be planted and irrigated for aesthetic, erosion control, and water quality purposes. Although both Build Alternatives would be visually similar to the existing developed condition of the site, implementation of Measures VIS-2 and VIS-3 would further maintain consistency with the existing infrastructure and the context of the project area (color, form, and texture) by implementing landscape and/or architectural treatments and by installing compatible landscaping along the freeway.

Under Build Alternatives 3 and 4, a new traffic signal would be installed at the intersection of Cherry Valley Boulevard and Calimesa Boulevard and at the I-10 eastbound and westbound off- and on-ramps at Cherry Valley Boulevard. However, the traffic signal would be similar in character to existing signals located to the south of I-10. As such, implementation of both Build Alternatives would not result in substantial permanent adverse effects.

The proposed project would be designed in conformance with the objectives and policies identified in the Calimesa and Riverside County General Plans, as well as the County of Riverside I-10 Corridor Master Plan (CRCMP), to maintain visual character/quality. Additionally, implementation of Measures VIS-2 through VIS-4 would reduce potential long-term visual effects on the existing visual setting or aesthetic condition. For this reason, existing views in the project corridor will not be substantially altered and project features will appear compatible with the visual character experienced of the project corridor. The visual quality experienced within the project corridor will not be substantially reduced as a result of the Build Alternatives, as seen from motorists, surrounding residents in the community, and recreational users.

Avoidance, Minimization, and/or Mitigation Measures

VIS-1 During nighttime construction activities, the construction contractor shall minimize project-related light and glare to the maximum extent feasible by directing construction lighting away from land uses located off-site and shall contain and direct construction lighting toward the specific area of construction.

VIS-2 To maintain consistency with the existing infrastructure (i.e., bridges, 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. Elements discussed corridor-wide, as well as those identified for Area A, of the I-10 Corridor Master Plan (I-10 Corridor Master Plan) shall be incorporated as applicable pertaining to structures, slope paving, landscape design, signage, and lighting.

VIS-3 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. In addition, all proposed landscaping species shall be well suited for the local climate, humidity, soil types, and local wind.

VIS-4 Based on California Streets and Highways Code Section 92.3, Caltrans shall use drought resistant landscaping and recycled water when feasible, and incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate.

2.1.11 Cultural Resources

Regulatory Setting

The term "cultural resources," as used in this document, refers to the "built environment" (e.g., structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under federal and state laws, cultural resources that meet certain criteria of significance are referred to by various terms including "historic properties," "historic sites," "historical resources," and "tribal cultural resources." Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act (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 Department went into effect for Department projects, both state and local, with FHWA involvement. The PA implements the ACHP's regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to the Department. The FHWA's responsibilities under the PA have been assigned to the Department as part of the Surface Transportation Project Delivery Program (23 United States Code [USC] 327).

The California Environmental Quality Act (CEQA) requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as "unique" archaeological resources. California Public Resources Code (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, a 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. Tribal cultural resources must also meet the definition of a 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 the Department to inventory state-owned structures in its rights-of-way. Include the following sentence as applicable. 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)[3] between the Department 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.

Affected Environment

This section is based primarily on the Historic Property Survey Report (HPSR) for the Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (dated March 2021).

Area of Potential Effects (APE)

The Area of Potential Effects (APE) for the project was established in consultation with the California Department of Transportation (Caltrans) in accordance with Section 106 PA Stipulation VIII.A. The APE was established from the project footprint and includes all construction areas, temporary construction easements (TCEs), construction signage, and staging areas (i.e., the direct APE), plus a 100-foot buffer to include potential indirect effects that may develop as a result of this undertaking. The overall APE encompasses 128.54 acres, with the direct APE, or project footprint, covering an area of 24.76 acres for Alternative 3 and an area of 27.53 acres for Alternative 4.

The vertical limits of the APE were approximately 12 feet below ground surface (bgs) for the excavation of abutment and bent footings, 25 feet bgs for

[3] The MOU is located on the SER at https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/5024mou-15-a11y.pdf.

foundations of overhead signs proposed along I-10, and 50 feet bgs for the geotechnical auger borings.

Based on the records search and literature review conducted as part of the HPSR, a total of 18 cultural resource studies have been conducted previously within the project study area since 1978. Two of the studies involve portions of the direct APE and two historic resources were identified: 1) a historic-period refuse scatter (CA-RIV-7924H/(33-014869), and 2) a historic-period structural remnants site (CA-RIV-7925H/33-014870). The historic resources were previously documented, evaluated, and determined ineligible for inclusion in the NRHP/CRHR.

As a result of the survey conducted for the HPSR, two newly identified cultural resources were documented within the APE: 1) a historic-period structural remnants site (Æ-3997-01H); and 2) a historic-period built-environment farm complex site (APN 413-270-014). These resources were documented and evaluated according to NRHP and CRHR criteria.

- Historic-Period Concrete Foundation (Æ-3997-01H): The site consists of two historic-period structure foundations. The first second feature on-site is a structure that consists of a cinderblock, concrete, and rebar, collapsed structure foundation with remnants of a red tile interior floor. The second feature on-site consists of three foundation walls. Additionally, the HPSR identifies this site as an archaeological resource. However, during the archaeological survey, the site was found to contain no artifacts. Therefore, the site is determined to be ineligible for inclusion in the NRHP or CRHR.
- Historic-Period Built-Environment Farm Complex (APN 413-270-014): The property is a 5.84-acre, multi-feature agricultural, American Vernacular farm complex. Field surveying indicates that there are currently six extant structures are located on the parcel: two residential structures, a detached garage, barn, workshop, and chicken coup. Five of the structures constructed between approximately 1953–1967 are more than 50 years of age. The site would not qualify as a significant resource under any of the four NRHP or CRHR criterions. Therefore, the site is determined to be ineligible for inclusion in the NRHP or CRHR.

Based on the HPSR, there are no historic properties located within the project APE that are currently listed on the NRHP or CRHR, and there are no properties previously determined eligible for the NRHP or CRHR within the APE. Because there are no historic resources or archaeological resources that are on or eligible for the NRHP, there are no such resources within the APE that are subject to the provisions of Section 4(f) of the Department of Transportation Act of 1966.

APE One-mile Buffer Zone

According to the HPSR, previous cultural resource studies identified and documented approximately 15 cultural resources within a one-mile buffer of the direct APE. These resources include three prehistoric archaeological sites, three historical archaeological sites, one historical object, one California Historical Landmark (CHL No. 749), and seven built-environment resources. The prehistoric archaeological sites are lithic scatters. The historical sites include a refuse scatter and various structural remnants. The object consists of a piece of historical farm equipment. All the prehistoric archaeological sites were recorded on the ground surface, not in subsurface contexts. The built-environment resources include the James Singleton Ranch complex and associated buildings, the Chino-Hayfield, and the Devers Vista transmission lines. Based on the results of the records search and literature review, the were no previously identified archaeological resources found within the project's APE.

Native American Consultation
An initial request to the Native American Heritage Commission (NAHC) was made on March 6, 2019 to elicit pertinent cultural resource information available in the Sacred Lands File. In a reply dated March 13, 2019, the NAHC stated the Sacred Land File search for the Project was completed with negative results, but that the area is considered sensitive for cultural resources. The NAHC provided a list of Native American contacts within the region. In accordance with Section 106 of the NHPA, and as required under CEQA, specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52), Caltrans consulted with pertinent Native American contacts to identify potential resources within the APE. These contacts include representatives of the San Manuel Band of Mission Indians, the Morongo Band of Mission Indians, Soboba Band of Luiseno Indians.

Chapter 4.0, Comments and Coordination, provides additional detail regarding consultation efforts.

Local Historical Society Historic Preservation Groups
The San Gorgonio Pass Historical Society (SGPHS), the Calimesa Historical Society, and the Yucaipa Valley Historical Society were contacted on June 11, 2020 and July 1, 2020, regarding the proposed project and potential historical resources near the project APE. No response was received from any of the three institutions.

Environmental Consequences
No-Build Alternative
The No-Build Alternative would not result in any construction or ground disturbance; therefore, impacts to cultural resources would not occur.

Build Alternatives 3 and 4
Based on the HPSR findings and SHPO concurrence provided on June 16, 2021, no historic properties occur within the APE and the Build Alternative would have no effects to historic properties.

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered, California Health and Safety Code (H&SC) 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. If the remains are thought by the coroner to be Native American, the coroner will notify the Native NAHC, who, pursuant to PRC Section 5097.98, will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact Andrew Walters, the District Environmental Branch Chief ([909] 383-2647) or Gary Jones, District Native American Coordinator ([909] 383-7505), 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.

The Build Alternatives would not affect any cultural resources that are recognized by Caltrans as historic properties. As such, adverse impacts to cultural resources would not occur.

Avoidance, Minimization, and/or Mitigation Measures

No measures are proposed.

2.2 Physical Environment

2.2.1 Hydrology and Floodplain

Regulatory Setting

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

To comply, the following must be analyzed:

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

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

Affected Environment

This section is based on the Location Hydraulic Study (LHS) and Summary Floodplain Encroachment Report (SFER) dated October 2019 prepared for the project.

The project site is located within unincorporated areas of Riverside County and the City of Calimesa. According to the LHS, the project site is within the boundaries of Federal Emergency Management Agency (FEMA) panel #06065C0785G (effective date August 28, 2008). As illustrated on Figure 2.2.1-1, Flood Zones, the project site is located in a Zone X designated area. Zone X areas are determined to be outside the 0.2 percent annual chance floodplain.

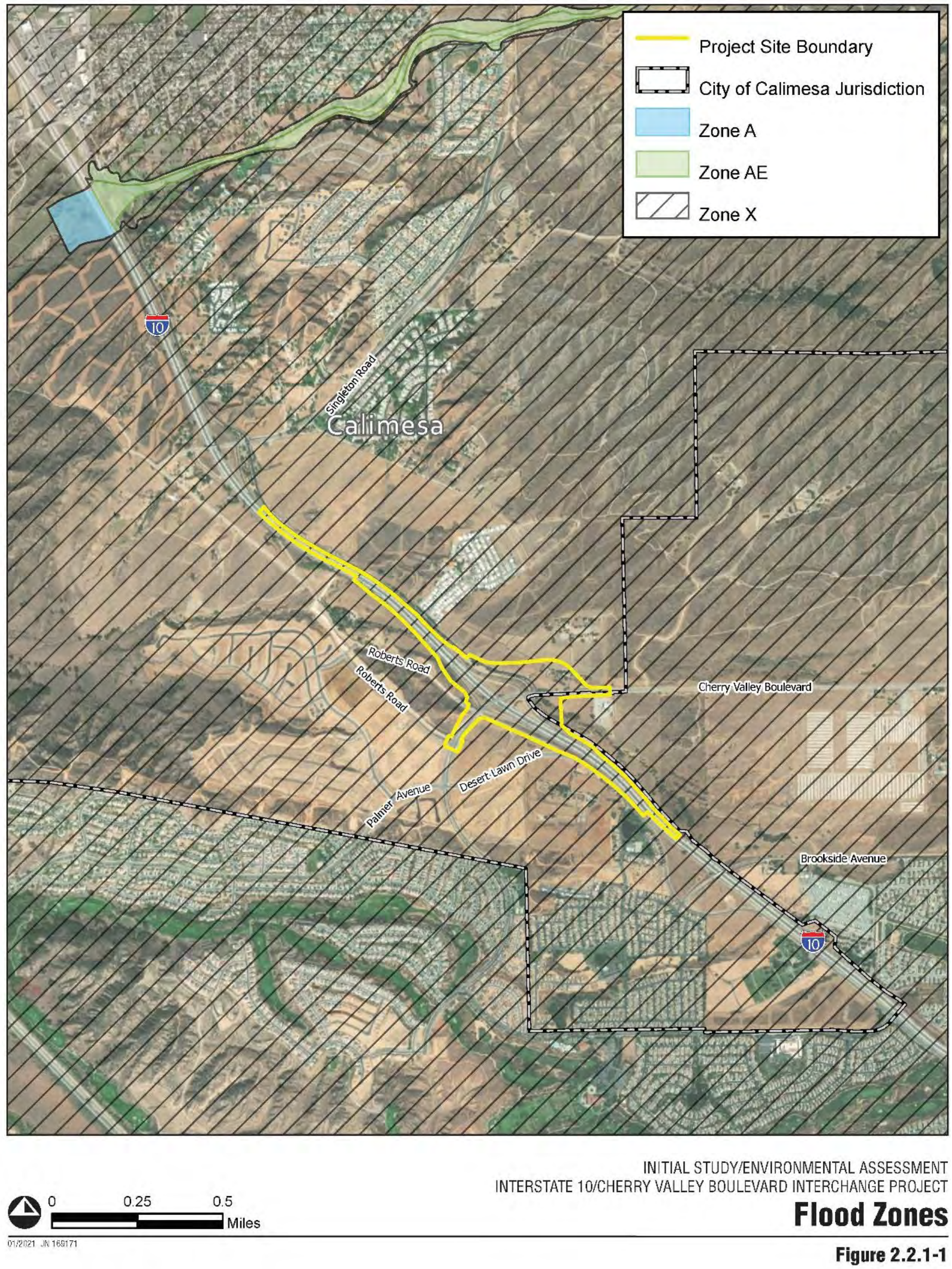
El Casco Creek is the primary drainage feature within the project area, consisting of an existing unlined natural waterway upstream of Cherry Valley Boulevard. It traverses Cherry Valley Blvd east of the I-10/Cherry Valley Blvd overcrossing via an existing 10-foot by 9-foot reinforced concrete box (RCB). This RCB then outlets to an existing concrete lined trapezoidal channel, where El Casco Creek continues to flow northwesterly in between the I-10 westbound on-ramp and Calimesa Boulevard. This concrete trapezoidal channel has a bottom width of 10 feet, depth of 4 feet, and side slopes of 1.5:1 (horizontal to vertical) at the upstream end just north of Cherry Valley Boulevard. Downstream from the confluence with the existing double 8-foot by 5-foot RCB crossing Calimesa Road, and before El Casco Creek traverses under I-10 via a double 10-foot by 7-foot RCB, the channel dimensions are 21 feet bottom width, 4 feet depth, and side slopes of 1.5:1. At the outlet of the double 10-foot by 7-foot RCB culvert crossing at I-10, El Casco Creek returns to an unlined natural waterway where it continues to flow westerly until it confluences with the San Timoteo Creek Reach 3 (Yucaipa Creek to Headwaters) approximately three miles west of the project site. El Casco Creek within the project study limits currently does not provide natural or and beneficial floodplain values.

Environmental Consequences

No-Build Alternative

Under the No-Build Alternative, none of the project improvements would be implemented; therefore, there would be no impacts related to hydrology or floodplains.

Figure 2.2.1-1: Flood Zones



Build Alternatives 3 and 4

As previously discussed, the project area is located in Zone X, a zone designated as outside the 0.2 percent annual chance of flood, and is located outside the of 100-year floodplain. Thus, no adverse effects related to floodplains would occur.

The LHS determined that the implementation of Build Alternatives 3 and 4 would not introduce significant risk, nor would it result in a localized rise in the water surface elevation at El Casco Creek. There are no floodplains and no surrounding inundation areas within the project limits. Additionally, El Casco Creek currently does not provide the following natural and beneficial floodplain values that are listed in the Caltrans Highway Design Manual: fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, forestry, natural moderation of floods, water quality maintenance, and groundwater recharge. The proposed improvements would not result in an increase in water surface elevations, and the 100-year storm event flow would be contained within the channel. The Summary Floodplain Encroachment Report (SFER) included in the LHS determined that the combined Assessed Risk Level for the project is "Low Risk". Proposed improvements under the Build Alternatives include reconfiguring the I-10/Cherry Valley Boulevard interchange adjacent and over the El Casco Creek. The Build Alternatives would result in minor increases in off-site stormwater runoff tributary to El Casco Creek.

Based on the LHS, the existing concrete trapezoidal channel is insufficient in conveying the 100-year peak runoff upon implementation of Build Alternatives 3 and 4. The existing channel has a depth of 4 feet, while the calculated maximum flow depth is approximately 6 feet (particularly at the confluence with the double 8-foot by 5-foot RCB crossing Calimesa Boulevard). In order to provide additional capacity and freeboard, the Build Alternatives would increase the depth of the existing channel by extending the tops of the channel side slopes in kind while maintaining the invert of the channel. It is proposed to increase the depth by 3.5 feet from the inlet of the existing double 10-foot by 7-foot RCB culvert to the confluence with the existing double 8-foot by 5-foot RCB. Upstream of this confluence, it is proposed to increase the depth by one foot up to the outlet of the existing 10-foot by 9-foot RCB traversing Cherry Valley Boulevard. This would require minimal proposed grading as the existing and proposed elevations of Calimesa Boulevard and the I-10 westbound on-ramp are considerably higher than the concrete channel. As noted in the LHS, the proposed increase in channel depth would not result in an increase to the existing water surface elevations, as the increase in channel depth will maintain the existing channel invert and side slope dimensions, while extending the tops of the channel side slopes in kind. Proposed project improvements include reconfiguring the I-10/Cherry Valley Boulevard interchange adjacent and over the El Casco Creek.

The project would result in minor increases in off-site stormwater runoff tributary to El Casco Creek. Based on the LHS, the existing concrete trapezoidal channel is insufficient in conveying the 100-year peak runoff upon implementation of Build Alternatives 3 and 4. The existing channel has a depth of 4 feet, while the calculated maximum flow depth is approximately 6 feet (particularly at the confluence with the double 8-foot by 5-foot RCB crossing Calimesa Boulevard). In order to provide additional capacity and freeboard, the Build Alternatives would increase the depth of the existing channel by extending the tops of the channel side slopes in kind while maintaining the invert of the channel.

It is proposed to increase the depth by 3.5 feet from the inlet of the existing double 10-foot by 7-foot RCB culvert to the confluence with the existing double 8-foot by 5-foot RCB. Upstream of this confluence, it is proposed to increase the depth by one foot up to the outlet of the existing 10-foot by 9-foot RCB traversing Cherry Valley Boulevard. This would require minimal proposed grading as the existing and proposed elevations of Calimesa Boulevard and the I-10 westbound on-ramp are considerably higher than the concrete channel. As noted in the LHS, the proposed increase in channel depth would not result in an increase to the existing water surface elevations, as the increase in channel depth will maintain the existing channel invert and side slope dimensions, while extending the tops of the channel side slopes in kind.

El Casco Creek is contained within the channel for the proposed condition 100-year storm event, and therefore has no floodplain. El Casco Creek within the project study limits currently do not provide natural and beneficial floodplain values as listed in the Caltrans Highway Design Manual; therefore, the proposed Build Alternatives would not result in adverse impacts related to hydrology or floodplain values.

Avoidance, Minimization, and/or Mitigation Measures

No measures are proposed.

2.2.2 Water Quality and Stormwater Runoff

Regulatory Setting

Federal Requirements—Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source[4] 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

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

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 (RWQCBs) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).

Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers (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 Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual 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 (40 Code of Federal Regulations [CFR] 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[5] 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.

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, RWQCBs designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect those uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the 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.

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

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 Pollutant Discharge Elimination System Program

Municipal Separate Storm Sewer Systems

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 and effective on July 1, 2010), as amended by Order No. 2010-0014-DWQ (effective February 14, 2011) and Order No. 2012-0006-DWQ (effective on July 17, 2012). 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 (SWPPPs); to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The Construction General Permit separates projects into Risk 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 SWPPP. In accordance with the Department’s SWMP and Standard Specifications, a Water Pollution Control Program (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 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.

Affected Environment

This section is based upon the Scoping Questionnaire for Water Quality Issues (SQWQI) (dated August 2020), the Location Hydraulic Study (LHS) (dated October 2019), and the Preliminary Drainage Report (PDR) (dated August 2020) prepared for the project.

Receiving Surface Water Bodies

The project is located within the San Timoteo Wash watershed, which is part of the Santa Ana Region (SAR) Riverside County Watershed Action Plan (WAP) developed by the Riverside County Flood Control and Water Conservation District (RCFC&WCD) in 2017. The general drainage pattern within the project vicinity flows from southeast to northwest and drains towards El Casco Creek (an unlined natural waterway located south of Cherry Valley Boulevard). Storm water that falls within the project boundary drains directly to El Casco Creek, which then discharges to San Timoteo Creek Reach 3, a creek that is approximately two and a half miles downstream to the west of the project site. Discharge from San Timoteo Creek Reach 3 then flows in a southwest direction to reach the Santa Ana River, which in turn discharges into the Pacific Ocean. Figure 2.2.2-1, Receiving Waters, shows the location of the receiving water bodies in relation to the proposed project.

Groundwater Hydrology

The proposed project falls within the Upper Santa Ana River basin and the San Timoteo hydrologic sub-area groundwater basin. According to the SQWQI, the Upper Santa Ana River basin is ranked as very low on the basin prioritization list. According to the Calimesa General Plan, the area is served by groundwater from the San Timoteo Sub Basin of the Beaumont Groundwater Basin. The City of Calimesa is also located within the Beaumont Groundwater Management Zone.

The SQWQI notes that there are five wells within one mile of the existing Cherry Valley Boulevard overcrossing that provided groundwater measurements with groundwater depth between 92 feet and 264 feet below ground surface (bgs).

Figure 2.2.2-1: Receiving Waters

Municipal Supply

High-risk areas include highway locations where spills or other releases from Caltrans ROW, roadways, or facilities may discharge directly to municipal or domestic water supply reservoirs or ground water percolation facilities. The Caltrans 2018-2019 District 8 Work Plan indicates that no high-risk areas are located within the proposed project area.

Beneficial Uses

A beneficial use identifies the ways that water can be used for the benefit of people and/or wildlife. The beneficial uses for Beaumont Groundwater include Agricultural, Industrial Service Supply, and Industrial Process Supply. Due to its distance from the project location, beneficial uses for the Santa Ana River Basin were not listed within the SQWQI. The beneficial uses for San Timoteo Creek Reach 3 are identified and listed below:

- Groundwater Recharge (GWR)
- Water Contact Recreation (REC 1)
- Non-contact Water Recreation (REC 2)
- Warm Freshwater Habitat (WARM)

Wildlife Habitat (WILD)It should be noted that the beneficial use of Municipal and Domestic Supply (MUN) was excepted for this water body.

Beneficial uses for Beaumont Groundwater Management Zone are listed below:

- Municipal and Domestic Supply (MUN)
- Agricultural (AGR)
- Industrial Service Supply (IND)
- Industrial Process Supply (PROC)

Impairments

According to the SQWQI, San Timoteo Creek Reach 3 is listed as impaired for Indicator Bacteria, specifically E. coli. However, no TMDL has been established for San Timoteo Creek. Therefore, the watershed does not have any associated TMDLs developed.

Environmental Consequences

Temporary Impacts

No-Build Alternative

Under the No-Build Alternative, no project improvements would be implemented; thus, no temporary impacts related to water quality would occur.

Build Alternatives 3 and 4

Construction of either of the Build Alternatives could potentially result in water quality impacts associated with the contribution of pollutants to receiving water bodies during the temporary construction process. Pollutants during construction would include sediment, metals, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Best Management Practices (BMPs), including construction site BMPs (e.g., storm drain inlet protection, temporary fiber rolls, gravel bed berms, etc.) and job management BMPs (i.e., wind erosion control, spill prevention and control, etc.) would minimize these potential individual or cumulative combined impacts on water quality, including downstream waterbodies. The selection of BMPs will be determined during final design.

The Build Alternatives would be required to adhere to existing temporary construction related NPDES requirements, which would minimize impacts in this regard. Compliance with the Caltrans Construction General Permit (NPDES General Permit, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activities (Order No.2009-0009-DWQ – NPDES No. CAS000002) would be required since the site occurs within Caltrans right of way, and would require preparation and implementation of a SWPPP. The SWPPP would specify BMPs to be used during construction of the project to minimize or avoid water pollution, thereby reducing potential temporary impacts to water quality. The project is required to be notified to the State Water Quality Control Board via the Stormwater Multi-Application Tracking System (SMARTS). Project registration documents would be filed, and a Waste Discharge Identification (WDID) number would then be assigned. Upon completion of the project, a Notice of Termination would be submitted to the SWRCB to indicate that construction has been completed. Thus, adverse effects related to water quality would not occur.

Permanent Impacts

No-Build Alternative

Under the No-Build Alternative, none of the project improvements would be implemented; therefore, no increase in runoff flow velocities, volumes, or peak flow rates or adverse effects to water quality would occur.

Build Alternatives 3 and 4

The Build Alternatives have the potential to result in impacts to water as a result of long-term operations. Potential pollutant sources associated with operations may include, but are not limited to, motor vehicles, highway maintenance, illegal dumping, spills, and landscaping care. These sources typically result in the generation of sediment, organic compounds (i.e. petroleum hydrocarbons), trash, bacteria, oil and grease, and metals that affect water quality.

The proposed project is anticipated to add new impervious surface to the project site. Table 2.2.2-1, Impervious Surface Area for Build Alternatives shows that the total impervious area increases over existing conditions by approximately 9.48 acres under Build Alternative 3 and approximately 11.84 acres under Build Alternative 4. Therefore, the Build Alternatives would result in a permanent increase in impervious surfaces that would induce an increase in the volume of storm water runoff.

Table 2.2.2-1: Impervious Surface Area for Build Alternatives

Alternatives	**Current Impervious Surface** (acres)	**Ne**w Impervious Surface (acres)	**Total Impervious Surface** (acres)
3	1.35	9.48	**10.83**
4	1.01	11.84	**12.85**

Source: I-10 Cherry Valley Boulevard Interchange Project Scoping Questionnaire for Water Quality Issues (August 2020).

Pursuant to Caltrans NPDES permit requirements, the project would be required to implement a range of design pollution prevention, treatment, and maintenance BMPs. Design pollution prevention BMPs are measures required under the Caltrans MS4 Permit that focus on reducing or eliminating runoff and controlling sources of pollutants during operation of the project (e.g., slope/surface protection systems, concentrated flow conveyance systems, preservation of existing vegetation, etc.). These BMPs would meet the objective of maximizing vegetated surfaces, preventing downstream erosion, and stabilizing soil areas. The selection of BMPs will be determined during final design. Upon adherence to the Caltrans MS4 Permit, which would require implementation of various BMPs to minimize operational water quality impacts, effects on downstream receiving water bodies and aquatic life would not be adverse.

The Build Alternatives would also include Detention Pollution Prevention (DPP) strategies to minimize runoff, maximize infiltration and reduce erosion. DPP strategies include implementing slope/surface protection systems, implementing concentrated flow conveyance systems, and preserving existing vegetation. These strategies, in addition to the proposed treatment BMPs, would aim to treat at a minimum 100% of the Water Quality Flow (WQF) generated from the proposed increase in impervious surface. Since the proposed treatment BMPs and DPP strategies would provide treatment to over 100% of the overall WQF for both Build Alternatives, no adverse effects to the receiving water bodies (El Casco Creek and San Timoteo Creek Reach 3) are anticipated.

Avoidance, Minimization, and/or Mitigation Measures

No measures are proposed.

2.2.3 Geology, Soils, Seismicity, and Topography

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. 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.

Affected Environment

This section is based on the findings of the Preliminary Geotechnical Design Report (PGDR) (June 2020) that was prepared for the proposed project.

Regional Geology

The project area is located in a narrow alluvial valley between the foothills of the San Gorgonio Mountains and San Jacinto Mountains near the northern end of the Peninsular Ranges Geomorphic Province of Southern California. The Peninsular Ranges Geomorphic Province consists of a series of northwest-trending mountain ranges and valleys bounded on the north by the San Bernardino and San Gabriel Mountains, on the west by the Los Angeles Basin, and on the south by the Pacific Ocean.

The province is a seismically active region characterized by a series of northwest trending strike-slip faults. The most prominent of the nearby fault zones include the San Andreas, San Jacinto, and the Elsinore fault zones, all of which have been known to be active during Quaternary time.

The topography within the province is generally characterized by broad alluvial valleys separated by linear mountain ranges. This northwest-trending linear fabric is created by the regional faulting within the granitic basement rock of the Southern California Batholith. Broad, linear, alluvial valleys have been formed by erosion of these principally granitic mountain ranges.

Local Geology

Based on the PGDR, review of available geologic mapping indicates that on-site soils consist of three alluvial units: young axial-valley deposits, old alluvial-fan deposits, and very old alluvial-fan deposits. Descriptions of each unit are provided below.

- Qya: Young axial-valley deposits (Holocene and uppermost Pleistocene)—Slightly to moderately consolidated sandy, muddy, and gravelly sediment deposited by through-going streams of axial valleys. This unit is primarily exposed on the northeast side of the project area and underlies the east end of the overcrossing, westbound on-ramp, the I-10 travel lanes northwest of the westbound on-ramp, and a portion of the travel lanes southeast of the overcrossing.
- Qof: Old alluvial-fan deposits (upper to middle Pleistocene)—Sandy, gravelly, and silty sediment deposited by streams that formed alluvial-fan landforms. This unit underlies the eastbound off-ramp and on-ramp, central and western portion of the overcrossing, a portion of the travel lines southeast of the eastbound off-ramp, and all the travel lanes southeast of the eastbound on-ramp.
- Qvof: Very old alluvial-fan deposits (middle to lower Pleistocene)—Sandy and gravelly deposits. This unit is exposed in the southwestern side of the project area. The older alluvium typically can be distinguished from the younger alluvium by level of induration. The older units are weakly indurated while the younger unit is not indurated.

The ground surface varies from approximately 2,364 feet above mean sea level (amsl) in the area of the Roberts Road southwest bridge abutment to approximately 2,350 feet at the project limits along Cherry Valley Boulevard to the east. The eastbound and westbound on-ramp/off-ramp intersections with Cherry Valley Boulevard are located at approximately 2,378 and 2,360 feet amsl, respectively.

Subsurface Soil Conditions

According to the PGDR, six cone penetrometer tests (CPT) and four borings were performed in February 1961 along and near Cherry Valley Boulevard and its overcrossing of I-10 during a field investigation by Caltrans. CPTs were advanced to depths of up to approximately 46.0 feet bgs. Borings were advanced to depths up to approximately 51.0 feet bgs. The results indicated slightly compact to compact light reddish tan to grayish brown loose to very dense silty fine to coarse sand with gravel, pebbles and cobbles, to the maximum explored depth of 51.0 feet bgs.

Groundwater Conditions

According to the PGDR, the CPTs and borings conducted in 1961 along and near the interchange did not encounter groundwater to the maximum explored depth of approximately 51 feet bgs. The PGDR indicates that there are five groundwater wells within a one-mile distance of the I-10/Cherry Boulevard overcrossing that provide groundwater measurements. Their depths range from 92 bgs to 264 bgs. Historically, the high groundwater at the project site is not known with certainty but it is anticipated to be deeper than 50 feet bgs.

Faulting and Seismicity

The project site is located in seismically active southern California and is subject to earthquake shaking. However, the project site is not located within a recognized State of California or Riverside County Earthquake Fault Zone. Figure 2.2.3-1, Regional Fault Map, shows the site location relative to regional faults.

The two nearest faults to the project site are the San Timoteo Fault and the Cherry Valley Thrust Fault. The San Timoteo Fault is a roughly northwest-southeast trending strike-slip fault mapped approximately 2,200 feet southwest of the center of the existing Cherry Valley Boulevard at its closest point. The Cherry Valley Thrust Fault is generally a northwest-southeast trending fault mapped approximately 3,400 feet northeast of the of the center of the overcrossing at its closest point. According to the PGDR, neither of these faults are considered to be active.

The San Gorgonio Pass Fault is a reverse fault located approximately 1.46 miles north of the project site at its closest point and trends roughly east-southeast. It has a Maximum Considered Earthquake (MCE) of 6.7 and is the controlling fault for the project site. This fault is also the closest active fault zone, as specified by the Alquist-Priolo Earthquake Fault Zoning Act. Since the project site is not located within the confines of this fault zone, the risk of surface rupture at the site is considered low.

Geologic Hazards

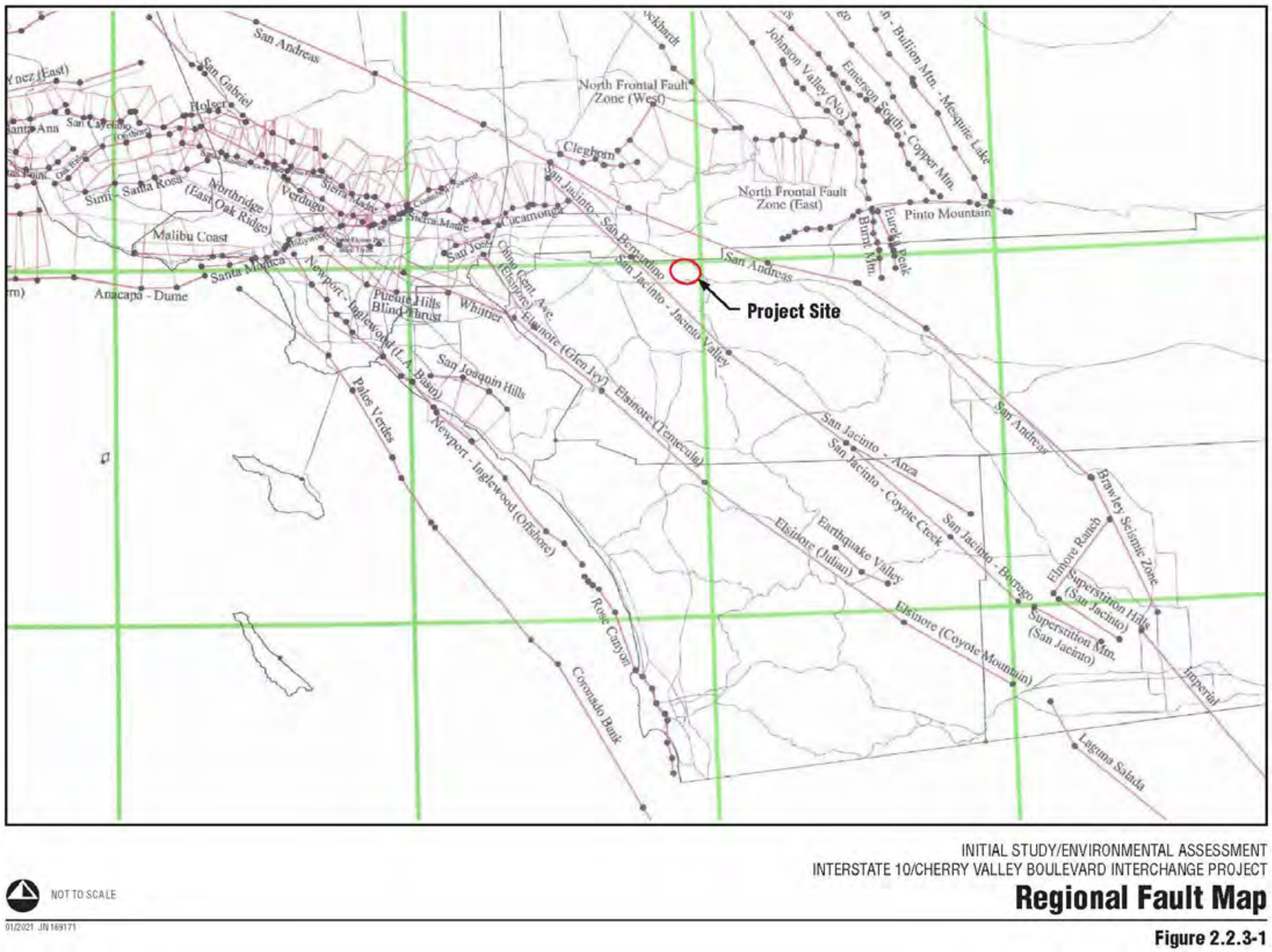
The PGDR does not indicate significant geologic hazards (such as land sliding, ground settlement, embankment failures, very soft soils, severe erosion, etc.) within the project area. Further investigation of these hazards would be conducted during the PS&E phase of the project.

Liquefaction Potential

Liquefaction is defined as the phenomenon in which a cohesionless soil mass within the upper 50 feet of the ground surface, suffers a substantial reduction in its shear strength, due the development of excess pore pressures. During earthquakes, excess pore pressures in saturated soil deposits may develop as a result of induced cyclic shear stresses, resulting in liquefaction. Soil liquefaction generally occurs in submerged granular soils and non-plastic silts during or after strong ground shaking.

Preliminary analysis within the PGDR determined that, due to the fact that current and historic static groundwater level is likely deeper than 50.0 feet bgs, the project site has low potential for liquefaction.

Figure 2.2.3-1: Regional Fault Map



Fault Rupture
As noted above, the San Gorgonio Pass Fault is located approximately 1.46 miles north of the project site and is the nearest active fault to the project site. This fault is also the closest active fault zone, as specified by the Alquist-Priolo Earthquake Fault Zoning Act. Since the project site is not located within the confines of this fault zone, the risk of surface rupture at the site is considered low.

Tsunami/Seiches
The project is located within the inland region of southern California; thus, tsunamis do not pose a hazard to this site since it is located approximately 50 miles from the Pacific Ocean. Seiching would be possible within the nearby drainage channel if a large earthquake coincides with a high-flow level event. However, due to the size and elevation of the channel, it is likely that any water from reaching the project area would be precluded.

Soil Erosion Potential
On-site soils are anticipated to be predominantly fine- to coarse-grained silty sands and are susceptible to erosion. Erosion control measures are discussed below.

Soil Expansion Potential
As described above, on-site soils are anticipated to range from predominantly fine- to coarse-grained silty sands. Coarse-grained soils are generally anticipated to be non-expansive or have a very low expansion potential. Fine-grained soils may be susceptible to low to high expansion potential. The PGDR recommends that soil expansion potential should be evaluated further during PS&E phase of the project.

Slope Stability
The slopes within the project limits have slope gradients of approximately 2H:1V or flatter and appear to be grossly stable under static conditions and are assumed to also be stable under seismic loading. For this reason, it is not anticipated that the Build Alternatives would have a substantial effect on slope stability on-site; however this will be confirmed during the PS&E phase.

Environmental Consequences

Temporary Impacts

No-Build Alternative
No improvements to the existing interchange would occur under the No-Build Alternative. Therefore, it would not result in temporary adverse effects related to geology, soils, seismicity, or topography.

Build Alternatives 3 and 4
Earthwork activities during project construction would result in adverse effects to the geological environment (i.e., soil erosion and siltation). Excavation and construction activities in these areas may result in minor changes to existing

topography. The project would adhere to the earthwork recommendations provided in the PGDR prepared for the project, in addition to the requirements of the Caltrans Standard Specifications, Section 19, Earthwork. Soil compaction would be accomplished in accordance with Section 19-5, Compaction of the Standard Specifications. Fill placed during widening of the embankments would be benched into the existing slopes in accordance with Section 19-6, Embankment Construction of the Standard Specifications.

Construction of the project could expose construction workers and the traveling public to potential adverse effects associated with seismic ground shaking. The project would comply with current Caltrans' procedures and design criteria regarding seismic design to minimize any adverse effects related to seismic ground shaking. Earthwork would be performed in accordance with Caltrans Standard Specifications, Section 19, which require standardized measures related to compacted fill, over-excavation and recompacting, and retaining walls, among other requirements. Additionally, Caltrans Highway Design Manual (HDM) Topic 113, Geotechnical Design Report, would require that a site-specific, geotechnical field investigation is performed for the project during the PS&E phase. With the adherence to these Caltrans procedures, adverse effects would not occur in this regard.

Permanent Impacts

No-Build Alternative

No improvements to the I-10/Cherry Valley Boulevard would occur under the No-Build Alternative and, therefore, it would not result in permanent adverse effects related to geology, soils, seismicity, or topography.

Build Alternatives 3 and 4

Fault-Induced Ground Rupture

As discussed above, the project limits do not include active surface faults and the potential for fault-induced ground rupture is considered low. The site is not located within an Alquist-Priolo Fault Zone. The project would not result in adverse effects in this regard.

Liquefaction/Seismically-Induced Settlement

Preliminary liquefaction analysis within the PGDR determined that, due to the absence of shallow groundwater within the project site, the potential for adverse effects related to liquefaction would be low. However, the PGDR recommends that liquefaction potential is further examined during the PS&E phase of the project. If the potential for liquefaction is determined to be present during PS&E, potentially affected structures may include the lengthening of pile foundations, ground improvement, and/or designing foundations to withstand larger movements. Effects of the Build Alternatives related to liquefaction would not be adverse.

Soil Erosion Potential

As discussed previously, native soils within the project limits are anticipated to bed fine- to coarse-grained silty sands, and therefore are subject to moderate to severe erosion. The majority of slopes proposed as part of the Build Alternatives would be sloped at 4H:1V or flatter; based on the PGDR, fill slopes of up to 2H:1V are feasible from a geotechnical standpoint. These areas would be maintained with erosion protection and drainage control in accordance with Section 21 of Caltrans Standard Specifications (2015). The project will adhere to the earthwork recommendations provided in the PGDR. Potential impacts regarding soil erosion would not be substantial.

Soil Expansion Potential

As described previously, fine-grained soils (silts and clays) within the project limits range from very minimal to high expansion potential. The Build Alternatives would adhere to the earthwork recommendations provided in the PGDR, and soil expansion would be further evaluated during the PS&E phase. Potential impacts regarding soil expansion would not be substantial.

Subsidence and Settlement

Subsidence occurs as a result of subsurface fluid extraction (e.g., groundwater, petroleum) or compression of soft, geologically young sediments. Determining whether or not subsidence would occur would depend on the construction equipment utilized for the project. As discussed previously, the project will adhere to the earthwork recommendations provided in the PGDR prepared for the project, and the potential subsidence or settlement would be further evaluated during the PS&E phase. Potential impacts related to subsidence/settlement would not be adverse.

Stability of Embankment and Fill Slopes

Under the Build Alternatives, approach embankments constructed of compacted fill soils would be required for the proposed bridge widening and new ramps. According to the latest edition of the Caltrans HDM, fill slopes should be 4H:1V or flatter. Embankment fill slopes steeper than 4H:1V must be approved by the District Landscape Architect. Based on the PGDR, fill slopes of up to 2H:1V are feasible from a geotechnical standpoint. Slope stability analysis will be performed during the PS&E phase. Upon adherence to recommendations provided in the PGDR, potential impacts related to slope stability would not be adverse.

Avoidance, Minimization, and/or Mitigation Measures

No measures are proposed.

2.2.4 Paleontology

Regulatory Setting

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils.

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

Affected Environment

This section is based on the Combined Paleontological Identification Report and Paleontological Evaluation Report (PIR/PER) (dated December 2020) prepared for the project.

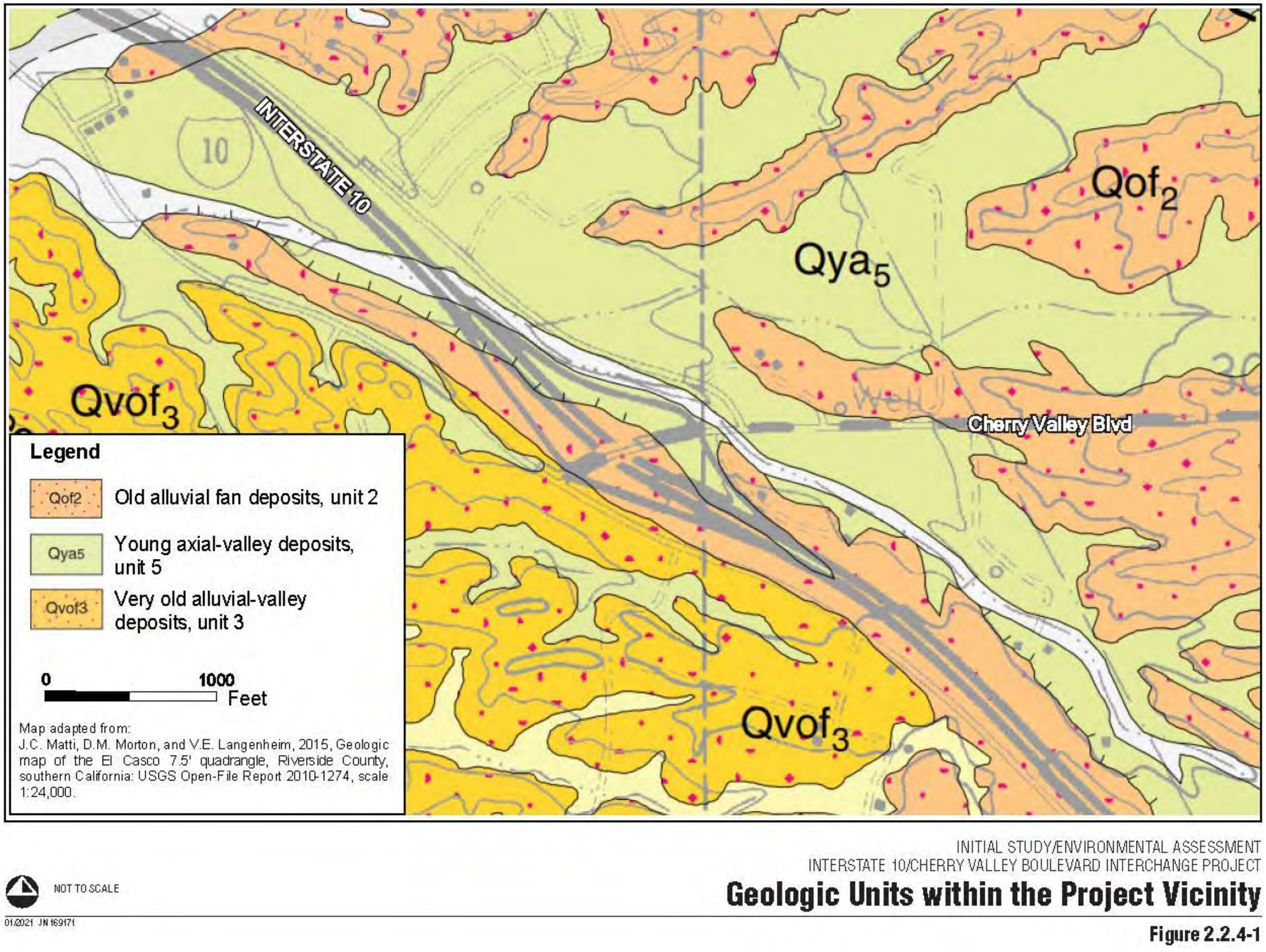
Stratigraphy

According to the PIR/PER, the surficial geology of the project study area consists of Pleistocene alluvial-fan deposits (Qvof3, Qof2), Holocene axial-valley deposits (Qya5), and Holocene deposits from recently active channels and active washes (Qvyw2, Qvywm). Notable units mapped near the project area include Pleistocene sedimentary deposits of Live Oak Canyon (Qlo), San Timoteo Formation (Tstm), and residuum and/or pedogenic-soil profile developed from those sediments (Qvors). Particularly, the San Timoteo Formation is known to be highly fossiliferous, with specimens of mastodon, horse, camel, antelope, dog, bear, rodent, and rabbit reported in the general vicinity of the project site. Figure 2.2.4-1, Geologic Units within the Project Vicinity, shows the stratigraphy and geological unit structure of the project vicinity and its surroundings.

Sedimentary Deposits of Live Oak Canyon and San Timoteo Formation

The unit Qlo consists of unconsolidated and consolidated nonmarine sedimentary material. The closest surface exposures of Qlo are approximately 0.4 miles northwest and southwest of the project site. The unit includes Pleistocene sedimentary deposits derived from streams that flowed from the ancestral Live Oak Canyon and Pleistocene beds referred to by the PIR/PER as the San Timoteo Formation.

Figure 2.2.4-1: Geologic Units within the Project Vicinity



The sedimentary deposits of Live Oak Canyon are mainly gravelly and conglomeratic material interbedded with sandy sediment and rocks, with some beds of muddy sediment and mudrock. While no surface exposures of unit Qlo are mapped in the project area, the nearby mapped outcrops are indications this unit may be present at unknown depths in the subsurface of the project area. There is no paleontological information available for the sedimentary deposits from Live Oak Canyon, although the finer-grained beds may be lithologically suitable for preserving fossils. The San Timoteo Formation—particularly the middle member—dominates the geology of the San Timoteo Badlands approximately 2 miles west-southwest of the project area as well as the more elevated terrain 0.8-mile northeast of the project area. This geologic formation consists of sandstones and conglomerates with clasts derived from crystalline rocks of the Transverse Ranges to the north. The upper member consists of distinctly yellowish-gray sandstones with very fine- to coarse-grained beds that alternate with light gray, pale yellow, and light yellowish-brown pebbly- to cobbly- gravel-rich beds.

The San Timoteo Formation is known to be highly fossiliferous, with specimens of mastodon, horse, camel, antelope, dog, bear, rodent, and rabbit reported in the general vicinity including the San Timoteo Badlands. According to the PIR/PER, late Pliocene to early Pleistocene fauna have been recovered by investigators from the upper member (Qstu) deposits and early Pleistocene fauna have been recorded in the quartzite-bearing conglomerate beds (Qstcq). According to the PIR/PER, the middle member of the San Timoteo Formation ranges in age from early Pliocene to early Pleistocene.

Very Old Residuum and/or Pedogenic Soil

Unit Qvors is mapped in close association with unit Qlo approximately 0.5 mile southwest of the project area. The unit is early to middle Pleistocene in age and consists of the reddish residuum and/or pedogenic-soil profile developed from weathering an old Quaternary landscape of the sedimentary deposits of Live Oak Canyon or the San Timoteo Formation.As with unit Qlo, this unit may be present at unknown depths in the subsurface of the project area. No paleontological information is available for this specific unit, although soil developed from fossiliferous beds of the San Timoteo Formation likely will still preserve fossils. Pleistocene and older paleosols such as these have yielded abundant significant vertebrate fossils elsewhere in Riverside County.

Alluvial-Fan Deposits

Two alluvial-fan units are mapped in the project area. Unit Qvofe is mapped in and around the northwest terminus of the project area and in the short segment of Tukwet Canyon Parkway that is perpendicular to the southwest side of I-10. These deposits consist of moderately consolidated, middle Pleistocene sands and gravels comprising the 3rd unit in the very old alluvial-fan series of the region (Qvof).

As mapped in Figure 2.2.4-1, unit Qof2 covers the majority of the project area. Unit Qof2 extends from the southeast terminus of the project area northward along both sides of I-10 to the north side of the Interchange, comprises the eastern terminus of the Cherry Valley Boulevard portion of the project area as well as the proposed on-ramps under Build Alternatives 3 and 4, and crosses a small portion of the I-10 corridor near the northwest terminus of the project area. This unit is the middle to late Pleistocene, 2nd unit of the old alluvial-fan series (Qof), consisting of moderately consolidated, brownish sandy, gravelly, and silty sediment deposited by streams that formed alluvial-fan landforms. According to the PIR/PER, Pleistocene-age alluvial deposits such as units Qvof3 and Qof2 have been demonstrated to be highly fossiliferous elsewhere in Riverside County. Significant fossils reported from such alluvial deposits include mammoths, mastodons, ground sloths, dire wolves, sabre-toothed cats, large and small horses, large and small camels, and bison, as well as plant macro- and microfossils.

Axial-Valley Deposits

Unit Qya5 covers most of the northeast side of the interchange and most of the I-10 corridor in the project area northwest of the interchange. These latest Holocene (recent) deposits comprise the 5th unit and youngest of the young axial-valley series (Qya) and consist of moderately consolidated sandy, muddy, and gravelly sediment deposited by through-going streams of axial valleys. The unit is mapped also as Qya5 in Figure 2.2.4-1. Holocene-age alluvial deposits less than 5,000 years old such as unit Qya5 generally are too young to preserve significant fossils, though they may shallowly overlie older deposits that preserve them.

Wash Deposits

Two wash deposit units are mapped in the project area. These latest Holocene units of the very young wash series (Qvyw) include very slightly to slightly consolidated sands and gravels that were recently transported and deposited in active channels and washes, on surfaces of alluvial fans and alluvial plains, in ephemeral lakes, and on hillslopes. Unit Qvyw2 occurs in local channels that cross beneath I-10 at the northwest terminus of the project area.

Unit Qvywm7 is the youngest Qvyw series and occurs just northwest of the interchange near Calimesa Boulevard as well as in active channels beneath I-10 near the northwest terminus of the project area. As with other Holocene deposits less than 5,000 years old, this unit is unlikely to preserve significant fossils, but may shallowly overlie older fossiliferous deposits.

Paleontological Records

The PIR/PER included searches of museum repositories for fossil localities within and near the project area. The analysis included a search of vertebrate paleontology records maintained by the Natural History Museum of Los Angeles County (NHMLAC). As the NHMLAC paleontology records are divided into vertebrate and invertebrate collections, only the vertebrate paleontology records were searched rather than both collections, because geologic units near the project area are more conducive to the preservation of vertebrate fossils than significant invertebrate fossils. The PIR/PER also utilized records search results conducted for other projects in the vicinity to supplement the records search conducted with NHMLAC. Lastly, the PIR/PER included searches of two online databases: the Paleobiology Database (PBDB) and the online database of the University of California Museum of Paleontology (UCMP), which list locality records from across California for all types of fossilized biota and traces.

The results of the records search for the project did not indicate any recorded fossil localities within the project area. However, the NHMLAC records search indicated two nearby localities from older Quaternary alluvial units similar to those in the project area. The closer locality is LACM 4540, south-southwest of the project area on the northeastern side of the San Jacinto Valley and just west of Jack Rabbit Trail. This locality yielded a specimen of fossil horse (Equus) from an undisclosed context (i.e., surface or subsurface). The other locality, LACM 7811, which is northwest of the project area—north of Norco and west of Mira Loma in the Jurupa Valley—yielded a specimen of coachwhip (Masticophis flagellum) from a depth of 9 to 11 feet bgs.

A review of records search results from other projects in the vicinity included additional resources, including several localities from the San Timoteo Formation of the San Timoteo Badlands north and south of State Route 60, at least 2 miles west-southwest of the project area (Equus and camel [Camelidae]) from unknown depths; one locality along Calimesa Boulevard approximately 4.5 miles south of the Yucaipa Freeway Corridor Specific Plan Project (Equus) from an unknown depth in Pleistocene-age deposits; one locality of Rancholabrean fauna from Pleistocene-age alluvial deposits in the City of Beaumont and several localities from the upper San Timoteo Formation of the San Timoteo Badlands (bison [Bison antiquus] and mammalian taxa).

Survey Results

In support of the PIR/PER, a site field survey of the project study area was completed on June 9, 2020. No paleontological resources were encountered on the ground surface of the project area during the site reconnaissance. As part of the field survey, there were observations of possible deposits of Live Oak Canyon and/or upper San Timoteo Formation (Qlo; Qstu), the very old alluvial-fan deposits (Qvof3), old alluvial-fan deposits (Qof2), and young axial-valley deposits (Qya5). Very old residuum and (or) pedogenic soils (Qvors) were not observed. Very young wash deposits (Qvyw2, Qvywm) are mapped in drainage channels that are currently concrete-lined, and, consequently, they also were not observed.

Paleontological Sensitivity

Paleontological resources are considered significant if they are identifiable vertebrate fossils, uncommon invertebrate, plant, and trace fossils that provide new data on classification, preservation, distribution, evolution, or other scientifically important information. Knowledge of the geological units gleaned from desktop records searches, published and unpublished literature and map reviews, and field surveys are the basis for determining the paleontological sensitivity of projects. Caltrans utilizes a tripartite scale to determine and characterize paleontological sensitivity. According to the Caltrans SER Environmental Handbook, Volume 1, Chapter 8, the scale utilizes baseline information gathered during the paleontological resource assessment to assign each geologic unit one of three categories: High Potential, Low Potential, and No Potential. According to the PIR/PER, the Riverside County General Plan also includes sensitivity criteria and guidelines for mitigation of paleontological resources. Their sensitivity categories include High A (Ha), High B (Hb), Low, and Undetermined Potential. The sensitivity category of the Riverside County General Plan can be comparable to the Caltrans set of paleontological sensitivity goals. Ha and Hb are reportedly roughly equivalent to High Potential for Caltrans, and the Low Potential is comparable to Low Potential and No Potential for Caltrans. Table 2.2.4-1, Paleontology Sensitivity Scale, provides a comparison of the Caltrans and County classification systems.

Table 2.2.4-1: Paleontology Sensitivity Scale (Caltrans)

Sensitivity/Potential	Criteria
High	Sedimentary rock units for which significant vertebrate, invertebrate, plant, or trace fossils have been recovered anywhere in their extent; or if the units are temporally or lithologically suitable for the preservation of significant fossils.
Low	Rock units for which previous field surveys and documentation demonstrate as having a low potential for containing significant fossils.
No Potential	Rock units of intrusive igneous origin, most extrusive igneous rocks, and moderately to highly metamorphosed rocks are classified as having no potential for containing significant paleontological resources. For projects encountering only these types of rock units, paleontological resources can generally be eliminated as a concern when the Preliminary Environmental Analysis Report (PEAR) is prepared and no further action taken.

Source: Applied EarthWorks Inc., Combined Paleontological Identification Report – Paleontological Evaluation Report (PIR-PER) for the Interstate 10/Cherry Valley Boulevard Interchange Project, City of Calimesa, Riverside County, California, August 2020.

Table 2.2.4-2: Paleontology Sensitivity Scale (Riverside County)

Sensitivity/Potential	Criteria
High A High B	Sedimentary rock units for which significant vertebrate, invertebrate, plant, or trace fossils have been recovered anywhere in their extent; or if the units are temporally or lithologically suitable for the preservation of significant fossils.
Undetermined	Sedimentary rocks for which literature or unpublished studies are not available. These rocks need to be inspected by a qualified vertebrate paleontologist before a specific determination of high potential or low potential can be assigned.
Low	Rock units for which previous field surveys and documentation demonstrate as having a low potential for containing significant fossils.

Source: Applied EarthWorks Inc., Combined Paleontological Identification Report – Paleontological Evaluation Report (PIR-PER) for the Interstate 10/Cherry Valley Boulevard Interchange Project, City of Calimesa, Riverside County, California, August 2020.

The PIR/PER assigned sensitivity rankings in accordance with Caltrans tripartite scale. The delineations are based on a combination of three factors: 1) resource potential of geologic units found at the ground surface; 2) resource potential of geologic units thought to be present at unknown depths; and 3) likelihood of encountering those subsurface geologic units.

The PIR/PER assigns a High Potential ranking to several portions of the project area where very old alluvial-fan deposits (Qvof3) and old alluvial-fan deposits (Qof2) are mapped at the ground surface as these units are potentially fossiliferous in the finer-grained beds. The PIR/PER also includes within the High Potential subareas portions of the project area near the interchange where the young axial-valley deposits (Qya5) are mapped, as observations from the survey indicate these deposits, at least in this subarea, may shallowly overlie the old alluvial-fan deposits (Qof2). In addition, data within the PIR/PER indicates the presence of deposits consistent with the Live Oak Canyon (Qlo) unit and/or upper San Timoteo Formation at a depth of 29 feet bgs near the center of the interchange.

Unit Qlo also may be present at shallower depths farther to the southwest of the site near Roberts Road. The PIR/PER notes an abundance of fossil localities within three miles of the project area, mostly from the San Timoteo Formation. This formation likely is also present at unknown depths in and around the interchange in the project area, and could be impacted by project-related ground-disturbing activities, which are anticipated to reach 12 to 25 feet bgs.

The PIR/PER assigns a Low Potential ranking to all other portions of the project area where unit Qya5 is mapped because of the comparatively young age. However, the stratigraphic relations with other units were not evident outside the subarea immediately surrounding the interchange.

Environmental Consequences

No-Build Alternative

Under the No-Build Alternative, no project construction would occur and, therefore, no impact on paleontological resources would occur.

Build Alternatives 3 and 4

The construction phase of the project will require temporary ground-disturbance of the project site. While there are no known, recorded paleontological resources within the project boundaries, the project area consists of surficial and subsurface geologic units ranked as low to high in potential for buried fossil. As a result, ground-disturbing activities associated with the construction of the Build Alternatives could result in the disturbance or loss of previously undiscovered paleontological resources.

Since this may occur, worker's environmental awareness training and on-site construction monitoring would be required, as described in Measures PAL-1 and PAL-2 below. Mitigation Measure PAL-2 would additionally require retainment of a qualified Principal Paleontologist, and the implementation of a Paleontological Mitigation Plan (PMP) for the project. If paleontological resources are discovered during ground-disturbing activities, fossil preparation, curation, and reporting would occur in accordance with Measure PAL-3. With the implementation of these Measures, the Build Alternatives would not result in any significantly adverse effects to significant paleontological resources.

Avoidance, Minimization, and/or Mitigation Measures

PAL-1 Prior to the start of construction, all field personnel shall be briefed during a Worker's Environmental Awareness Program (WEAP) regarding the types of fossils that could be found in the project area and the procedures to follow shall paleontological resources be encountered. This training shall be accomplished first at the preconstruction kick-off meeting by a Principal Paleontologist who meets the Caltrans qualifications standards or his/her qualified and supervised representative. The training shall be developed by the Principal Paleontologist and may be conducted concurrently with other environmental training (e.g., biological, cultural, and natural resources awareness training, safety training, etc.).

Specifically, the training will provide brochure handouts with descriptions of the fossil resources that may be encountered in the project area, outline steps to follow in the event that a fossil discovery is made, and provide contact information for the Principal Paleontologist and on-site paleontological monitor(s). A project-specific sign-in sheet will be utilized to illustrate that all construction personnel have completed the WEAP training prior to the start of construction for CEQA compliance. Extra sign-in sheets and brochures would be left with the construction contractor for distribution and WEAP training of future construction personnel as they are added to the project. If possible, the original WEAP training should be recorded on video for future use as additional construction personnel are added to the project.

PAL-2 Prior to the commencement of ground-disturbing activities, a Principal Paleontologist who meets the Caltrans qualification standards shall be retained to prepare and implement a Paleontological Mitigation Plan (PMP) for the project. The project's PMP shall develop mitigation measures based on the assigned sensitivity rankings as well as the proposed depths of ground disturbance throughout the project area, as surface and near-surface geologic units are well documented while geologic units at greater depths remain undocumented. Depending on the proposed project's excavation depths, the type of monitoring shall be one of the following:

- For areas categorized as High Potential: Full-time monitoring shall be required for disturbance at all depths in selected areas with intact sediments. In subareas of High Potential, monitoring efforts shall be reduced or eliminated at the discretion of the Principal Paleontologist if no fossil resources are encountered after 50 percent of the excavations are completed.
- For areas categorized as Low Potential: Spot-check monitoring is recommended for disturbance in particular areas at four feet or greater below group surface (bgs) in intact sediments. If High Potential geologic units are encountered at depth in those particular locations during spot-check monitoring, those subareas shall be elevated to High Potential and monitoring shall be upgraded to full-time.

Monitoring shall not be required for excavations less than four feet bgs in subareas with Low Potential or within any subareas with artificial fill. Although monitoring is not typically required in subareas of Low Potential, spot-check monitoring shall be implemented at the discretion of the Principal Paleontologist to confirm the presence of subsurface High Potential geologic units. In particular, deeper excavations of approximately 12 to 25 feet bgs for items such as bridge abutments, bent footings, and overhead sign foundations shall be spot-checked, as these construction activities may impact High Potential geologic units at depth.

All monitoring shall include the visual inspection of excavated or graded areas, trench sidewalls, spoils, and any other disturbed sediment. In the event that a paleontological resource is discovered, either the Principal Paleontologist or approved on-site paleontological monitor shall have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance and collected. Additionally, test samples of sediments from geologic units with High Potential shall be collected and screened on site to determine the presence of fossils in the small grain-size fractions. If significant small-fraction fossils are discovered during the test sampling, larger bulk samples of sediments may be collected for further processing in the laboratory. The recommended sampling shall follow best practice procedures in mitigation paleontology.

PAL-3 If fossils are encountered during construction monitoring, significant fossils shall be collected and prepared in a properly equipped paleontology laboratory to a point ready for curation. Preparation shall include the careful removal of excess matrix from fossil materials and stabilizing and repairing specimens, as necessary. Following laboratory work, all fossil specimens shall be identified to the lowest taxonomic level, cataloged, analyzed, and prepared for curation. Assuming landowners concur and will sign a Deed of Gift Form, fossil specimens shall be submitted for permanent curation in a museum repository approved by Caltrans. The cost of curation is assessed by the repository and is the responsibility of the landowners. At the conclusion of laboratory work and curation, the paleontological contractor shall prepare a final report to describe the results of the paleontological monitoring. The report shall include an overview of the project area geology and paleontology, a description of the field and laboratory methods, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. If fossils will be donated for permanent curation, a copy of the report shall be submitted to the curation institution along with the fossil assemblage.

2.2.5 Hazardous Waste and Materials

Regulatory Setting

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

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, and the Resource Conservation and Recovery Act (RCRA) of 1976. The purpose of CERCLA, often referred to as "Superfund," is to identify and cleanup 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 cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and cleanup of contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

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

Affected Environment

This section is based on the Phase I Initial Site Assessment for the I-10/Cherry Valley Boulevard Interchange Improvement Project (Phase I ISA) (dated December 2020).

Field Survey and Research Methodology

Records Review: An Environmental Data Resources, Inc. (EDR) records search of federal and state environmental databases, for sites within the project site and within an approximate one-mile radius of the project site boundaries, was received on February 26, 2019 and the results were incorporated into the Phase I ISA.

Historical Research: The standard sources identified by American Society for Testing and Materials (ASTM) E 1527-13 include aerial photographs, fire insurance maps, property tax files, recorded land title records (a chain-of-title), historical USGS topographic maps, local street directories, building department records, zoning/land use records, prior assessments, and other historical sources (i.e., any source or sources, other than those listed, that are credible to a reasonable person and that identify past uses of the property). The focus is on usage rather than ownership, which is why a chain-of-title is not sufficient by itself. As part of the Phase I ISA, historical topographic maps, historical aerial photographs, the City of Calimesa Zoning Map, and certified Sanborn maps were reviewed. Historical information for the project site was obtained back to 1901, at which time the project site consisted of vacant land and transportation uses.

The Phase I ISA acknowledged that specific property land use information of the project site within a five-year interval, from 1901 to 1938, was unobtainable. According to the Phase I Site Assessment, transportation uses (i.e., I-10, Roberts Road, and Cherry Valley Boulevard) and orchards appear on-site during this time. There were no other indicators of potential hazardous materials were noted in relation to these uses. No other substantial development or changes occurred at the project site. No evidence of other uses during this time were noted for the surrounding area. According to the Phase I ISA, the project site had consisted of vacant land transportation uses since prior to 1901. Agricultural uses and rural development in the general vicinity of the subject site began in the 1930s and 1940s, while residential development in the surrounding vicinity of the subject site appeared to have occurred from the 1960s to current day. No other conditions were encountered that limited the historical use review during the course of the Phase I ISA.

Site Reconnaissance: On June 9, 2020, an on-site visit was conducted and consisted of a visual observation of readily accessible areas of the subject site and immediately adjoining properties. The subject site was viewed from all publicly accessible thoroughfares. If roads or paths with no apparent outlet are observed on the subject site, the use of the road or path was identified to determine whether it was likely to have been used as an avenue for disposal of hazardous substances or petroleum products.

According to the Phase I ISA, limiting conditions related to site reconnaissance included that there were no clear views of the ground surface/bare soils nor the interior of on-site structures.

Interviews: The Phase I ISA identified the key site manager as the Project Engineer, who provided a range of information related to project design, utilities, and property ownership associated with the project. As part of the Phase I ISA, an Engineering Technician at the Yucaipa Valley Water District was contacted regarding sewer connections within the project site, and the County of Riverside Transportation and Land Management Agency was contacted to confirm the zoning and land use designations of the properties proposed for ROW acquisition. Due to the nature of the proposed project, no interviews were conducted with the occupants residing in the rural residential uses proposed for ROW acquisition. Based on the historical documentation reviewed, the Phase I ISA determined that these interviews would not increase the knowledge of the Environmental Professional such that the conclusions of this Phase I ISA would change. Thus, the Phase I ISA determined that this deviation is not a significant data gap in the analysis.

Results of the Phase I Initial Site Assessment

The records search conducted as part of the Phase I ISA reported one spill site within the boundaries of the subject site. This spill was reported in 1988, and the type of contaminant, amount, and containment status were not reported. This past spill is anticipated to be associated with a petroleum spill that may have occurred during an automobile accident. Thus, the incident is anticipated to have been minor in nature and occurred more than 25 years ago. Therefore, based on the Phase I ISA this spill is de minimis in nature and has not resulted in a recognized environmental condition (REC).

The lists identified eight off-site regulatory properties within a one-mile radius of the subject site. Five of the eight sites were reported adjoining the project site; refer to Table 2.2.5-1, Regulatory Properties of Concern.

Table 2.2.5-1: Regulatory Properties of Concern

Site Name/Address	Direction from Subject Site	EDR Site Status
Luther's Truck & Equipment, Inc. 36233 Cherry Valley Boulevard. Cherry Valley, CA 92223 (also identified as 36243 Cherry Valley Boulevard., Cherry Valley, CA 92223)	Adjoining subject site to south/east	Reported in AST and HAULERS database. HAZNET waste categories include other organic solids; unspecified oil-containing waste. Disposal methods include metals recovery including retoring, smelting, chemicals, etc.; storage, bulking, and/or transfer off site – no treatment recovery; and transfer station. Listed in FINDS database. *HAZNET waste categories include other organic solids; latex waste. Disposal methods include recycler; transfer station.
I-10 W/O Cherry Valley Boulevard. Calimesa, CA	Subject Site	Reported spill in 1988 listed in CHMIRS database.
Stokes Ranch 10410 Roberts Road Calimesa, CA 92320	Adjoining subject site to west	One diesel tank listed in HIST UST database
Suzy Lynn Ranch 10701 Desert Lawn Drive Calimesa, CA 92320	Adjoining subject site to south	One regular tank listed in HIST UST database
Plantation on the Lake 10961 Desert Lawn Drive Calimesa, CA 92320	Adjoining subject site to south	Reported spill in 2013 listed in CHMIRS database. Liquid mercury was spilled in a residential garage, contained by CALFire, and cleaned up by contractor. Listed in Cortese database. Listed in CIWQS in 1984, terminated in 2001.

Source: Michael Baker International, Phase I Initial Site Assessment I-10/Cherry Valley Boulevard Interchange Improvement Project, December 2020.

The remaining three of the eight sites were noted as off-site regulatory properties of concern within a one-mile radius of the subject site. The reported adjacent regulatory properties are considered to have a low potential of affecting the project site, due to the distance, anticipated groundwater flow direction, and/or the status of the identified sites.

Current On-Site Uses

Agricultural Uses

Based on the site visit on June 9, 2020 as part of the Phase I ISA, agricultural uses were noted on the eastern portion of the subject site. Current uses consist of fallow, irrigated land. No maintenance facilities or structures relating to current agricultural uses were observed within the subject site. No evidence of current pesticide storage was observed on-site. As the current agricultural uses consist of fallow land and no on-site storage practices were observed, the Phase I ISA indicated that current agricultural uses have not resulted in a REC.

Transportation Uses and Utilities
Traffic Striping Material
Lead based paints (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 observed along I-10, Cherry Valley Boulevard, Tukwet Canyon Parkway, Calimesa Boulevard, and Roberts Road. All roadways within the boundaries of the subject site were constructed prior to 1967, with the exception of the Cherry Valley Boulevard extension constructed in 2006 (i.e. Tukwet Canyon Parkway). Although roadways have likely been restriped since 1967, LBPs may still be associated with most traffic striping materials on-site. Traffic striping materials appeared to be intact and did not appear to be released into the environment, including on-site bare soils. Thus, based on the Phase I ISA, no REC has resulted.

Asbestos-Containing Materials and Lead Based Paint
ACMs and LBPs are commonly known to be used in building materials for bridge structures. The project proposes modification to the existing Cherry Valley Boulevard Overcrossing (Bridge No. 56-0481), constructed by 1965. Based on site reconnaissance, the bridge structures appeared to be in fair condition and no evidence of ACMs and LBPs being released into the environment was noted. Notwithstanding, the project proposes modification of this bridge structure and could expose ACMs/LBPs during construction. Thus, the Phase I ISA indicates that ACMs and LBPs in the bridge structures have not resulted in a REC, but presents an environmental concern during construction. As such, ACMs and LBPs sampling was conducted for the bridge/overcrossing. Based on the Phase I ISA, ACMs (defined by the U.S. Environmental Protection Agency [EPA] as an ACM of 1.0 percent or higher) were detected in bolt mastic (7 percent chrysotile asbestos) and shim pads (55 to 60 percent chrysotile asbestos), both located on the metal guard rail support posts on the bridge (Number 56-0481).

A total of six bulk samples of paint were also collected from the roadway and bridge. Although LBPs were detected in samples taken, all samples were below the EPA's threshold of 5,000 parts per million (ppm).

Treated Wood Waste
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 during use. 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).

Treated wood may be present in association with power poles, sign posts, and guard rails particularly along on- and off-ramps, Cherry Valley Boulevard, Tukwet Canyon Parkway, Calimesa Boulevard, and Roberts Road. Based on the Phase I ISA, treated wood has not resulted in a REC.

Pad-Mounted Transformers

One pad-mounted transformer along Cherry Valley Boulevard was noted during the site reconnaissance for the Phase I Site Assessment. Transformers have the potential to contain polychlorinated biphenyls (PCBs). No evidence of dielectric fluid or staining was noted on-site. As such, the on-site transformer did not result in a REC in this regard.

Natural Gas Pipelines

According to the Phase I ISA, a natural gas high pressure distribution pipeline is located along Calimesa Boulevard, Roberts Road, and transects I-10 within the boundaries of the subject site. The pipelines, however, are not situated within the proposed areas of excavation. As such, they do not pose as REC in this regard.

Commercial Uses

Based on the June 9, 2020 site inspection conducted as part of the Phase I ISA, portions of a commercial use (The Marketplace at Calimesa; APN 413-780-018) is proposed for a temporary construction easement (TCE). However, the TCE area is comprised of ornamental landscaping and was constructed in 2020. During a preliminary observation of the TCE area from public thoroughfares, no visible or physical evidence was observed to suggest that a surface release of hazardous materials has recently occurred. Further, this current commercial use has not been under investigation for violation on any environmental laws, regulations, or standards, as identified in the databases reported by EDR. As such, no REC has resulted in this regard.

Residential Uses

Based on Phase I ISA, residential areas of the subject site associated with ROW acquisition have not been reported in any regulatory databases. No evidence of hazardous materials was observed during the June 9, 2020 site visit. As these properties have not reported a release of hazardous materials to the environment, the Phase I ISA indicates that they have not resulted in a REC.

The residences appear to have been constructed sometime prior to 1978 and may be associated with ACMs and LBPs (APN 413-270-014 and 407-230-017). The Phase I ISA indicates that observed evidence of flaking and peeling that would suggest a release of ACMs and LBPs to on-site soils has resulted. Further, debris piles that appear to be associated with rural residential building and foundation remnants were also noted (APN 407-230-017). Thus, the Phase I ISA indicates that potential ACMs and LBPs in building materials that have released to on-site soils presents a REC.

It is noted that excavation activities could disturb septic systems and leach fields located within the subject site. Based on interviews with the Yucaipa Valley Water District, the residential property located at 3607 Cherry Valley Boulevard (APN 413-270-014) is not connected to the local sewer system, and is likely using septic systems and leach fields for sewage disposal. It is possible that the septic tanks and leach fields are located within the boundaries of the subject site. As this existing residential use is not anticipated to handle/store hazardous materials/substances, the Phase I ISA concluded that the existing on-site septic systems have not resulted in a REC.

Aboveground Storage Tank

A small diesel Above Storage Tank (AST) was observed within the boundaries of APN 413-270-014 during the on-site visit. The Phase I ISA anticipates that this AST may have been used for a backup generator. There are no available reports of the handling/storage/transport of hazardous materials nor has this property reported any releases to the environment. When observed during the site reconnaissance, the AST appeared to be in poor condition. It was not possible to view areas of bare soils within in the vicinity of the AST due to the presence of high vegetation. As such, there is potential for diesel contamination to exist within areas of bare soils beneath the AST, and a REC has resulted in this regard.

Past On-Site Uses

Aerially Deposited Lead

Aerially Deposited Lead (ADL) refers to lead deposited on older roadway shoulders from past leaded fuel vehicle emissions. According to the Phase I ISA, lead was banned as a fuel additive in California beginning in 1992. Thus, ADL may be present in soils adjacent to highways/roadways in use prior to that time.

According to historical aerial photographs and topographic maps, the project site appears to have consisted of transportation, agricultural, rural residential, and vacant land uses since prior to 1992. I-10 was developed as a dual highway between 1943 and 1953. Cherry Valley Boulevard and Roberts Road were developed and improved as secondary highways prior to 1942. Calimesa Boulevard was improved prior to 1967, and Tukwet Canyon Parkway was developed after 1996. Although most of the on-site roads appeared to be rural in nature and were not heavily traveled, by 1953, the I-10 was constructed and then heavily used since. Therefore, the potential for lead contamination exists within soils along I-10 due to ADL. As such, ADL sampling was conducted for the proposed project on September 18, 2020.

Based on the Phase I ISA, it was determined that soil sampling results were less than the Department of Toxic Substances Control (DTSC) health-risk based screening level for unrestricted land use of 80 mg/kg. However, three of the soil samples exceeded the Soluble Threshold Limit Concentration (STLC; CA-WET) lead threshold of 5 milligrams/liter (mg/L). As such, the Phase I ISA indicates that ADL has resulted in a REC.

Agricultural Uses

Based on the Phase I ISA, the western portion of the subject site appears to have historically consisted of agricultural uses (i.e. orchards). The agriculture use dates back to at least 1938. 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 subject site. The historical and current use of agricultural pesticides may have resulted in pesticide residues of certain persistence in soil concentrations that are considered to be hazardous based on established federal regulatory levels. The primary concern with historical pesticide residues is human health from inadvertent ingestion of contaminated soil, particularly by children. The presence of moderately elevated pesticide residuals in soil presents potential health and marketplace concerns.

Based on historical aerial photographs, the agricultural barn structure on APN 413-270-104 was developed by 1967. During the June 9, 2020 site visit, the agricultural barn structure was observed, as well as associated agriculture structures and equipment. Due to the depilated and collapsed condition of the barn structure, the interior of the barn structure was not inspected, nor were the interiors of the associated agricultural structures. Additionally, miscellaneous debris were observed throughout areas of the project site associated with agricultural uses.

It is typical for agriculture uses to include gasoline or diesel underground storage tanks (USTs) (from the 1940s through the 1980s). Until the mid-1980s most USTs were made of bare steel, which is likely to corrode over time and allow UST contents to seep into the soil and contaminate groundwater. With the exception of the historical agricultural use, no evidence documenting the presence/removal of any USTs was noted. However, since the project site consisted of agriculture uses prior to 1938 and the likelihood that a UST was used on-site, the Phase I ISA indicated that a UST may be present on the project site. Given the time the UST may have been installed (1930s – 1980s), it is likely that a UST(s), if present, is a single-walled steel tank. Thus, the Phase I ISA concluded that this potential undocumented UST represents a REC at this time.

As the project site was historically used for agriculture (particularly between the 1930’s and 1980’s), it is likely that pesticides/herbicides were historically used. Therefore, the Phase I ISA concluded that residual herbicide/pesticide contamination may be present in on-site surface soils and within the structures associated with past agricultural uses. As such, a REC has resulted in this regard.

Residential Uses

Based on the Phase I ISA, one small structure (that appeared to be associated with a rural residential use; APN 407-230-018) was present sometime prior to 1985, until sometime prior to 1989, when the structure was demolished. Since 1989, the APN 407-230-018 has consisted of vacant land. No indicators of potential hazardous materials were noted in relation to this use. Additionally, this use was not reported as a regulatory property. Therefore, the Phase I ISA concluded that this past residential use has not resulted in a REC.

Past On-Site Spills

As noted above, the records search conducted as part of the Phase I ISA reported one spill site within the boundaries of the subject site. This spill was reported in 1988, and the type of contaminant, amount, and containment status were not reported. This past spill is anticipated to be associated with a petroleum spill that may have occurred during an automobile accident. Thus, the incident is anticipated to have been minor in nature and occurred more than 25 years ago. Therefore, based on the Phase I ISA this spill is de minimis in nature and has not resulted in a REC.

Current Adjoining Uses

Plantation on the Lake

This property (adjoining the subject site to the south) is currently occupied by Plantation on the Lake mobile homes. Based on the Phase I ISA, a liquid mercury spill occurred in 2013 in a residential garage. The spill was contained by CALFire and cleaned up by a contractor. The property is listed in the Cortese database for Cease Desist Orders and Cleanup Abatement Orders related to municipal/domestic uses. Based on the information reviewed as part of this Phase I ISA, this off-site release (reported on concrete) has not resulted in a release on the project site. No REC has resulted from this current adjoining property.

Luther’s Truck and Equipment, Inc.

This property (adjoining the subject site to the east, north of I-10) is occupied by Luther’s Truck & Equipment, Inc., an automotive repair service facility. An AST with secondary containment was observed from the adjoining property to the east during the June 9, 2020 site visit. No staining or leaking was observed with respect to off-site AST during the site visit. Luther’s Truck & Equipment, Inc. was listed in Phase I ISA for the handling/storage/transport of hazardous materials. However, no releases to soil, soil gas, or groundwater were reported. As this property is situated off-site and no releases have been reported, the Phase I ISA indicated that no REC has resulted from this current adjoining property.

Past Adjoining Uses

Residential Uses

Past adjoining residential uses were noted during the review of historical documentation. Residential uses are not typically associated with the handling/storage or transport of hazardous materials. Therefore, the Phase I ISA noted that the past adjoining residential uses have not resulted in a REC.

Agricultural/Ranching Uses

Based on the evaluation of the documented land use (as demonstrated in the resources reviewed as part of this Phase I ISA), adjoining uses to the east of the subject site appear to have been historically utilized for agricultural purposes in the 1950s and 1960s and adjoining uses to the south of the subject site appear to have been historically utilized for agricultural/ranching purposes in the 1970s. As adjoining uses were historically used for agriculture/ranching, it is likely that pesticides/herbicides were historically used. However, historical pesticides/herbicides as a result of these adjoining historical agricultural uses are located off-site and are not anticipated to have impacted on-site surface soils. Thus, the presence of residual herbicide/ pesticide contamination in on-site surface soils as a result of the past adjoining agricultural uses is unlikely and no REC has resulted in this regard.

Historical Off-Site USTs

The following uses have reported historical USTs and adjoined the subject site:

- 10410 Roberts Road (Stokes Ranch); and
- 10701 Desert Lawn Drive (Suzy Lynn Ranch).

These past adjoining uses have not reported the handling/storage/transport of hazardous materials nor has these properties reported any releases to the environment. During a preliminary observation of on-site properties from public thoroughfares, no visible or physical evidence was observed to suggest that a surface release of petroleum-based material has recently occurred. No unusual or suspicious materials handling or storage practices were observed with respect to on-site properties. These past uses have not been under investigation for violation on any environmental laws, regulations, or standards, as identified in the databases reported in the Phase I ISA.

These properties are located off-site and no releases have been reported. Thus, the Phase I ISA indicated that no REC has resulted.

Current and Past Adjacent Uses

Although the records search from the Phase I ISA identified three off-site regulatory properties within one mile radius of the subject site, these properties do not present a potential concern to groundwater underlying the subject site. The reported adjacent regulatory properties are considered to have a low potential of affecting the subject site, due to the distance, anticipated groundwater flow direction, and/or status of the identified sites. Thus, the Phase I ISA indicates that current and past adjacent properties have not resulted in a REC.

Environmental Consequences

Temporary Impacts

No-Build Alternative

No improvements to the I-10/Cherry Boulevard would occur under the No-Build Alternative and, therefore, it would not result in temporary adverse effects related to hazardous waste and materials.

Build Alternatives 3 and 4

Traffic Striping Material

As noted above, traffic striping was observed along I-10, Cherry Valley Boulevard, Tukwet Canyon Parkway, Calimesa Boulevard, and Roberts Road. All roadways within the boundaries of the subject site were constructed prior to 1967, with the exception of the Cherry Valley Boulevard extension constructed in 2006 (i.e. Tukwet Canyon Parkway). Although roadways have likely been restriped since 1967, LBPs may still be associated with most traffic striping materials on-site. Traffic striping materials appeared to be intact and did not appear to be released into the environment, including on-site bare soils. However, as the project proposes disturbance of on-site traffic striping materials, demolition of these materials presents an environmental concern. The contractor would be required to determine the specific traffic striping/pavement marking material proposed for removal (whether it is yellow thermoplastic, yellow pavement markings, and/or non-yellow pavement markings) prior to disturbance. Disturbance and disposal of these materials would be required to follow Caltrans Standard Special Provisions (SSPs) 84-9.03C, 14-11.12, and 36-4. Upon adherence to these SSPs, adverse effects in this regard would not occur.

Asbestos-Containing Materials and Lead Based Paint

As noted previously, the project proposes modification to the existing Cherry Valley Boulevard Overcrossing (Bridge No. 56-0481), constructed by 1965. Based on site reconnaissance, the bridge structures appeared to be in fair condition and no evidence of ACMs and LBPs being released into the environment was noted. Notwithstanding, the project proposes modification of this bridge structure and could expose ACMs/LBPs during construction. Thus, the Phase I ISA indicates that ACMs and LBPs in the bridge structures have not resulted in a REC, but presents an environmental concern during construction. As such, ACMs and LBPs sampling was conducted for the bridge/overcrossing. Based on the Phase I ISA, ACMs (defined by the U.S. Environmental Protection Agency [EPA] as an ACM of 1.0 percent or higher) were detected in bolt mastic (7 percent chrysotile asbestos) and shim pads (55 to 60 percent chrysotile asbestos), both located on the metal guard rail support posts on the bridge (Number 56-0481). As such, Measure HAZ-1 has been incorporated to ensure that adverse effects related to ACMs do not occur.

A total of six bulk samples of paint were also collected from the roadway and bridge. Although LBPs were detected in samples taken, all samples were below the EPA's threshold of 5,000 parts per million (ppm). As some of the paint contains minimal amounts of lead, Title 8 CCR 1532.1 (Lead) may require workers that perform either manual demolition, manual scraping or sanding of painted surfaces to undergo an exposure assessment including air monitoring of the breathing zone. As such, Measure HAZ-2 has been included regarding handling of LBPs.

In addition to ACMs and LBPs associated with the existing bridge structure, the Phase I ISA noted that several on-site residences appear to have been constructed sometime prior to 1978 and may be associated with ACMs and LBPs (APN 413-270-014 and 407-230-017). The Phase I ISA indicates that observed evidence of flaking and peeling that would suggest a release of ACMs and LBPs to on-site soils has resulted. Further, debris piles that appear to be associated with rural residential building and foundation remnants were also noted (APN 407-230-017). Thus, the Phase I ISA indicates that potential ACMs and LBPs in building materials that have released to on-site soils presents a REC. Handling and disposal of ACMs would occur in accordance with the Caltrans SSP 14-11.16. As demolition of the existing structures is proposed, Measure HAZ-4 has been incorporated, which would require that a Phase II/Site Characterization Specialist prepare a Soil Management Plan (SMP), and Measure HAZ-5 would require sampling of existing building materials for ACMS and LBPs prior to site clearing activities. With implementation of these measures, adverse effects would not occur in this regard.

Treated Wood Waste

Treated wood may be present in association with power poles, sign posts, and guard rails particularly along on- and off-ramps, Cherry Valley Boulevard, Tukwet Canyon Parkway, Calimesa Boulevard, and Roberts Road. Based on the Phase I ISA, treated wood has not resulted in a REC. However, disposal of this material during construction presents and environmental concern. The disposal of treated wood waste would be required to be performed in accordance with Caltrans SSP 14-11.14. With adherence to this SSP, impacts related to treated wood waste would not be adverse.

Pad-Mounted Transformers

One pad-mounted transformer along Cherry Valley Boulevard was noted during the site reconnaissance for the Phase I Site Assessment. Transformers have the potential to contain PCBs. No evidence of dielectric fluid or staining was noted on-site. However, based on the Phase I ISA, Measure HAZ-3 has been incorporated. This measure would require that any transformer to be relocated/removed during site construction/demolition should be conducted under the purview of the local purveyor to identify proper handling procedures regarding PCBs. With implementation of this measure, adverse impacts would not occur in this regard.

Aboveground Storage Tanks

As noted above, a small diesel AST was observed within the boundaries of APN 413-270-014 during the on-site visit. The Phase I ISA anticipates that this AST may have been used for a backup generator. There are no available reports of the handling/storage/transport of hazardous materials nor has this property reported any releases to the environment. When observed during the site reconnaissance, the AST appeared to be in poor condition. It was not possible to view areas of bare soils within in the vicinity of the AST due to the presence of high vegetation. As such, there is potential for diesel contamination to exist within areas of bare soils beneath the AST, and a REC has resulted in this regard. To minimize impacts in this regard, the Build Alternatives will be required to implement Measure HAZ-4. As noted above, Measure HAZ-4 would require that a Phase II/Site Characterization Specialist prepare an SMP to investigate and remediate potential leaks related to the on-site AST, as necessary. Adverse effects in this regard would not occur.

Aerially Deposited Lead

As discussed in the Phase I ISA, the potential for lead contamination exists within soils along I-10 due to ADL. As such, ADL sampling was conducted for the proposed project on September 18, 2020. Based on the Phase I ISA, it was determined that soil sampling results were less than the DTSC health-risk based screening level for unrestricted land use of 80 mg/kg. However, three of the soil samples exceeded the STLC lead threshold of 5 mg/L. As such, the Phase I ISA indicates that ADL has resulted in a REC. As a result, the Build Alternatives would be required to implement Measure HAZ-6. Measure HAZ-6 includes provisions regarding off-site disposal of excavated soils in the vicinity of I-10, and safety measures for construction workers handling soil affected by ADL. With implementation of this measure, adverse effects would not occur.

Agricultural Uses

As noted above, it is typical for agriculture uses to include gasoline or diesel USTs (from the 1940s through the 1980s). Until the mid-1980s most USTs were made of bare steel, which is likely to corrode over time and allow UST contents to seep into the soil and contaminate groundwater. With the exception of the historical agricultural use, no evidence documenting the presence/removal of any USTs was noted. However, since the project site consisted of agriculture uses prior to 1938 and the likelihood that a UST was used on-site, the Phase I ISA indicated that a UST may be present on the project site. Given the time the UST may have been installed (1930s – 1980s), it is likely that a UST(s), if present, is a single-walled steel tank. Thus, the Phase I ISA concluded that this potential undocumented UST represents a REC at this time. In addition, as the project site was historically used for agriculture (particularly between the 1930's and 1980's), it is likely that pesticides/herbicides were historically used. Therefore, the Phase I ISA concluded that residual herbicide/pesticide contamination may be present in on-site surface soils and within the structures associated with past agricultural uses. As such, a REC has resulted in this regard.

Measure HAZ-4 would require that a Phase II/Site Characterization Specialist prepare an SMP to investigate and remediate potential leaks related to a potential UST and the potential for herbicides/pesticides affecting on-site soils. With implementation of this measure, adverse effects in this regard would not occur.

Based on the analysis provided above, adverse temporary effects related to hazardous materials would not occur. The potential impacts and RECs identified as part of the Phase I ISA were based upon available information as of the Project Approval/Environmental Document (PA/ED) phase; however, the Phase I ISA recommends that additional site investigation/sampling occur as part of a Phase II/Site Characterization during the Plans, Specifications, and Estimates (PS&E) phase to verify the presence or absence of identified RECs (Measure HAZ-7). Additionally, the Phase I ISA provides requirements in the event unknown wastes or suspect materials are discovered during construction (Measure HAZ-8). Thus, temporary effects in this regard would not be adverse.

Permanent Impacts

No-Build Alternative

The No-Build Alternative would not change the existing physical environment and, therefore, there would be no permanent adverse effects related to hazardous waste under this alternative. Routine maintenance activities would continue to occur under this alternative, including compliance with applicable regulations with respect to the use, storage, handling, transport, and disposal of potentially hazardous materials.

Build Alternatives 3 and 4

Routine maintenance activities during operation of the Build Alternatives 3 and 4 would be required to follow applicable regulations with respect to the use, storage, handling, transport, and disposal of potentially hazardous materials. Therefore, the operation of the Build Alternatives 3 and 4 would not result in adverse effects related to hazardous waste or materials.

Avoidance, Minimization, and/or Mitigation Measures

HAZ-1 If the ACM bolt mastic or shims associated with the Cherry Valley Boulevard Overcrossing (Bridge No. 56-0481) are impacted by construction activities, the ACMs shall be abated by a Cal/OSHA licensed asbestos abatement contractor using methods in accordance with Title 8 of California Code of

Regulations (CCR) 1529 for a Class II material using wet methods and SCAQMD Rule 1403.

HAZ-2 As some of the paint associated with the Cherry Valley Boulevard Overcrossing (Bridge No. 56-0481) contains minimal amounts of lead, workers that perform either manual demolition, manual scraping or sanding of painted surfaces shall undergo an exposure assessment including air monitoring of the breathing zone pursuant to Title 8 CCR 1532.1 (Lead).

HAZ-3 Any transformer to be relocated/removed during site construction/ demolition should be conducted under the purview of the local purveyor to identify property-handling procedures regarding PCBs.

HAZ-4 A Soil Management Plan (SMP) shall be prepared by a qualified environmental professional with Phase II/Site Characterization experience during the plan, specification and estimates (PS&E) phase of the project for Assessor's Parcel Numbers 413-270-004, 413-270-014, 413-270-015, and 407-230-17. The SMP shall include guidelines for safety measures and soil management in the event that soils are to be disturbed, and for handling soil during any planned earthwork activities. The SMP shall also include a decision framework and specific risk management measures for managing soil, including any soil import/export activities, in a manner protective of human health and consistent with applicable regulatory requirements.

As part of this SMP, all excavation activities shall be documented daily using digital photography. In addition, the sides and the bottom of the excavation areas of concern should be appropriately logged on scaled paper. Observed materials, including an estimate of the quantity observed, and PID and dust monitor readings shall be recorded on the Daily Field Record and/or the Direct Reading Log. Well abandonment should be conducted in accordance with state and local laws and regulations.

The SMP shall include measures in the event that potential USTs are discovered during grading activities. The SMP should require Caltrans to contact the appropriate regulatory agency (i.e., the County of Riverside Department of Environmental Health Hazardous Materials Management Branch) for further guidance and oversight, if deemed necessary by the regulatory agency.

If the results of the stockpile samples show no contamination, or detected concentrations of chemicals or ACMs or LBPs in soils, within acceptable regulatory limits, then the soil may be redistributed within the excavation in accordance with Caltrans SSPs 14-11.08 and 7-1.02K(6)(j) for nonhazardous soil. If soil is deemed contaminated, then it should be disposed of off-site at an approved landfill facility. Should any soils be imported or exported at an off-site location, a Phase II/Site Characterization Specialist should verify that all imported/exported soils are not contaminated with hazardous materials above regulatory thresholds. If import/export soils are determined to be contaminated above regulatory thresholds, the Phase II/Site Characterization Specialist would recommend proper handling, use, and/or disposal of these soils.

The Soil Management Plan shall also document that excavation activities could disturb septic systems and leach fields that may be present. It is the opinion of Michael Baker that the location of septic tanks and leach fields should be confirmed prior to site disturbance activities. Should septic systems be present on-site, the septic system shall be properly closed/abandoned and/or removed per City of Calimesa requirements.

HAZ-5 A Phase II Site Investigation Specialist shall conduct ACMs and LBPs surveys, prior to site clearing activities, for all on-site structures proposed for demolition or modification, or any on-site debris piles suspect of containing demolition debris materials that could contain ACMs or LBPs in accordance with Caltrans SSPs 14-11.08 and 7-1.02K(6)(j), respectively. If present, the Specialist shall recommend appropriate remedial measures, such as the proper removal and disposal, of the ACMs/LBPs as they are uncovered.

HAZ-6 Soluble lead concentrations (Soluble Threshold Limit Concentration [STLC]/CAWET), defined by U.S. EPA as lead concentrations greater than 5 milligrams/liter (mg/L), were detected in three samples along I-10. However, extractable lead concentrations (Deionized Water Waste Extraction Test [DI-WET]) were detected below 1.5 mg/L. As a result, soils in the area of these samples may be reused on-site if buried under a pavement structure or under at least one foot of clean soil. If excavated and removed, ADL contaminated soil shall be hauled to a Class I landfill and categorized as hazardous waste (i.e. Type Z2). DTSC shall be notified of the STLC/CA-WET soluble lead concentration exceedances. As some of the soil contains minimal amounts of lead, workers that perform either manual excavation shall undergo an exposure assessment including air monitoring of the breathing zone pursuant to Title 8 CCR 1532.1 (Lead).

HAZ-7 Additional Site Investigation (SI)/sampling shall be conducted by a qualified environmental professional with Phase II/Site Characterization experience during the plan, specification and estimate (PS&E) phase of the project to verify the presence or absence of the identified RECs presented in the Phase I ISA prepared for the project.

HAZ-8 If unknown wastes or suspect materials are discovered during construction by the contractor that are believed to involve hazardous waste or materials, the contractor shall comply with the following:

Immediately cease work in the vicinity of the suspected contaminant, and remove workers and the public from the area;

- Notify the City Engineer of the City of Calimesa;
- Secure the area as directed by the City Engineer; and
- Notify the County of Riverside Department of Environmental Health (or other appropriate agency specified by the City Engineer). The Hazardous Waste/Materials coordinator shall advise the responsible part of further actions that shall be taken, if required.

2.2.6 Air Quality

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 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 ($PM_{2.5}$), Lead (Pb), and sulfur dioxide (SO_2). In addition, state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The 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.

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 and scope and the "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 TIP; the project has a design concept and scope[6] that has not changed significantly from those in the RTP and TIP; project analyses have used the latest planning assumptions and EPA-approved emissions models; and in PM areas, the project complies with any control measures in the SIP. Furthermore, additional 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.

Affected Environment

This section is based on the findings of Air Quality Report (AQR) (dated December 2020) prepared for this project.

Environmental Setting

The project site is located in the City of Calimesa, in Riverside County, on I-10 between Singleton Road and Oak Valley Parkway. Riverside County is in the South Coast Air Basin (SCAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAB includes all of Orange County and a portion of Los Angeles, San Bernardino, and Riverside Counties.

Climate, Meteorology, and Topography

Climate, meteorology and terrain can influence air quality. Certain weather parameters are highly correlated to air quality, including temperature, the amount of sunlight, and the type of winds at the surface and above the surface. Winds can transport O_3 and O_3 precursors from one region to another, contributing to air quality problems downwind of source regions. Furthermore, mountains can act as barriers that prevent O_3 from dispersing.

The SCAB is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountains around the rest of its perimeter. During the spring and early summer, pollution is typically blown out of the SCAB through mountain passes or lifted by warm, vertical currents adjacent to mountain slopes. The vertical dispersion of air pollutants in the SCAB is limited by temperature inversions in the atmosphere close to Earth's surface. On days with no inversion or high wind speeds, ambient air pollutant concentrations are lowest. During periods with low inversions and low wind speeds, air pollutants become more concentrated in urbanized areas with pollution sources of great magnitude.

SCAB experiences frequent temperature inversions. Atmospheric temperature typically decreases with height. However, under inversion conditions, temperature increases as altitude increases, thereby preventing

[6] "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.

air close to the ground from mixing with the air above it. As a result, air pollutants are trapped near the ground.

The Redlands climatological station, maintained by SCAQMD, is the closest station to the project area and representative of meteorological conditions near the project. The average high and low temperatures are 95 degrees Fahrenheit (July) and 39 degrees Fahrenheit (January). Average annual precipitation is 13.56 inches.

Criteria Pollutants and Attainment Status

Regional air quality is monitored by SCAQMD and ARB. These two agencies operate a network of air quality monitoring stations in the Air Basin. The U.S. EPA determines regional air quality status based on data collected from these permanent monitoring stations. Existing air quality conditions in the project area can be characterized in terms of the ambient air quality standards that the State of California and the federal government have established for several different pollutants. For some pollutants, separate standards have been set for different measurement periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other values (such as protection of crops, protection of materials, or avoidance of nuisance conditions). Table 2.2.6-1 summarizes the attainment status designations for Riverside County for all regulated pollutants. It shows that Riverside County is classified as a nonattainment area for the State 1 hour and 8 hour O_3 standard, as well as State 24 hour and annual $PM_{2.5}$ standard. More notably, it shows that Riverside County is classified as an extreme nonattainment area for the federal 8-hour O_3 standard, a serious nonattainment area for the federal $PM_{2.5}$ standard, and a maintenance serious area for the federal CO standard.

Transportation Conformity Rule

The U.S. EPA, in conjunction with the USDOT, established the Transportation Conformity Rule on November 30, 1993. The rule implements the FCAA conformity provision, which mandates that the federal government not engage, support, or provide financial assistance for licensing or permitting, or approve any activity not conforming to an approved FCAA implementation plan.

Table 2.2.6-1: State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State[1] Standard	Federal[2] Standard	Principal Health and Atmospheric Effects	Typical Sources	State Project Area Attainment Status	Federal Project Area Attainment Status
Ozone (O_3)[3]	1 hour	0.09 ppm[4]	---	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 (NOx) in the presence of sunlight and heat. Common precursor emitters include motor vehicles and other internal combustion engines, solvent evaporation, boilers, furnaces, and industrial processes.	Nonattainment	---
Ozone (O_3)[3]	8 hours	0.070 ppm	0.070 ppm (4th highest in 3 years)	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 (NOx) in the presence of sunlight and heat. Common precursor emitters include motor vehicles and other internal combustion engines, solvent evaporation, boilers, furnaces, and industrial processes.	Nonattainment	Extreme Nonattainment
Carbon Monoxide (CO)[5]	1 hour	20 ppm	35 ppm	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. Colorless, odorless.	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.	Attainment	Maintenance Serious
Carbon Monoxide (CO)[5]	8 hours	9.0 ppm	9 ppm	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature	Attainment	Maintenance Serious

Pollutant	Averaging Time	State[1] Standard	Federal[2] Standard	Principal Health and Atmospheric Effects	Typical Sources	State Project Area Attainment Status	Federal Project Area Attainment Status
				oxygen. CO also is a minor precursor for photochemical ozone. Colorless, odorless.	pollutant for on-road mobile sources at the local and neighborhood scale.		
Carbon Monoxide (CO)[5]	8 hours (Lake Tahoe)	6 ppm	---	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. Colorless, odorless.	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.	---	Maintenance Serious
Respirable Particulate Matter (PM_{10})[6]	24 hours	50 µg/m^3 [7]	150 µg/m^3 (expected number of days above standard < or equal to 1)Error! Bookmark not defined.	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many toxic & other aerosol and solid compounds are part of PM_{10}.	Dust- and fume-producing industrial and agricultural operations; combustion smoke & vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.	Nonattainment	Serious Maintenance
Respirable Particulate Matter (PM_{10})[6]	Annual	20 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 toxic & other aerosol and solid compounds are part of PM_{10}.	Dust- and fume-producing industrial and agricultural operations; combustion smoke & vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.	Nonattainment	---
Fine Particulate Matter ($PM_{2.5}$)[8]	24 hours	---	35 µg/m^3	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and	---	Serious Nonattainment

Pollutant	Averaging Time	State[1] Standard	Federal[2] Standard	Principal Health and Atmospheric Effects	Typical Sources	State Project Area Attainment Status	Federal Project Area Attainment Status
				and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the $PM_{2.5}$ size range. Many toxic & other aerosol and solid compounds are part of $PM_{2.5}$.	agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants including NOx, sulfur oxides (SOx), ammonia, and ROG.		
Fine Particulate Matter ($PM_{2.5}$)[8]	Annual	12 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 & 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 and photochemical reactions involving other pollutants including NOx, sulfur oxides (SOx), ammonia, and ROG.	Nonattainment	Moderate Nonattainment
Nitrogen Dioxide (NO_2)	1 hour	0.18 ppm	0.100 ppm[9]	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain & nitrate contamination of stormwater. Part of the “NOx” group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.	Attainment	Attainment
Nitrogen Dioxide (NO_2)	Annual	0.030 ppm	0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain & nitrate contamination of stormwater. Part of the “NOx” group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.	Attainment	Maintenance (Moderate)

Pollutant	Averaging Time	State[1] Standard	Federal[2] Standard	Principal Health and Atmospheric Effects	Typical Sources	State Project Area Attainment Status	Federal Project Area Attainment Status
Sulfur Dioxide (SO_2)[10]	1 hour	0.25 ppm	0.075 ppm (99th percentile over 3 years)	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.	Attainment	Attainment
Sulfur Dioxide (SO_2)[10]	3 hours	---	0.5 ppm[11]	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain & nitrate contamination of stormwater. Part of the “NOx” group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.	--	Attainment
Sulfur Dioxide (SO_2)[10]	24 hours	0.04 ppm	0.14 ppm (for certain areas)	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.	Attainment	Attainment
Sulfur Dioxide (SO_2)[10]	Annual	---	0.030 ppm (for certain areas)	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain & nitrate contamination of stormwater. Part of the “NOx” group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.	--	Attainment
Lead (Pb)[12]	Monthly	1.5 μg/m^3	---	Disturbs gastrointestinal system. Causes anemia,	Lead-based industrial processes like battery	Attainment	---

Pollutant	Averaging Time	State[1] Standard	Federal[2] Standard	Principal Health and Atmospheric Effects	Typical Sources	State Project Area Attainment Status	Federal Project Area Attainment Status
				kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from older gasoline use may exist in soils along major roads.		
Lead (Pb)[12]	Calendar Quarter	---	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 older gasoline use may exist in soils along major roads.	---	Attainment
Lead (Pb)[12]	Rolling 3-month average	---	(for certain areas)	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from older gasoline use may exist in soils along major roads.	---	Attainment
Sulfates	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.	Attainment	N/A
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm	---	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea. Strong odor.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.	Attainment	N/A
Visibility Reducing Particles (VRP)[14]	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at	---	Reduces visibility. Produces haze. NOTE: not directly related to the Regional Haze program under the Federal	See particulate matter above. May be related more to aerosols than to solid particles.	Attainment	N/A

Pollutant	Averaging Time	State[1] Standard	Federal[2] Standard	Principal Health and Atmospheric Effects	Typical Sources	State Project Area Attainment Status	Federal Project Area Attainment Status
		relative humidity less than 70%		Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other "Class I" areas. However, some issues and measurement methods are similar.			
Vinyl Chloride[12]	24 hours	0.01 ppm	---	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes	Attainment	N/A

Notes: Adapted from the California ARB Air Quality Standards chart (http://www.arb.ca.gov/research/aaqs/aaqs2.pdf).

Greenhouse Gases and Climate Change: Greenhouse gases do not have concentration standards for that purpose. Conformity requirements do not apply to greenhouse gases.

[1] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, 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] Federal standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 % of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

[3] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm. Transportation conformity applies in newly designated nonattainment areas for the 2015 national 8-hour ozone primary and secondary standards on and after August 4th, 2019 (see Transportation Conformity Guidance for 2015 Ozone NAAQS Nonattainment Areas*).*

[4] ppm = parts per million.

[5] Transportation conformity requirements for CO no longer apply after June 1, 2018 for the following California Carbon Monoxide Maintenance Areas (see U.S. EPA CO Maintenance Letter*).*

[6] On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m3 to 12 µg/m3. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 µg/m3, as was the annual secondary standard of 15 µg/m3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[7] $\mu g/m^3$ = micrograms per cubic meter.

[8] The 65 $\mu g/m^3$ $PM_{2.5}$ (24-hr) NAAQS was not revoked when the 35 $\mu g/m^3$ NAAQS was promulgated in 2006. The 15 $\mu g/m^3$ annual $PM_{2.5}$ standard was not revoked when the 12 $\mu g/m^3$ standard was promulgated in 2012. Therefore, for areas designated nonattainment or nonattainment/maintenance for the 1997 and or 2006 $PM_{2.5}$ NAAQS, conformity requirements still apply until the NAAQS are fully revoked.

[9] Final 1-hour NO_2 NAAQS published in the Federal Register on 2/9/2010, effective 3/9/2010. Initial area designation for California (2012) was attainment/unclassifiable throughout. Project-level hot spot analysis requirements do not currently exist. Near-road monitoring starting in 2013 may cause re-designation to nonattainment in some areas after 2016.

[10] On June 2, 2010, a 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 %ile of the 1-hour daily maximum concentrations at each site must not exceed 75ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one 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.

[11] Secondary standard, the levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant rather than health. Conformity and environmental analysis address both primary and secondary NAAQS.
[12] The ARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM_{10} and, in larger proportion, $PM_{2.5}$. Both the ARB and U.S. EPA have identified lead and various organic compounds that are precursors to ozone and $PM_{2.5}$ as toxic air contaminants. There are no exposure criteria for adverse health effect due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong.
[13] Lead NAAQS are not considered in Transportation Conformity analysis.
[14] 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 Basin standards, respectively.

Transportation Conformity Rule distinguishes between metropolitan and rural areas since metropolitan areas have MPO's, which are specifically charged with determining conformity under the FCAA. The MPO is responsible for transportation planning, including the development of federally required metropolitan transportation plans and transportation improvement programs (TIPs) and determining conformity of such plans and TIPs. Transportation projects in rural areas are not included in MPO plans and TIPs. However, there are two types of rural areas for the purposes of the transportation conformity program, and the conformity requirements in these two types of rural areas are different. These two types of rural areas are defined as Isolated and Donut Areas.[7]

Local Ambient Air Quality

Potential air quality trends for the project study area were also monitored through the data collected at the Banning Airport and Riverside-Rubidoux monitoring stations. Tables 2.2.6-2 through 2.2.6-6 lists the air quality trends in data collected at both stations between 2016 and 2018. These stations are representative of the project area because their climate, topography, and urban setting are like those of the project area. During the 2016 to 2018 monitoring period, exceedances were recorded at the monitoring stations for the State 1-hour O_3 standard, State and federal 8-hour O_3 standards, and State PM_{10} and $PM_{2.5}$ standards. Figure 2.2.6-1, Air Quality Monitoring Stations Located Near the Project, shows the proximities between the Banning Airport and Riverside-Rubidoux Monitoring Stations and the project location, with the Banning Airport Monitoring Station being in a closer approximation to the project site than the Riverside-Rubidoux Monitoring Station.

Table 2.2.6-2: Ozone Pollutant Concentrations Measured

Pollutant	Standard	2016	2017	2018
Maximum 1-hour concentration	--	0.128	0.128	0.119
Number of days exceeded: State	0.09 ppm	26	50	33
Maximum 8-hour concentration	--	0.106	0.105	0.106
Number of days exceeded: State	0.070 ppm	52	82	69
Number of days exceeded: Federal	0.070 ppm	54	85	69

Notes: ppm = parts per million.
Sources: ICF, Air Quality Report Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, dated December 2020.

[7] Refer to Section 93.101 of the Transportation Conformity Rule.

Figure 2.2.6-1: Air Quality Monitoring Stations Located Near the Project

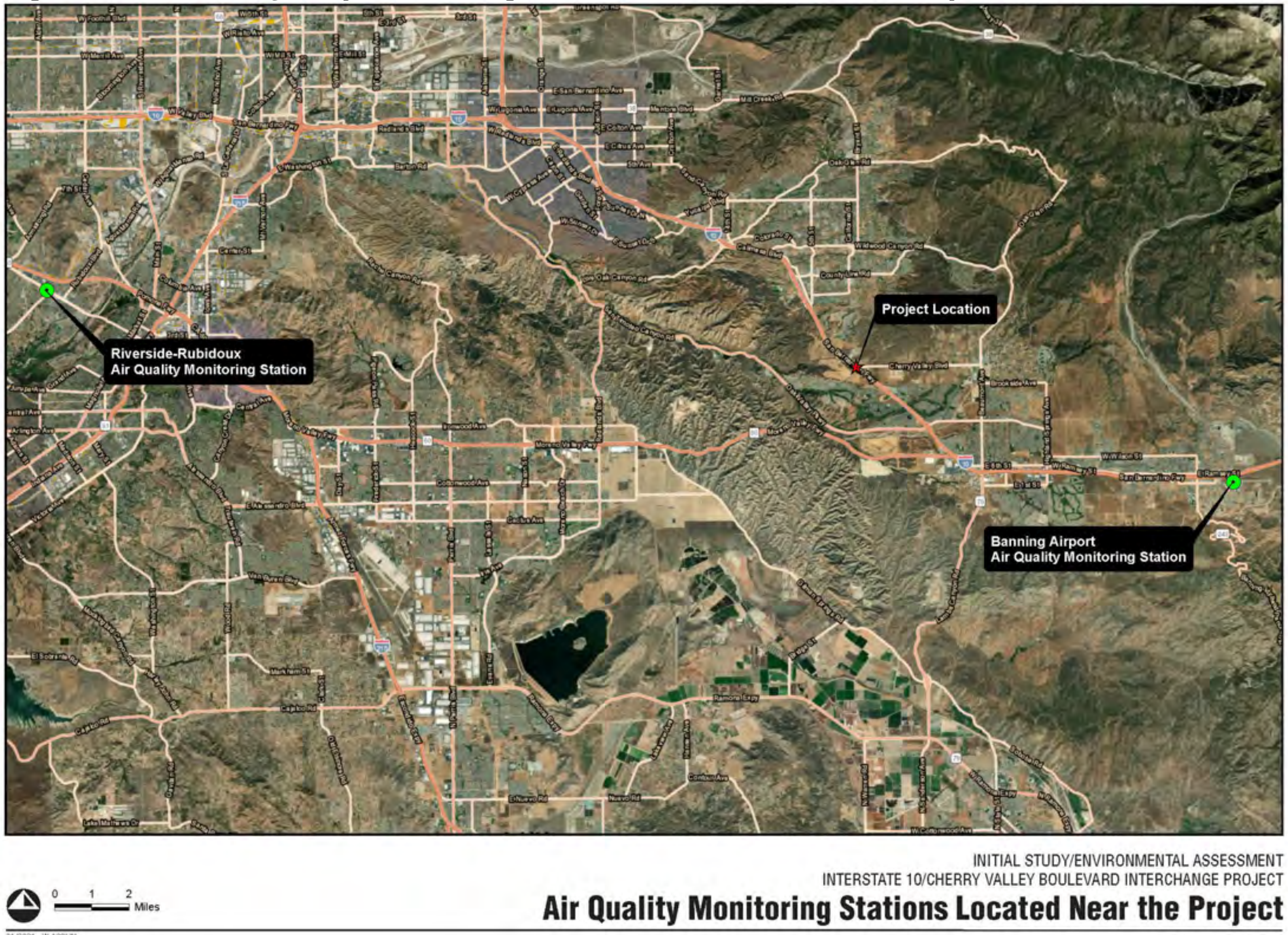


Table 2.2.6-3: Carbon Monoxide Pollutant Concentrations Measured

Pollutant	Standard	2016	2017	2018
Maximum 1-hour concentration		1.7	2.2	2.2
Number of days exceeded: State	20 ppm	0	0	0
Number of days exceeded: Federal	35 ppm	0	0	0
Maximum 8-hour concentration	--	1.3	2.0	2.0
Number of days exceeded: State	9.0 ppm	0	0	0
Number of days exceeded: Federal	9.0 ppm	0	0	0

Notes: ppm = parts per million.
Sources: ICF, Air Quality Report Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, dated December 2020.

Table 2.2.6-4: Particulate Matter (PM_{10}) Pollutant Concentrations Measured

Pollutant	Standard	2016	2017	2018
Maximum 24-hour concentration	--	65.0	97.9	39.3
Number of days exceeded: State	50 $\mu g/m^3$	3	6	0
Number of days exceeded: Federal	150 $\mu g/m^3$	0	0	0
Maximum annual concentration	--	24.0	22.8	20.0
Exceeded: State	20 $\mu g/m^3$	Yes	Yes	Yes

Notes: µg/m3 = micrograms per cubic meter.
Sources: ICF, Air Quality Report Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, dated December 2020.

Table 2.2.6-5: Particulate Matter ($PM_{2.5}$) Pollutant Concentrations Measured

Pollutant	Standard	2016	2017	2018
Maximum 24-hour concentration	--	60.8	50.3	68.3
Number of days exceeded: Federal	35 $\mu g/m^3$	5	7	3
Maximum annual concentration	--	12.6	14.5	12.6
Exceeded: State	12 $\mu g/m^3$	Yes	Yes	Yes
Exceeded: Federal	12.0 $\mu g/m^3$	--	Yes	Yes

Notes: µg/m3 = micrograms per cubic meter.
Sources: ICF, Air Quality Report Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, dated December 2020.

Table 2.2.6-6: Nitrogen Dioxide Pollutant Concentrations Measured

Pollutant	Standard	2016	2017	2018
Maximum 1-hour concentration	--	46.9 ppb	56.3 ppb	50.6 ppb
Number of days exceeded: State	0.18 ppm	0	0	0
Number of days exceeded: Federal	100 ppb	0	0	0
Maximum annual concentration	--	8 ppb	8 ppb	8 ppb
Exceeded: State	0.030 ppm	No	No	No
Exceeded: Federal	53 ppb	No	No	No

Notes: ppb = parts per billion; ppm = parts per million.
Sources: ICF, Air Quality Report Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, dated December 2020.

Table 2.2.6-7 describes the status of the U.S. EPA-approved SIPs for the SCAB relevant to the project.

Table 2.2.6-7: Status of SIPs Relevant to the Project Area

Name/Description	Status
2019 South Coast 8-Hour Ozone SIP Update	Approved, November 2019
2018 South Coast SIP Revisions and Updates	Approved, December 2018
2016 Ozone and $PM_{2.5}$ Plan for the SCAB and Coachella Valley	Approved, March 2017
2010 SCAB PM_{10} Re-designation Request, Maintenance Plan, and Conformity Budgets	Approved, February 2010
2005 South Coast Carbon Monoxide Plan	Approved, February 2006

Sources: ICF, Air Quality Report Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, dated December 2020.

Sensitive Receptors

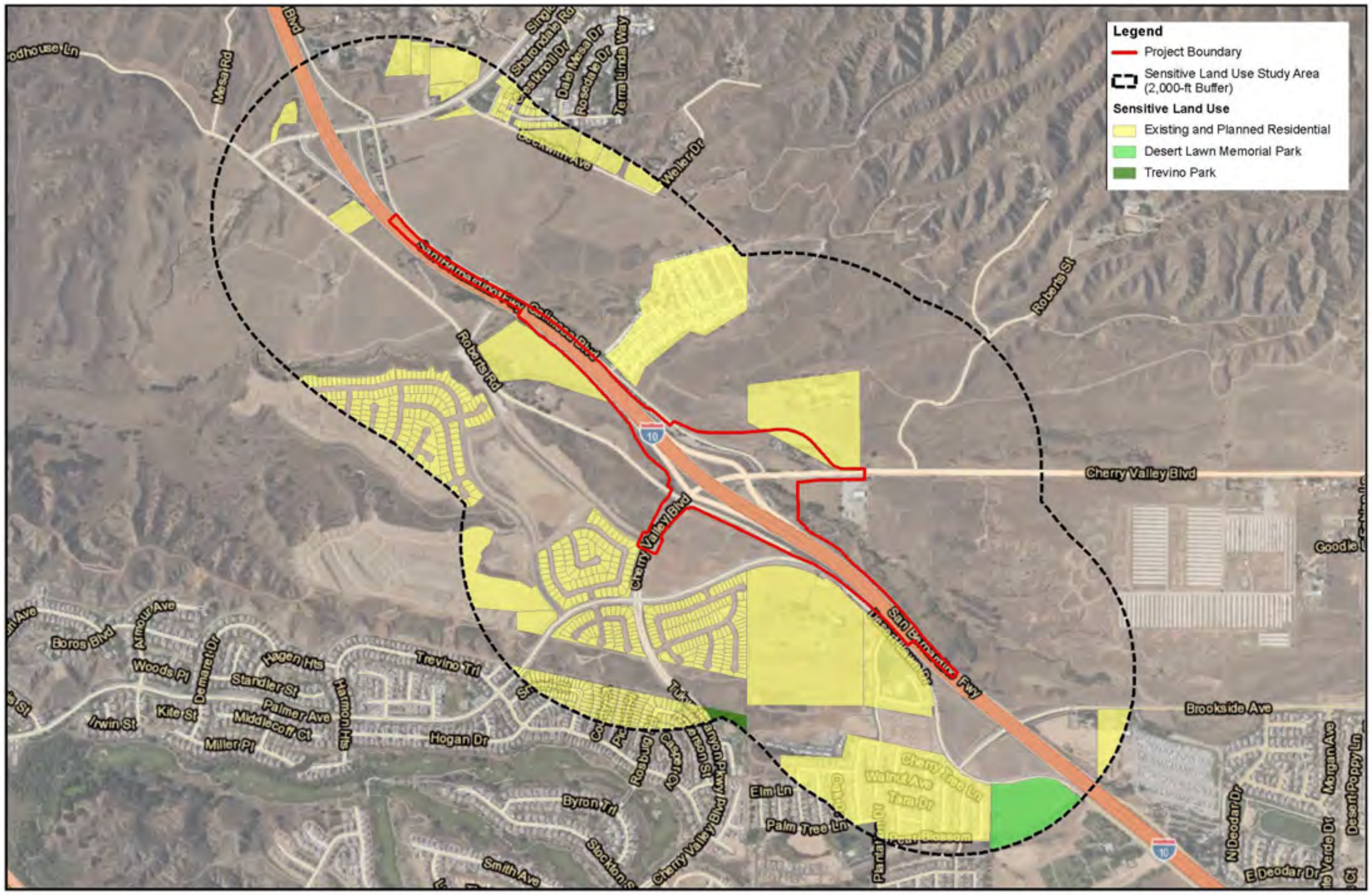
Sensitive populations (sensitive receptors) are more susceptible to the effects of air pollution than the general population. Sensitive receptors that are in proximity to localized sources of toxics and CO are of particular concern.

Due to the size of the project area and the project’s potential to influence receptors at great distances from the project site, the sensitive receptors for the project were within 2,000 feet of the project site. Sensitive receptor locations include schools, athletic fields, playgrounds, childcare centers, convalescent centers, retirement homes, hospitals, and residences. As shown in Figure 2.2.6-2, Sensitive Land Use Receptors Near the Project, sensitive land uses were identified: two nearby parks (Trevino Park and Palmer Park), one existing residence, and a planned residency area under the Summerwind Specific Plan.

Mobile Source Air Toxics

Diesel-powered vehicles that use local and regional roadways in the area, including I-10, are determined to be the most prominent sources of mobile source air toxics (MSAT) in the project area. There are no major rail yards, transit terminals, large warehouses, or distribution centers located near the project site.

Figure 2.2.6-2: Sensitive Land Use Receptors Near the Project



0 600 1,200 Feet

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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
INTERSTATE 10/CHERRY VALLEY BOULEVARD INTERCHANGE PROJECT

Sensitive Land Use Receptors Near the Project

Figure 2.2.6-2

Naturally Occurring Asbestos

Chrysotile and amphibole asbestos (such as tremolite) occur naturally in certain geologic settings in California, most commonly in association with ultramafic rocks and along associated faults. Asbestos is a known carcinogen and inhalation of asbestos may result in the development of lung cancer or mesothelioma. The asbestos contents of many manufactured products have been regulated in the United States for a number of years. For example, CARB has regulated the amount of asbestos in crushed serpentinite used in surfacing applications, such as for gravel on unpaved roads, since 1990. In 1998, new concerns were raised about possible health hazards from activities that disturb rocks and soil containing asbestos and may result in the generation of asbestos laden dust. These concerns recently lead CARB to revise their asbestos limit for crushed serpentinite and ultramafic rock in surfacing applications from five percent to less than 0.25 percent, and to adopt a new rule requiring best practices dust control measures for activities that disturb rock and soil containing naturally occurring asbestos (NOA).

NOA in bedrock is typically associated with serpentine and peridotite deposits. Note that during demolition activities, the likelihood of encountering structural asbestos is low due to the nature of the demolished materials. The material would consist primarily of concrete. Therefore, the potential for NOA to be present within the project limits is considered to be low. Furthermore, prior to the commencement of construction, qualified geologists would further examine the soils and makeup of the existing structure. Should the project geologist encounter asbestos during the analysis, proper steps shall be executed to handle the materials.

Environmental Consequences

Temporary Impacts

No-Build Alternative

No construction activities associated with the I-10/Cherry Valley Boulevard Interchange would occur under the No-Build Alternative. Therefore, temporary air quality effects would not occur.

Build Alternatives 3 and 4

The Build Alternatives would generally modify and reconfigure the I-10/Cherry Valley Interchange. Project construction would include clearing, cut-and-fill activities, grading, and paving. This would cause a release of particulate emissions and create a temporary degradation of air quality in the area. Tables 2.2.6-8, Construction Phase Emission Estimates - Build Alternative 3 and 2.2.6-9, Construction Phase Emission Estimates - Build Alternative 4 show the estimated peak daily construction emissions (in pounds per day) during the construction phase under each Build Alternative. Because project construction is expected to last less than five years, construction-related emissions were not considered in the conformity analysis.

Table 2.2.6-8: Construction Phase Emission Estimates - Build Alternative 3

	Reactive Organic Gases (ROG) (lb/day)	Nitrogen Oxides (NO_X) (lb/day)	Carbon Monoxide (CO) (lb/day)	Suspended Particulate Matter (PM_{10}) (lb/day)	Fine Particulate Matter ($PM_{2.5}$) (lb/day)	Sulfur Dioxide (SO_2) (lb/day)
Year 1 Maximum	8	82	66	13	5	<1
Grubbing/Land Clearing	1	10	10	10	2	<1
Grading/Excavation	8	82	66	13	5	<1
Year 2 Maximum	5	52	47	12	4	<1
Drainage/Utilities/Sub-Grade	5	52	47	12	4	<1
Paving	1	14	14	1	<1	<1

Note: Emissions estimated using the Road Construction Emission Model (version 9.0) from the Sacramento Metropolitan Air Quality Management District and project-specific data provided by the design staff.
Source: ICF, Air Quality Report Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, dated December 2020.

Table 2.2.6-9: Construction Phase Emission Estimates - Build Alternative 4

	Reactive Organic Gases (ROG) (lb/day)	Nitrogen Oxides (NO_X) (lb/day)	Carbon Monoxide (CO) (lb/day)	Suspended Particulate Matter (PM_{10}) (lb/day)	Fine Particulate Matter ($PM_{2.5}$) (lb/day)	Sulfur Dioxide (SO_2) (lb/day)
Year 1 Maximum	8	80	66	13	5	<1
Grubbing/Land Clearing	1	10	10	10	2	<1
Grading/Excavation	8	80	66	13	5	<1
Year 2 Maximum	5	52	47	12	4	<1
Drainage/Utilities/ Sub-Grade	5	52	47	12	4	<1
Paving	1	15	14	1	<1	<1

Note: Emissions estimated using the Road Construction Emission Model (version 9.0) from the Sacramento Metropolitan Air Quality Management District and project-specific data provided by the design staff.
Source: ICF, Air Quality Report Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, dated December 2020.

Construction emissions were estimated using the latest Road Construction Emission Model (RCEM) (version 9.0) from the Sacramento Metropolitan Air Quality Management District. RCEM is a data-entry spreadsheet that utilizes various sources to estimate construction emissions. RCEM is recommended by Caltrans and the SCAQMD as it is specifically developed to estimate emissions associated with transportation construction projects since the default equipment, activities, and typical phasing are different than those of land use development projects and building construction projects. The model is used for that purpose in this project.

In order to minimize construction-related emissions, all construction equipment would use low-sulfur fuel, as required by California Code of Regulations Title 17, Section 93114. Compliance with the South Coast Air Quality Management District's rules and regulations would occur. In order to further minimize construction-related emissions, all construction vehicles and construction equipment would be required to be equipped with state-mandated emission control devices pursuant to state emission regulations and standard construction practices. After construction of the proposed project is complete, all construction-related impacts would cease. Temporary construction particulate matter emissions would be further reduced through the implementation of dust suppression measures outlined within SCAQMD Rule 403. Caltrans Standard Specifications for Construction (Sections 14-11.04 [Dust Control]) and 14-9.02 [Air Pollution Control]) would also be adhered to for asphalt concrete emissions and all earthwork, clearing and grubbing, and roadbed activities involving heavy construction equipment. The contractor would comply with all air pollution control ordinances and statutes which apply to any work performed pursuant to the contract, including any air pollution control rules, regulations, ordinances and statutes, specified in Section 11017 of the Government Code. The Build Alternatives would comply with any State, federal, and/or local rules and regulations developed as a result of implementing control and mitigation measures proposed as part of their respective SIPs. Therefore, construction of the Build Alternatives is not anticipated to violate State or federal air quality standards or contribute to the existing air quality violations in the SCAB.

Naturally Occurring Asbestos

There are no geologic features that are normally associated with naturally occurring asbestos (serpentine rock or ultramafic rock near fault zones) present in or near the project area. Significantly adverse effects from naturally occurring asbestos during the project construction phase would be minimal to none.

Impacts related to structural asbestos and aerially deposited lead (ADL) is discussed in Section 2.2.5, Hazardous Waste/Materials, above.

Permanent Impacts

No-Build Alternative

Improvements to the existing I-10/Cherry Valley interchange would not occur under the No-Build Alternative. Accordingly, adverse effects related to air quality would not occur.

Build Alternatives 3 and 4

Emissions were evaluated through modeling using the Caltrans EMFAC (CT-EMFAC2017) model and available vehicle activity data corresponding with the Traffic Operations Analysis Report (TOAR) (November 2020).

Tables 2.2.6-10, Operational Criteria Pollutant Emissions, 2.2.6-11, Net Operational Criteria Pollutant Emissions Comparison to Existing Conditions, and 2.2.6-12, Net Operational Criteria Pollutant Emissions Comparison to No-Build Conditions, summarizes the modeled emissions by scenario and compares emissions under the build alternatives with emissions under the No-Build Alternative and existing conditions. The differences in emissions between with- and without-project conditions represent emissions generated directly from implementing the build alternatives. Vehicular emission rates are anticipated to lessen in future years because of continuing improvements in engine technology and the retirement of older, higher-emitting vehicles.

Table 2.2.6-10: Operational Criteria Pollutant Emissions

Scenario/Analysis Year	ROG (tons per year)	NOx (tons per year)	CO (tons per year)	PM_{10} (tons per year)	$PM_{2.5}$ (tons per year)	SO_2 (tons per year)
Existing year (2019)	58	297	735	186	41	<1
Opening-year (2025) No-Build Alternative	44	172	561	231	48	<1
Opening-year (2025) Alternative 3	44	172	561	231	48	<1
Opening-year (2025) Alternative 4	44	172	561	231	48	<1
Design-year (2045) No-Build Alternative	37	192	579	368	75	<1
Design-year (2045) Alternative 3	37	192	579	368	75	<1
Design-year (2045) Alternative 4	37	192	579	368	75	<1

Notes: Modeled using CT-EMFAC2017.
Source: ICF, Air Quality Report Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, dated December 2020.

Table 2.2.6-11: Net Operational Criteria Pollutant Emissions Comparison to Existing Conditions

Scenario/Analysis Year	ROG (tons per year)	NOx (tons per year)	CO (tons per year)	PM_{10} (tons per year)	$PM_{2.5}$ (tons per year)	SO_2 (tons per year)
Opening-year (2025) Alternative 3	-14	-125	-174	45	7	0
Opening-year (2025) Alternative 4	-14	-125	-174	45	7	0
Design-year (2045) Alternative 3	-21	-105	-156	182	34	0
Design-year (2045) Alternative 4	-21	-105	-156	182	34	0

Notes: Modeled using CT-EMFAC2017.
Source: ICF, Air Quality Report Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, dated December 2020.

Table 2.2.6-12: Net Operational Criteria Pollutant Emissions Comparison to No-Build Conditions

Scenario/Analysis Year	ROG (tons per year)	NO_x (tons per year)	CO (tons per year)	PM_{10} (tons per year)	$PM_{2.5}$ (tons per year)	SO_2 (tons per year)
Opening-year (2025) Alternative 3	0	0	0	0	0	0
Opening-year (2025) Alternative 4	0	0	0	0	0	0
Design-year (2045) Alternative 3	0	0	0	0	0	0
Design-year (2045) Alternative 4	0	0	0	0	0	0

Notes: Modeled using CT-EMFAC2017.
Source: ICF, Air Quality Report Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, dated December 2020.

The emissions analysis presented in Tables 2.2.6-10 and 2.2.6-11 shows that operation of the Build Alternatives under opening-year (2025) and design-year (2045) conditions would increase PM_{10}, and $PM_{2.5}$ emissions compared to existing conditions and decrease ROG, NO_X, and CO emissions. As shown in Tables 2.2.6-10 and 2.2.6-12, implementation of the Build Alternatives would result in increases in PM_{10} and $PM_{2.5}$ criteria pollutant emissions compared to no-build conditions. The increase in PM is partly due to background growth in vehicle miles traveled (VMT) from 2019 to 2045, because PM fugitive dust emissions are a function of VMT. In addition, although PM exhaust emission factors decrease over time, fugitive dust PM emission factors increase over time due to the increase in truck percentages as a fraction of overall VMT within the study area. Accordingly, the total PM emissions increase over time. The decreases in other pollutants are due to expected improvements in vehicle engine technology, fuel efficiency, and turnover in older, more heavily polluting vehicles, which reduces exhaust emissions.

Another reason the implementation of the Build Alternatives would result in an increase in PM_{10} and $PM_{2.5}$ criteria pollutant emissions compared to no-build conditions is because the project would increase regional capacity, although there would be no increase in trip generation. Although AM and PM peak vehicle hours of delay through the I-10/Cherry Valley Boulevard interchange would decrease as a result of the proposed project, PM_{10} and $PM_{2.5}$ criteria pollutant emissions would increase due to the increase in overall daily VMT in the transportation study area.

Regional Conformity

The proposed project is listed in the SCAG 2020-2045 financially constrained Regional Transportation Plan Sustainable Communities Strategy (RTP/SCS), which was found to conform by FHWA and FTA on June 5, 2020. The project is also included in SCAG’s 2021 FTIP Technical Appendix Volume III of III Part A, on page 67 of 610 (RIV060116), adopted on March 4, 2021. The SCAG Regional Council 2020-2045 Regional Transportation Plan was approved by FHWA and FTA on April 1, 2020. The design concept and scope of the proposed project is consistent with the project description in the 2020–2045 RTP/SCS, 2021 FTIP Amendment 17, and the open-to-traffic assumptions of the most recent SCAG regional emissions analysis.

Project Level Conformity

Nonattainment/maintenance areas are subject to the Transportation Conformity Rule, which requires local transportation and air quality officials to coordinate planning to ensure that transportation projects such as road construction do not affect an area's ability to reach its clean air goals. The project is located in a federal nonattainment area for O_3 and $PM_{2.5}$ and an attainment/maintenance area for CO, PM_{10}, and NO_2. Additionally, the project is located in a nonattainment area for O_3, $PM_{2.5}$ and PM_{10}. Therefore, a project-level hot-spot analysis is required under 40 CFR 93.109. The project complies with all $PM_{2.5}$ and PM_{10} measures in the SIP, and implements measures relied upon in the RTP/FTIP regional conformity analysis in a timely matter.

Particulate Matter Hot-Spot Analysis

A hot-spot analysis is required in nonattainment and maintenance areas for CO, PM_{10}, and $PM_{2.5}$. The Transportation Conformity Guidance requires a hot-spot analysis to be completed for a project of air quality concern (POAQC). The Build Alternatives are within a nonattainment area for federal $PM_{2.5}$ standards and attainment/maintenance area for federal CO and PM_{10} standards. Therefore, per 40 CFR Part 93, analyses are required for conformity purposes. However, the EPA does not require hot-spot analyses (either qualitative or quantitative) for those that are not listed in Section 93.123(b)(1) as a POAQC. A hot-spot analysis is defined in 40 CFR 93.101 as an estimation of likely future localized pollutant concentrations resulting from a new transportation project and a comparison of those concentrations to the relevant air quality standard. A hot-spot analysis assesses the air quality impacts on a scale smaller than an entire nonattainment or maintenance area, including, for example, congested roadway intersections and highways or transit terminals. Such an analysis is a means of demonstrating that a transportation project meets FCAA conformity requirements to support state and local air quality goals with respect to potential localized air quality impacts.

The following criteria are directly associated with 40 CFR 93.123(b)(1). The associated discussions address why the proposed project does not qualify as a POAQC:

1. New or expanded highway projects that have a significant number of or increase in diesel vehicles.

   The existing traffic volumes along the roadway segments in the project study area are provided in Table 2.2.6-13, Existing/Baseline (2019) Traffic Volumes. As shown in Table 2.2.6-13, the annual average daily traffic (AADT) ranges in the project site from 10,200 to 106,900. Trucks make up between one to two percent of the AADT for each segment.

Table 2.2.6-13: Existing/Baseline (2019) Traffic Volumes

Segment	Total AADT	Number of Trucks	Percentage of Trucks
Eastbound I-10: Oak Valley Parkway to Singleton Road	74,900	1300	2%
Westbound I-10: Singleton Road to Oak Valley Parkway	106,900	1100	1%
Cherry Valley Boulevard: I-10 to Roberts Street	10,200	500	2%
Cherry Valley Boulevard: I-10 to Roberts Road	10,200	500	2%

Source: ICF, Air Quality Report Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, dated December 2020.

Tables 2.2.6-14 through 2.2.6-19 depict the Opening Year (2025) and Design Year (2045) study segment traffic volumes for both the No-Build and Build Alternatives. As shown in each table, the opening year and design year AADT and truck volumes increase compared to the baseline year. However, the total AADT volumes and the percentage of diesel truck are expected to remain consistent between the No-Build and Build Alternatives. Accordingly, the project would not increase the truck traffic volumes and would not result in a higher proportion of trucks overall in the project area. Therefore, the project would not significantly increase the number of diesel vehicles.

Table 2.2.6-14: Opening Year (2025) Traffic Volumes - No-Build Alternative

Segment	Total AADT	Number of Trucks	Percentage of Trucks
Eastbound I-10: Oak Valley Parkway to Singleton Road	84,500	6,800	8.7%
Westbound I-10: Singleton Road to Oak Valley Parkway	122,900	9,900	8.7%
Cherry Valley Blvd: I-10 to Roberts Street	14,900	1,200	8.7%
Cherry Valley Blvd: I-10 to Roberts Road	14,900	1,200	8.7%

Source: ICF, Air Quality Report Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, dated December 2020.

Table 2.2.6-15: Opening Year (2025) Traffic Volumes - Build Alternative 3

Segment	Total AADT	Number of Trucks	Percentage of Trucks
Eastbound I-10: Oak Valley Parkway to Singleton Road	84,500	6,800	8.7%
Westbound I-10: Singleton Road to Oak Valley Parkway	122,900	9,900	8.7%
Cherry Valley Boulevard: I-10 to Roberts Street	14,900	1,200	8.7%
Cherry Valley Boulevard: I-10 to Roberts Road	14,900	1,200	8.7%

Source: ICF, Air Quality Report Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, dated December 2020.

Table 2.2.6-16: Opening Year (2025) Traffic Volumes - Build Alternative 4

Segment	Total AADT	Number of Trucks	Percentage of Trucks
Eastbound I-10: Oak Valley Parkway to Singleton Road	84,500	6,800	8.7%
Westbound I-10: Singleton Road to Oak Valley Parkway	122,900	9,900	8.7%
Cherry Valley Boulevard: I-10 to Roberts Street	14,900	1,200	8.7%
Cherry Valley Boulevard: I-10 to Roberts Road	14,900	1,200	8.7%

Source: ICF, Air Quality Report Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, dated December 2020.

Table 2.2.6-17: Design Year (2045) Traffic Volumes - No-Build Alternative

Segment	Total AADT	Number of Trucks	Percentage of Trucks
Eastbound I-10: Oak Valley Parkway to Singleton Road	116,600	9,400	8.7%
Westbound I-10: Singleton Road to Oak Valley Parkway	176,400	14,200	8.7%
Cherry Valley Boulevard: I-10 to Roberts Street	30,700	2,500	8.7%
Cherry Valley Boulevard: I-10 to Roberts Road	30,700	2,500	8.7%

Source: ICF, Air Quality Report Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, dated December 2020.

Table 2.2.6-18: Design Year (2045) Traffic Volumes - Build Alternative 3

Segment	Total AADT	Number of Trucks	Percentage of Trucks
Eastbound I-10: Oak Valley Parkway to Singleton Road	116,600	9,400	8.7%
Westbound I-10: Singleton Rd to Oak Valley Parkway	176,400	14,200	8.7%
Cherry Valley Boulevard: I-10 to Roberts Street	30,700	2,500	8.7%
Cherry Valley Boulevard: I-10 to Roberts Road	30,700	2,500	8.7%

Source: ICF, Air Quality Report Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, dated December 2020.

Table 2.2.6-19: Design Year (2045) Traffic Volumes Build Alternative 4

Segment	Total AADT	Number of Trucks	Percentage of Trucks
Eastbound I-10: Oak Valley Parkway to Singleton Road	116,600	9,400	8.7%
Westbound I-10: Singleton Rd to Oak Valley Parkway	176,400	14,200	8.7%
Cherry Valley Boulevard: I-10 to Roberts Street	30,700	2,500	8.7%
Cherry Valley Boulevard: I-10 to Roberts Road	30,700	2,500	8.7%

Source: ICF, Air Quality Report Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, dated December 2020.

2. Projects affecting intersections that are at LOS D, E, or F with a significant number of diesel vehicles, or those that will change to LOS D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project.

   The Build Alternatives would not affect intersections that are at LOS D, E, or F with a significant number of diesel vehicles. Implementation of the Build Alternatives would enhance traffic flow in the project area for both truck traffic and general traffic. Based on the traffic data in Tables 2.2.6-20 through 2.2.6-25 the proposed project would not result in significant changes in traffic volume, vehicle mix, or other factors that would cause an increase in emissions.

   Build Alternatives 3 and 4 would improve vehicle flow at the Cherry Valley Boulevard Overcrossing structure. Tables 2.2.6-20 and 2.2.6-25, below, summarize the peak-hour LOS and delay at 10 study area intersections under opening-year (2025) and design-year (2045) conditions. As shown in Table 2.2.6-20, Opening-Year (2025) Intersection Operations Analysis- No-Build Alternative, all vehicle lanes, with the exception of the Calimesa Boulevard/Cherry Valley Boulevard and the I-10 westbound off-ramp during the AM peak hour and the Cherry Valley Boulevard/I-10 westbound on-ramp during both the AM and PM peak hours, would be at an unacceptable LOS D or better under opening-year (2025) no-build conditions. Tables 2.2.6-21 and 2.2.6-22 show that the implementation of the Build Alternatives would enhance traffic operations and facilitate vehicle movement at the I-10 on- and off-ramps and along Cherry Valley Boulevard, improving the Calimesa Boulevard/Cherry Valley Boulevard and I-10 westbound off-ramp from an unacceptable LOS E to an LOS D during the AM peak hour and the Cherry Valley Boulevard/I-10 westbound on-ramp from an unacceptable LOS E to an acceptable LOS C during the AM and PM peak hours. As shown in Table 2.2.6-23 the majority of the intersections, including Cherry Valley Boulevard and Palmer Avenue/Desert Lawn, Cherry Valley Boulevard and Roberts Road, and I-10 eastbound ramps and Cherry Valley Boulevard would operate at an unacceptable LOS E or F during the design-year (2045) under the No-Build Alternative. Implementation of the Build Alternatives would improve traffic operations and facilitate vehicle movement at the aforementioned intersections and would improve LOS to C or better during AM and PM peak hours for all intersections.

Table 2.2.6-20: Opening-Year (2025) Intersection Operations Analysis - No-Build Alternative

Intersection	Delay (AM) sec/veh	Delay (PM) sec/veh	LOS (AM)	LOS (PM)
I-10 EB Ramps and Singleton Road	19.4	16.9	B	B
I-10 WB Ramps and Singleton Road	16.3	19.5	B	B
Cherry Valley Boulevard and Palmer Ave/Desert Lawn	439.5	290.3	**F**	**F**
Cherry Valley Boulevard and Roberts Road	166.5	281.2	**F**	**F**
Cherry Valley Boulevard and Old Roberts Road	-	-	-	-
I-10 EB Ramps and Cherry Valley Boulevard	68.2	114.7	**E**	**F**
I-10 WB Ramps and Cherry Valley Boulevard	59.3	24.9	**E**	C
Calimesa Blvd and Cherry Valley Boulevard	109	22.2	**F**	C
I-10 EB Ramps and Oak Valley Parkway	11.6	16.7	B	B
I-10 EB Loop On and Oak Valley Parkway	-	-	B	B
I-10 Loop On and Oak Valley Parkway	8.3	10.9	A	B
I-10 WB Ramps an Oak Valley Parkway	88.3	20.3	A	B

Notes: Bold text indicates unacceptable operations, should unacceptable operations exist.
EB = eastbound; LOS = level of service; sec/veh = seconds per vehicle; WB = westbound
Source: Fehr and Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document: Traffic Operations Analysis Report, November 2020.

Table 2.2.6-21: Opening-Year (2025) Intersection Operations Analysis - Build Alternative 3

Intersection	Delay (AM) sec/veh	Delay (PM) sec/veh	LOS (AM)	LOS (PM)
I-10 EB Ramps and Singleton Road	20.1	17.9	C	B
I-10 WB Ramps and Singleton Road	16.6	19.5	B	B
Cherry Valley Boulevard and Palmer Ave/Desert Lawn	27.7	8.2	C	C
Cherry Valley Boulevard and Roberts Road	13.5	19	B	B
Cherry Valley Boulevard and Old Roberts Road	--	--	--	--
I-10 EB Ramps and Cherry Valley Boulevard	22.1	14.7	C	B
I-10 WB Ramps and Cherry Valley Boulevard	6.8	5.6	A	A
Calimesa Blvd and Cherry Valley Boulevard	21.8	9.8	C	A
I-10 EB Ramps and Oak Valley Parkway	11.6	16.5	B	B
I-10 EB Loop On and Oak Valley Parkway	11.6	16.5	B	B
I-10 Loop On and Oak Valley Parkway	8.7	10.9	A	B
I-10 WB Ramps and Oak Valley Parkway	10.9	10.9	A	B

Notes: Bold text indicates unacceptable operations, should unacceptable operations exist, EB = eastbound; LOS = level of service; sec/veh = seconds per vehicle; WB = westbound
Source: Fehr and Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document: Traffic Operations Analysis Report, November 2020.

Table 2.2.6-22: Opening-Year (2025) Intersection Operations Analysis - Build Alternative 4

Intersection	Delay (AM) sec/veh	Delay (PM) sec/veh	LOS (AM)	LOS (PM)
I-10 EB Ramps and Singleton Road	19.4	17.8	B	B
I-10 WB Ramps and Singleton Road	19.2	20.1	B	C
Cherry Valley Boulevard and Palmer Avenue/ Desert Lawn Drive	26	20.6	C	C
Cherry Valley Boulevard and Roberts Road	12.2	18.8	B	B
Cherry Valley Boulevard and Old Roberts Road	--	--	--	--
I-10 EB Ramps and Cherry Valley Boulevard	11.4	13.7	B	B
I-10 WB Ramps and Cherry Valley Boulevard	Right-turn to WB on-ramp	Right-turn to WB on-ramp	Right-turn to WB on-ramp	Right-turn to WB on-ramp
Calimesa Blvd and Cherry Valley Boulevard	20.5	15	C	B
I-10 EB Ramps and Oak Valley Parkway	11.8	16.3	B	B
I-10 EB Loop On and Oak Valley Parkway	11.8	16.3	B	B
I-10 Loop On and Oak Valley Parkway	8.9	11.2	A	B
I-10 WB Ramps an Oak Valley Parkway	8.9	11.2	A	B

Notes: Bold text indicates unacceptable operations, should unacceptable operations exist.
EB = eastbound; LOS = level of service; sec/veh = seconds per vehicle; WB = westbound
Source: Fehr and Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document: Traffic Operations Analysis Report, November 2020.

Table 2.2.6-23: Design-Year (2045) Intersection Operations Analysis- No-Build Alternative

Intersection	Delay (AM) sec/veh	Delay (PM) sec/veh	LOS (AM)	LOS (PM)
I-10 EB Ramps and Singleton Road	29.3	143.6	C	F
I-10 WB Ramps and Singleton Road	60.8	150.5	E	F
Cherry Valley Boulevard and Palmer Ave/Desert Lawn	994.6	171.4	**F**	**F**
Cherry Valley Boulevard and Roberts Road	264.8	174.7	**F**	**F**
Cherry Valley Boulevard and Old Roberts Road	-	-	-	-
I-10 EB Ramps and Cherry Valley Boulevard	108.9	103.8	**F**	**F**
I-10 WB Ramps and Cherry Valley Boulevard	100	64.6	**F**	E
Calimesa Blvd and Cherry Valley Boulevard	20.5	21.1	**C**	C
I-10 EB Ramps and Oak Valley Parkway	15.4	18.4	B	B
I-10 EB Loop On and Oak Valley Parkway	15.4	18.4	B	B
I-10 Loop On and Oak Valley Parkway	56	12	E	B
I-10 WB Ramps an Oak Valley Parkway	56	12	E	B

Notes: Bold text indicates unacceptable operations, should unacceptable operations exist
EB = eastbound; LOS = level of service; sec/veh = seconds per vehicle; WB = westbound
Source: Fehr and Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document: Traffic Operations Analysis Report 2020.

Table 2.2.6-24: Design-Year (2045) Intersection Operations Analysis- Build Alternative 3

Intersection	Delay (AM) sec/veh	Delay (PM) sec/veh	LOS (AM)	LOS (PM)
I-10 EB Ramps and Singleton Road	29.1	57.2	C	E
I-10 WB Ramps and Singleton Road	27.2	53.8	C	D
Cherry Valley Boulevard and Palmer Ave/Desert Lawn	25.9	18.2	C	B
Cherry Valley Boulevard and Roberts Road	26.1	63.8	C	E
Cherry Valley Boulevard and Old Roberts Road	--	---	--	--
I-10 EB Ramps and Cherry Valley Boulevard	24.3	16.9	C	B
I-10 WB Ramps and Cherry Valley Boulevard	11.3	8.9	B	A
Calimesa Boulevard and Cherry Valley Boulevard	22.1	9.3	C	A
I-10 EB Ramps and Oak Valley Parkway	14.3	31.2	B	C
I-10 EB Loop On and Oak Valley Parkway	14.3	31.2	B	C
I-10 Loop On and Oak Valley Parkway	10.8	12.7	B	B
I-10 WB Ramps an Oak Valley Parkway	10.8	12.7		

Notes: Bold text indicates unacceptable operations, should unacceptable operations exist
EB = eastbound; LOS = level of service; sec/veh = seconds per vehicle; WB = westbound
Source: Fehr and Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document: Traffic Operations Analysis Report 2020.

Table 2.2.6-25: Design-Year (2045) Intersection Operations Analysis- Build Alternative 4

Intersection	Delay (AM) sec/veh	Delay (PM) sec/veh	LOS (AM)	LOS (PM)
I-10 EB Ramps and Singleton Road	29.1	56.1	C	E
I-10 WB Ramps and Singleton Road	69	57	E	E
Cherry Valley Blvd. and Palmer Ave/Desert Lawn	23.8	17.2	C	B
Cherry Valley Boulevard and Roberts Road	23.4	66.5	C	E
Cherry Valley Boulevard and Old Roberts Road	--	--	--	--
I-10 EB Ramps and Cherry Valley Boulevard	10.4	19.7	B	B
I-10 WB Ramps and Cherry Valley Boulevard	Right-turn to WB on-ramp	Right-turn to WB on-ramp	Right-turn to WB on-ramp	Right-turn to WB on-ramp
Calimesa Blvd and Cherry Valley Boulevard	25.5	18.6	C	B
I-10 EB Ramps and Oak Valley Parkway	14.5	32.4	B	C
I-10 EB Loop On-Ramp and Oak Valley Pkwy	14.5	32.4	B	C
I-10 Loop On-Ramp and Oak Valley Parkway	11	13	B	B
I-10 WB Ramps an Oak Valley Parkway	11	13	B	B

Notes: Bold text indicates unacceptable operations, should unacceptable operations exist; EB = eastbound; LOS = level of service; sec/veh = seconds per vehicle; WB = westbound
Source: Fehr and Peers, I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document: Traffic Operations Analysis Report 2020.

3. New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location.

   The Build Alternatives would not introduce bus facilities, rail terminals, or transfer points that would increase volumes of diesel vehicles in the project area.

4. Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location.

   The Build Alternatives would not expand bus facilities, rail terminals, or transfer points.

5. Projects in or affecting locations, areas, or categories of sites identified in the applicable PM2.5 and PM10 implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

   The Build Alternatives are not located in or affecting areas or category of sites identified in any applicable PM2.5 and PM10 implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

As demonstrated above, the Build Alternatives would not involve a significant amount of diesel truck traffic, as traffic volumes would be less than 125,000 ADT, and is in compliance with the RTP/FTIP. Therefore, the Build Alternatives meet the FCAA requirements and is not a project of air quality concern under 40 CFR 93.123(b)(1) and would not cause or contribute to a violation of NAAQS for PM2.5.

The SCAG's Transportation Conformity Working Group (TCWG) determined that the proposed project is not a POAQC; refer to Interagency Consultation subsection, below. Therefore, the proposed project would not be considered a POAQC under 40 CFR 93.123 (b)(1). The required Air Quality Conformity Analysis and associated determination letter from the Federal Highway Administration (FHWA) will be addressed following public circulation of the IS/EA.

Flowchart 1:

3.1.1: Is the project exempt from all emissions analyses?

3.1.1 Response: No. The project is not exempt because it does not fit any of the exemption categories identified in 40 CFR 93.126.

3.1.2: Is the project exempt from regional emissions analyses?

3.1.2 Response: No. The proposed project does not align with any of the project types exempted from regional emissions analyses under 40 CFR 93.127 (proceed to 3.1.3).

3.1.3: Is the project locally defined as regionally significant?

3.1.3 Response: Yes. The proposed project is considered a regionally significant transportation project, according to 40 CFR 93.101, because it is included in the modeling of the area's transportation network (proceed to 3.1.4).

3.1.4: Is the project in a federal attainment area?

3.1.4 Response: No. The proposed project is in the SCAB, which is a federal extreme nonattainment area for O_3, and a serious nonattainment area for $PM_{2.5}$ (see Table 2.2.6-1) (proceed to 3.1.5).

3.1.5: Is there a currently conforming RTP and TIP?

3.1.5 Response: Yes. The 2020–2045 RTP/SCS and 2021 FTIP are conforming programs (proceed to 3.1.6).

3.1.6: Is the project included in the regional emissions analysis supporting the currently conforming RTP and TIP?

3.1.6 Response: Yes. The project is identified in the 2020–2045 RTP/SCS under project number RIV060116 and the 2021 FTIP under project number RIV060116. Therefore, it has been included in the regional emissions analysis (proceed to 3.1.7).

3.1.7: Has the project design concept and/or scope changed significantly from that in the regional analysis?

3.1.7 Response: No. The project design concept has not changed significantly from that in the regional analysis (proceed to 3.1.9).

3.1.9: The conclusion from this series of questions and answers is that the project needs to be examined for its local air impacts.

Based on the answers to the first flowchart, a second flowchart, is required to determine the level of local CO effect analysis required for the project. The questions that are applicable to the project are in the second flowchart.

Flowchart 2:

Level 1: Is the project in a CO nonattainment area?

Response: No. The project and its respective air basin are in an attainment/maintenance area for the federal CO standards (Table 2.2.6-1).

Level 1: Was the area re-designated as an attainment area after the 1990 Clean Air Act?

Response: Yes. Riverside County was re-designated as an attainment area on June 11, 2007, and the associated maintenance plan will expire in 2027.

Level 1: Has "continued attainment" been verified with the local Air District, if appropriate?

Response: Yes. Based on ambient air monitoring data collected by SCAQMD, the SCAB has continually met the NAAQS for CO since 2002 (Proceed to Level 7).

Level 7: Does the project worsen air quality?

Response: No. According to Section 4.7.1 of the CO Protocol, the following criteria provide a basis for determining if a project has the potential to worsen localized air quality:

- The project significantly increases the percentage of vehicles operating in the cold-start mode. Increasing the number of vehicles in cold-start mode by as little as two percent should be considered potentially significant.

  The Build Alternatives would not involve direct development of land or increase the percentage of vehicles operating in cold-start mode. The Build Alternatives would reconfigure the existing bridge at the existing location. The Build Alternatives would not result in changes to the percentage of vehicles operating in cold-start mode because no new parking or other trip-generating land uses would be associated with the Build Alternatives following construction.

- The project significantly increases traffic volumes. Increases in traffic volumes in excess of five percent should be considered potentially significant. Increasing the traffic volume by less than five percent may still be potentially significant if there is also a reduction in average speeds.

  The Build Alternatives would not result in a material change in annual average daily traffic (AADT) on any road segment or at any intersection when compared to the No-Build condition.

- The project worsens traffic flow. For uninterrupted roadway segments, a reduction in average speeds (within a range of three to 50 miles per hour [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 a worsening of traffic flow.

  The project improvements under the Build Alternatives would facilitate vehicle movement through the I-10 interchange and on Cherry Valley Boulevard, resulting in reductions in vehicle hours of delay and vehicle hours of travel relative to the No-Build Alternative.

Interagency Consultation

Although the Build Alternatives are located within a serious nonattainment area for PM2.5 and PM10, a detailed hot spot analyses for each pollutant was not required because federal CAA and 40 CFR 93.116 requirements are met without an explicit hot-spot analysis. Rather, a project-level PM hot-spot analysis was prepared and presented to SCAG's Transportation Conformity Working Group for discussion and review in April

2020. The form reflected the project description, limits, and traffic volumes and was listed under the current RTP/FTIP project identification numbers. As discussed above, it was determined that the Build Alternatives would not be considered a POAQC. Therefore, the Build Alternatives would not result in adverse effects to the regions current attainment status and PM.

Mobile Source Air Toxics
Build Alternatives 3 and 4 were compared to the No-Build Alternative regarding the Mobile Source Air Toxics (MSAT) emissions. As discussed in the Air Quality Report, although the Build Alternatives would not result in substantial changes in traffic volumes or the vehicle mix that would cause a meaningful increase in regional MSAT emissions compared with those of the No-Build Alternative, the localized level of MSAT emissions for the Build Alternatives could be higher relative to the No-Build Alternative at specific locations. However, the increase could be offset by increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). On a regional basis, U.S. EPA's vehicle and fuel regulations, coupled with fleet turnover, will, over time, cause substantial reductions that, in almost all cases, will cause region wide MSAT levels to be significantly lower than they are today. As such, Build Alternatives 3 and 4 would have no meaningful regional MSAT effect and low potential for local MSAT emissions. There would be no significantly adverse effects involving MSAT arising from the project.

Avoidance, Minimization, and/or Mitigation Measures
No measures are proposed.

Climate Change
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.

2.2.7 Noise and Vibration

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

California Environmental Quality Act

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

National Environmental Policy Act and 23 Code of Federal Regulations 772

For highway transportation projects with Federal Highway Administration (FHWA) involvement (and the Department, as assigned), the Federal-Aid Highway Act of 1970 and its 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 lists the noise abatement criteria for use in the NEPA/23 CFR 772 analysis.

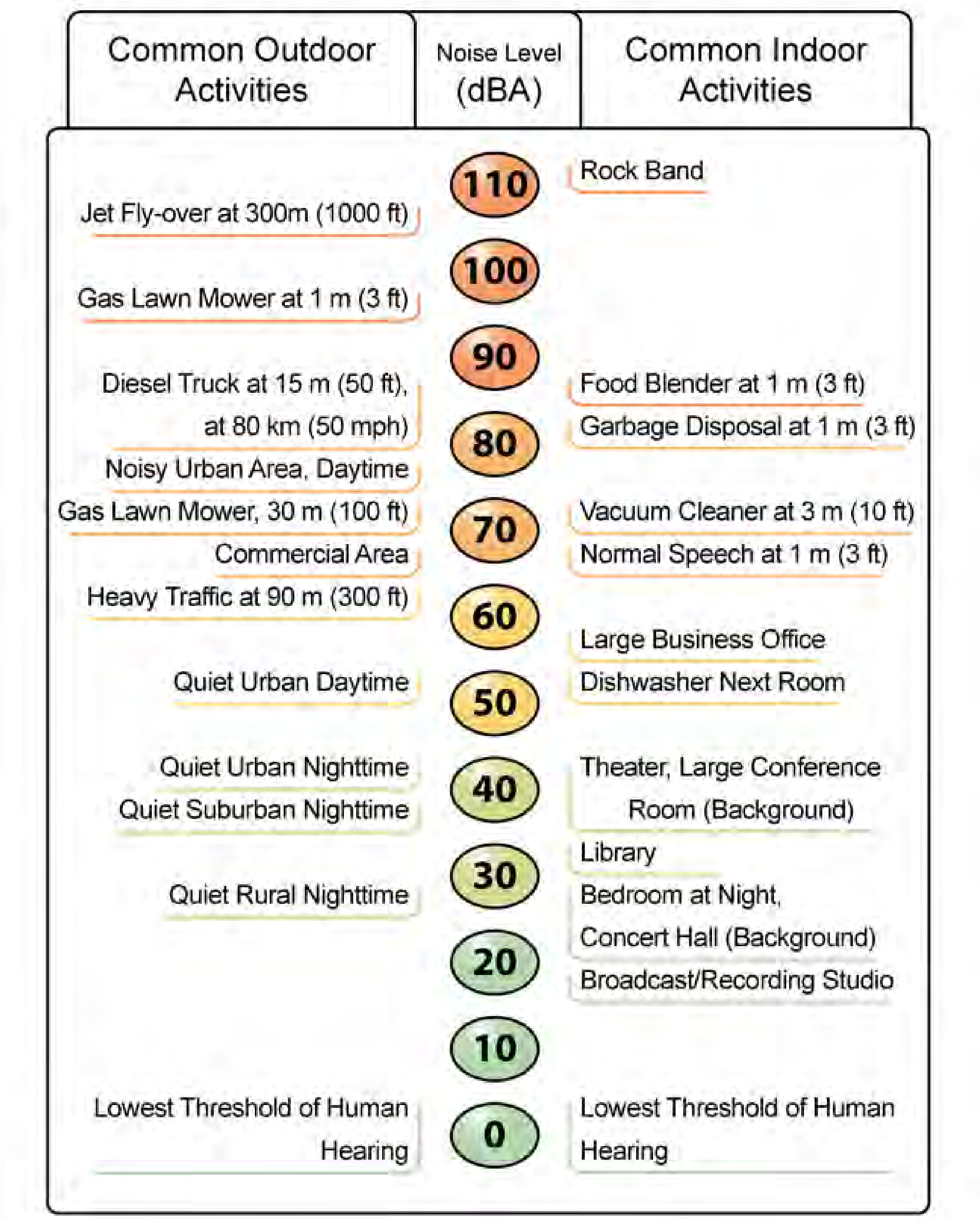
Table 2.2.7-1: Noise Abatement Criteria

Activity Category	NAC, Hourly A-Weighted Noise Level, Leq(h)	Description of activity category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[1]	67 (Exterior)	Residential.
C[1]	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F	No NAC—reporting only	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No NAC—reporting only	Undeveloped lands that are not permitted.

Notes: [1] Includes undeveloped lands permitted for this activity category.

Figure 2.2.7-1 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise levels discussed in this section with common activities.

Figure 2.2.7-1: Noise Levels for Common Activities



According to the Department's T*raffic 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) or when the future noise level with the project approaches or exceeds the NAC. A noise level is considered to approach the NAC if it is within 1 dBA of the NAC.

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

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

Affected Environment

This section is based on the findings of the Noise Study Report (NSR) (dated April 2021) and the, I-10/Cherry Valley Boulevard Interchange Project Noise Abatement Decision Report (NADR) (dated August 2021) prepared for this project.

Land Uses and Receptors

An inventory of developed and undeveloped land uses was identified during a field investigation for the project. Existing land uses in the area were categorized by land use type, NAC Activity Category (as defined in Table 2.2.7-1 above), and frequency of human use. The following land uses were identified in the project area:

- Single-family residences and mobile homes (Activity Category B);
- Commercial properties ([with and without outdoor use areas] [Activity Category E]); and
- Undeveloped, unpermitted lands (Activity Category G).

Noise abatement is only considered for areas of frequent human use that would benefit from a lowered noise level. Accordingly, this analysis focuses on locations with defined outdoor use areas, which include residential yards and outdoor use areas of commercial establishments. Generalized receivers (modeling locations that represent the public) were also included for unpermitted lands within the study area. Generalized receivers are positioned no closer than 100 feet from the edge of the outside traffic lane in the area that best represents the highest expected traffic noise level.

Land uses in the project area are grouped into a series of lettered analysis areas that are identified in Figures 2.2.7-2 to 2.2.7-11. Each of these analysis areas is considered to be acoustically equivalent. The lettered analysis areas are further described below:

- Area A: Area A is located north of I-10 and east of Singleton Road. This area contains one single-family residence (Activity Category B) and undeveloped, unpermitted land (Activity Category G). This area is relatively flat except for the single-family residence which is located on top of an approximate 20-foot high hill as well as the eastern portion of this area which is also elevated. I-10 is at grade relative to this area. There are no noise barriers located between the roadway and these land uses.
- Area B: Area B is located north of I-10 between Singleton Road and Cherry Valley Boulevard. This area contains the Rancho Calimesa Mobile Home Park (Activity Category B). This area is generally flat where I-10 is at grade relative to this area. There are no noise barriers located or topographic shielding occurring between the roadway and the residential land use.

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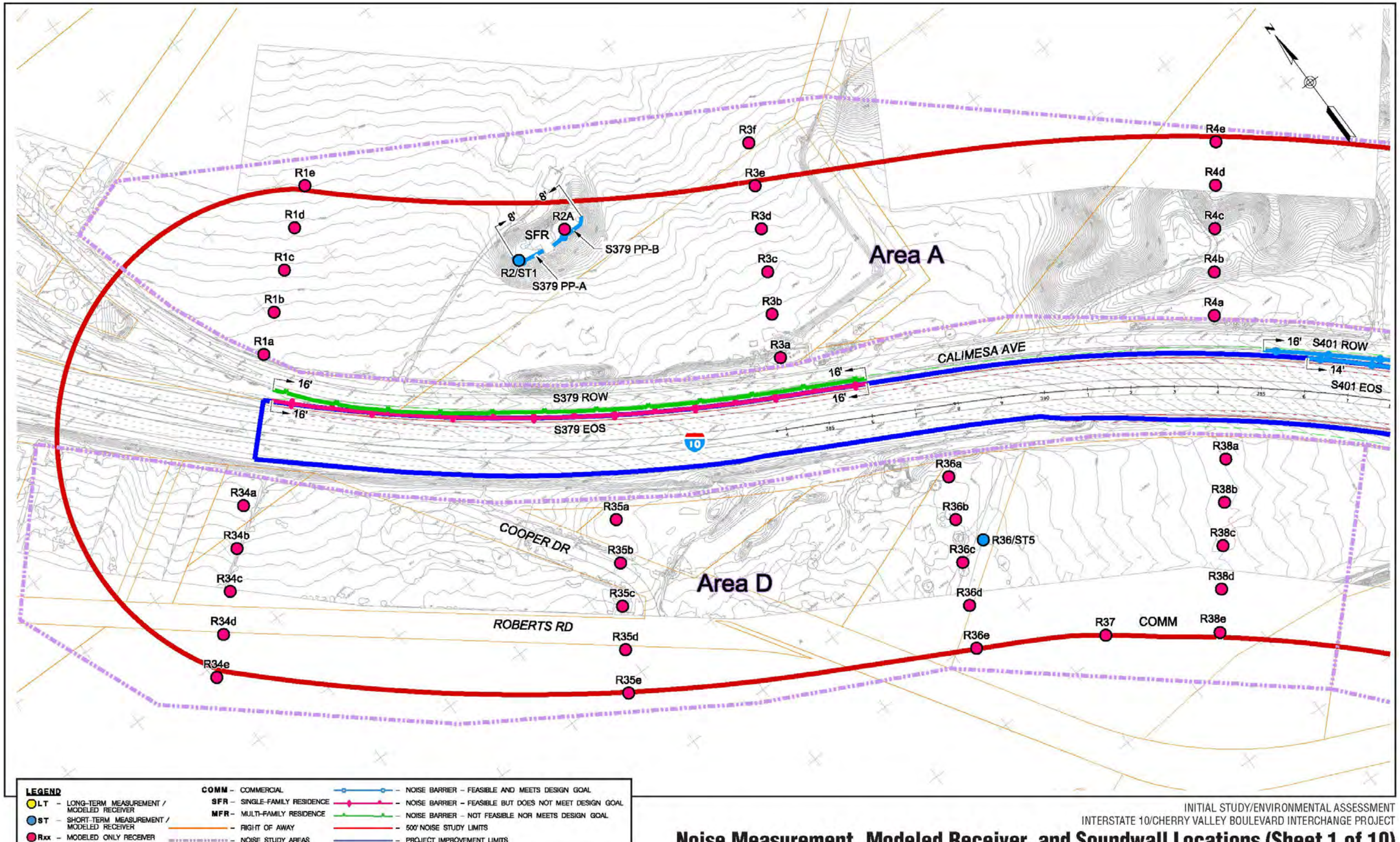
Figure 2.2.7-2: Noise Measurement, Modeled Receiver, and Soundwall Locations (Sheet 1 of 10)



INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
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Noise Measurement, Modeled Receiver, and Soundwall Locations (Sheet 1 of 10)

Figure 2.2.7-2

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Figure 2.2.7-3: Noise Measurement, Modeled Receiver, and Soundwall Locations (Sheet 2 of 10)

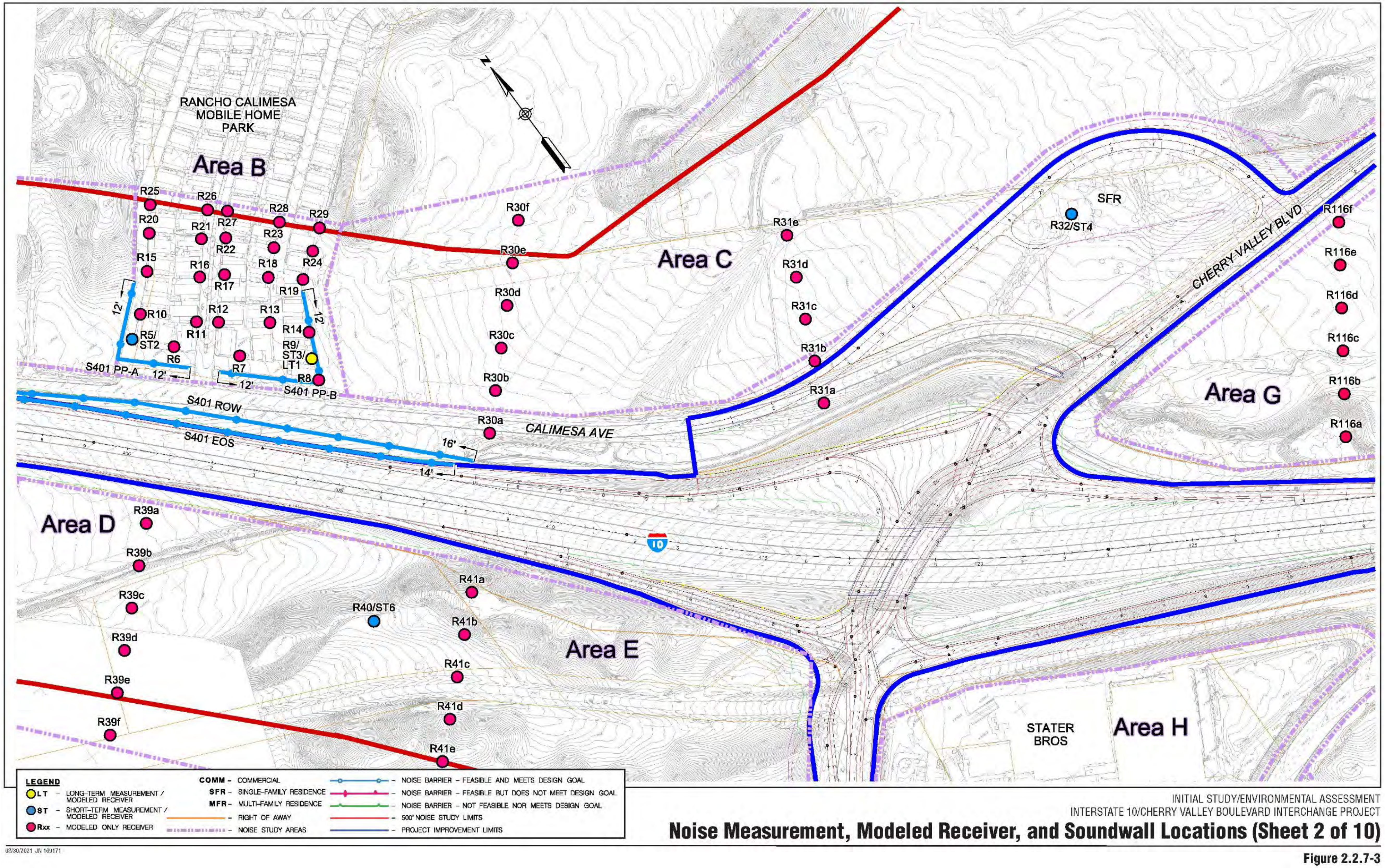

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Figure 2.2.7-4: Noise Measurement, Modeled Receiver, and Soundwall Locations (Sheet 1 of 10)

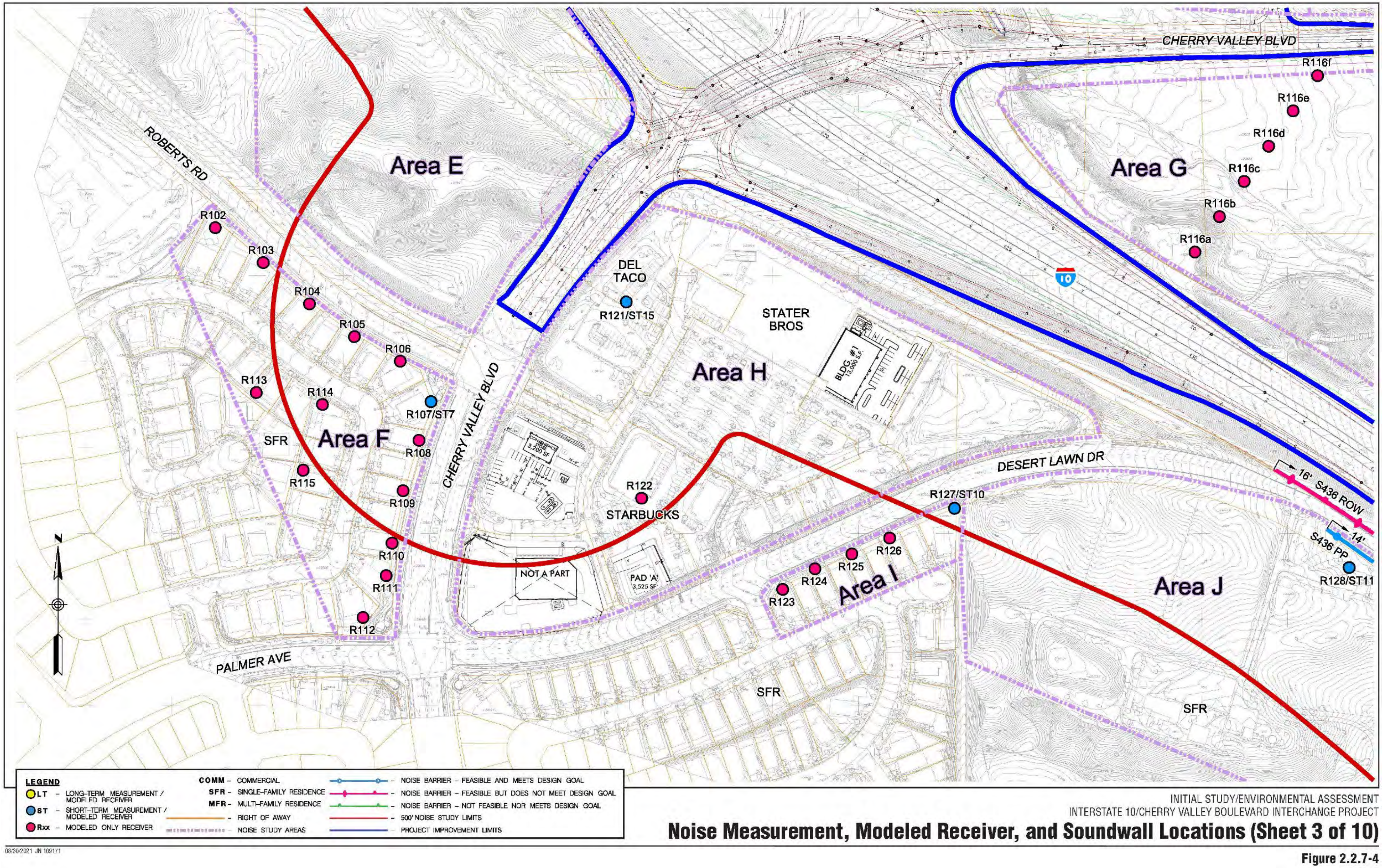

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Figure 2.2.7-5: Noise Measurement, Modeled Receiver, and Soundwall Locations (Sheet 3 of 10)

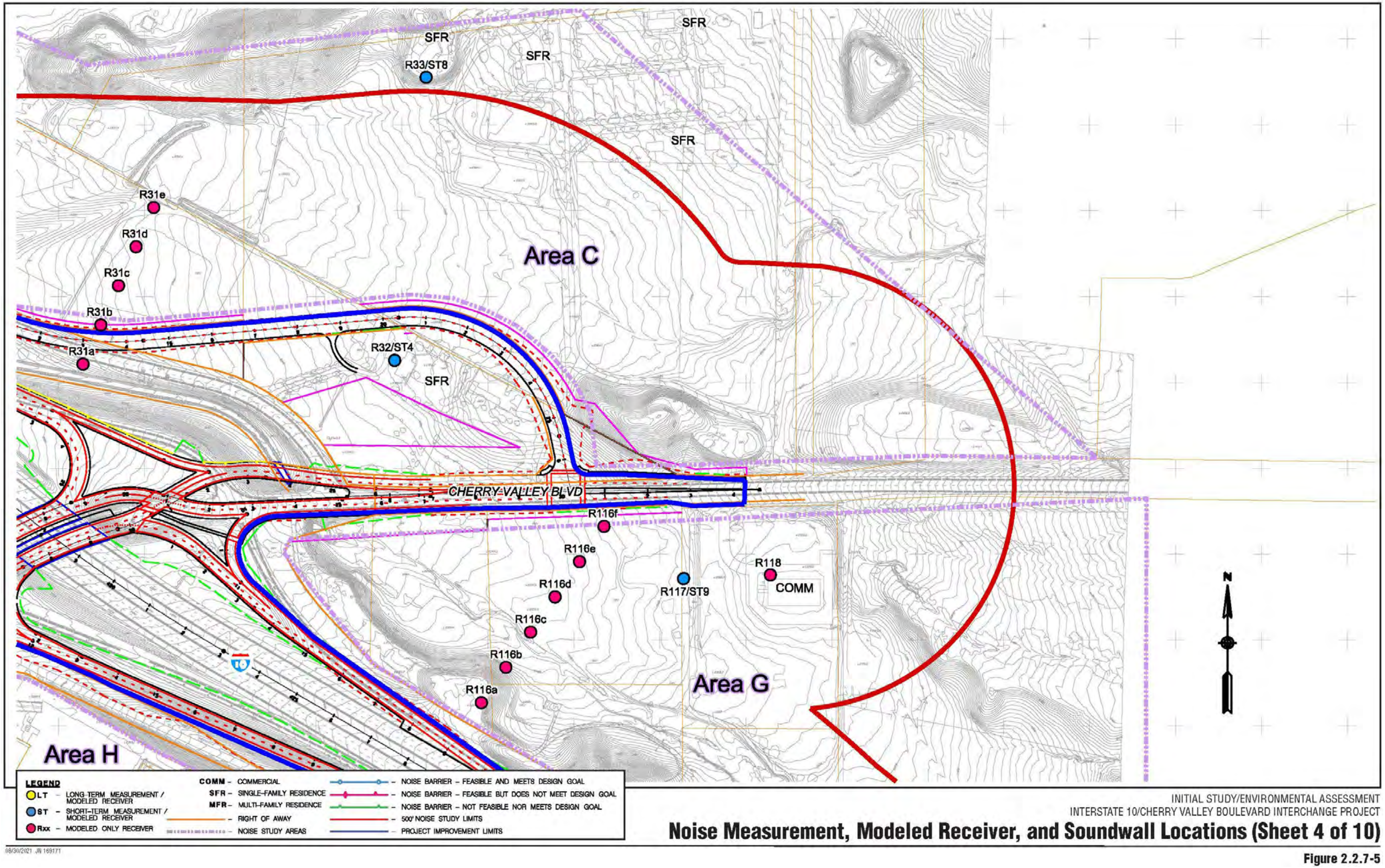

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Figure 2.2.7-6: Noise Measurement, Modeled Receiver, and Soundwall Locations (Sheet 4 of 10)

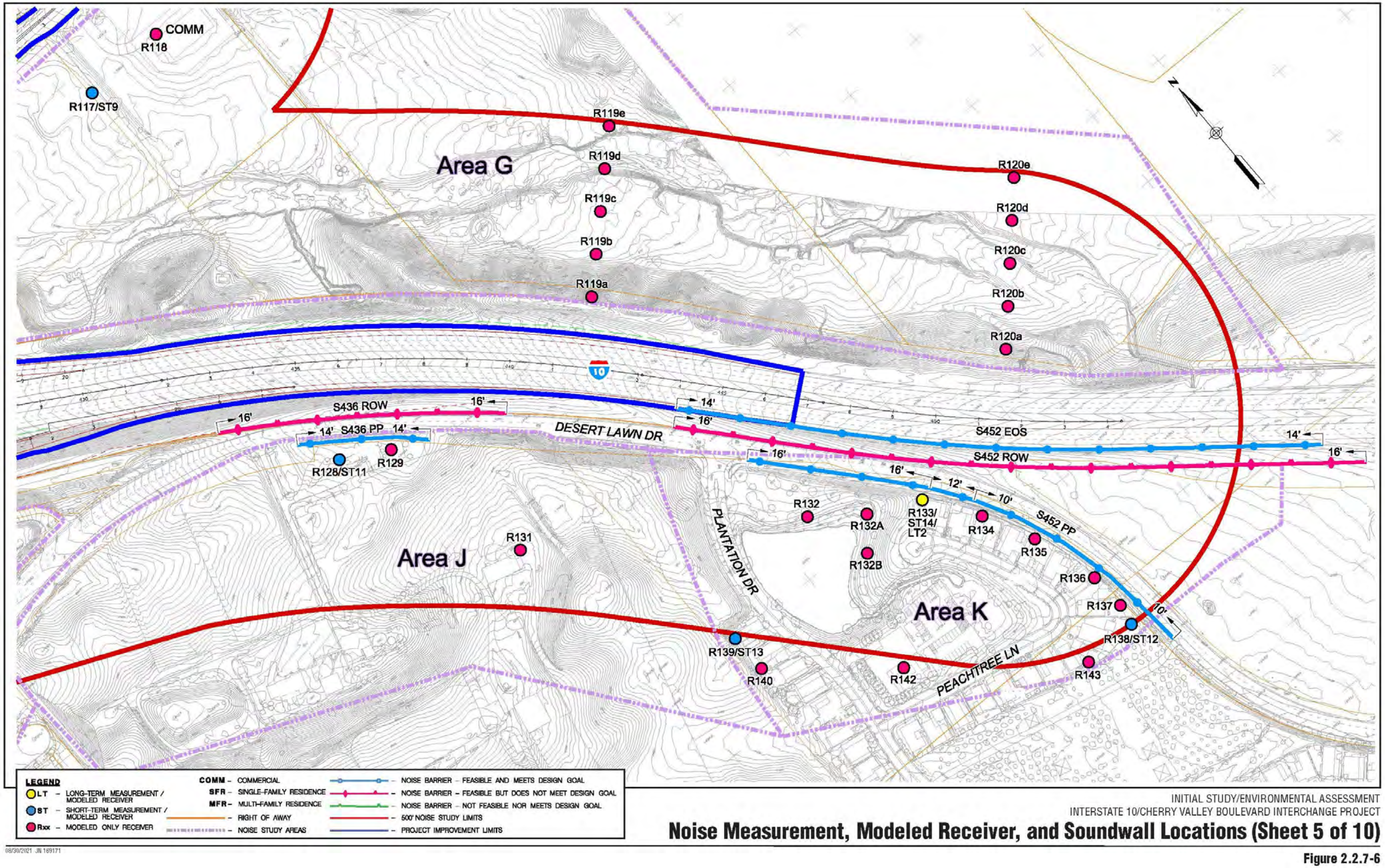

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Figure 2.2.7-7 Noise Measurement, Modeled Receiver, and Soundwall Locations (Sheet 5 of 10)

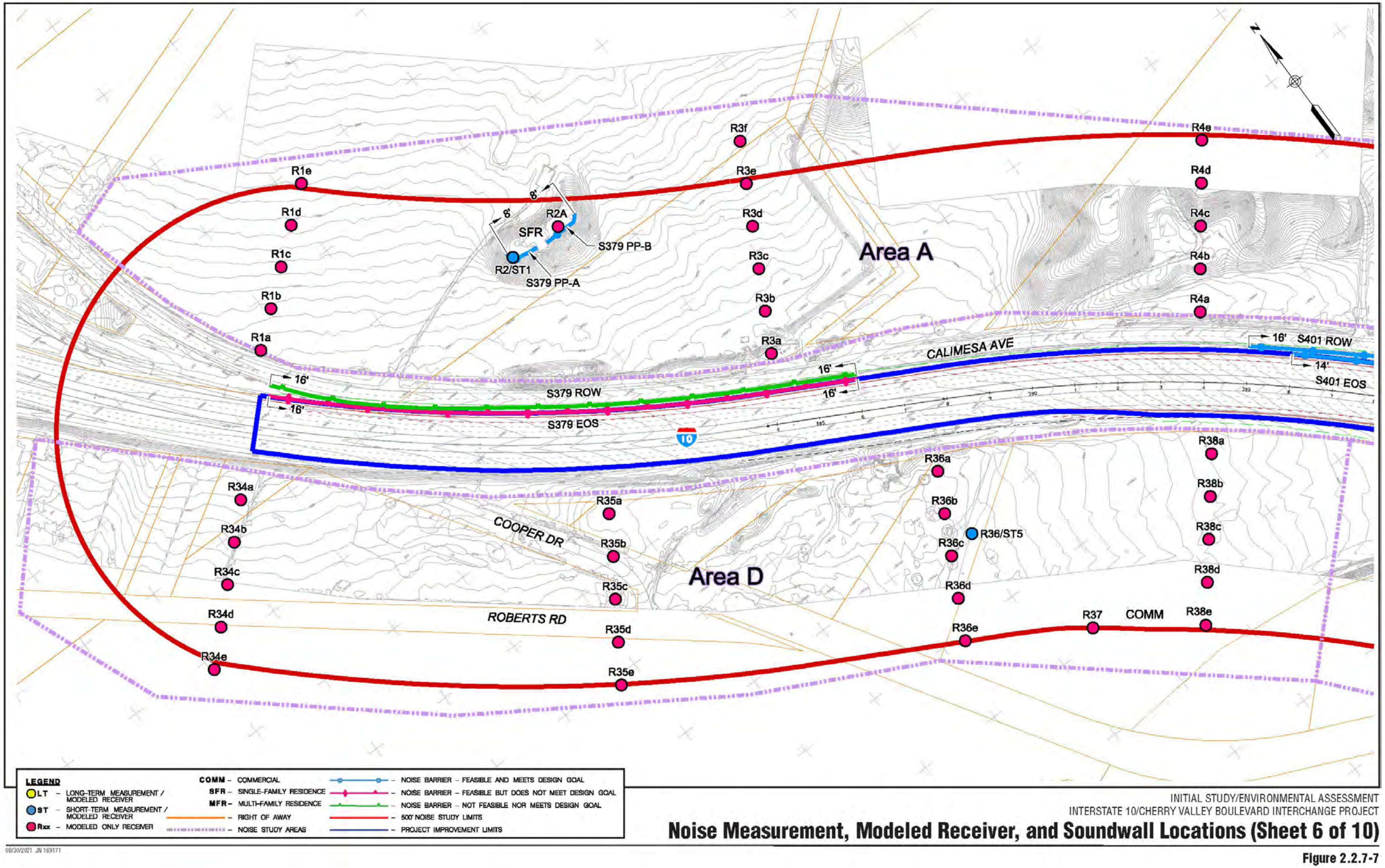

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Figure 2.2.7-8: Noise Measurement, Modeled Receiver, and Soundwall Locations (Sheet 6 of 10)

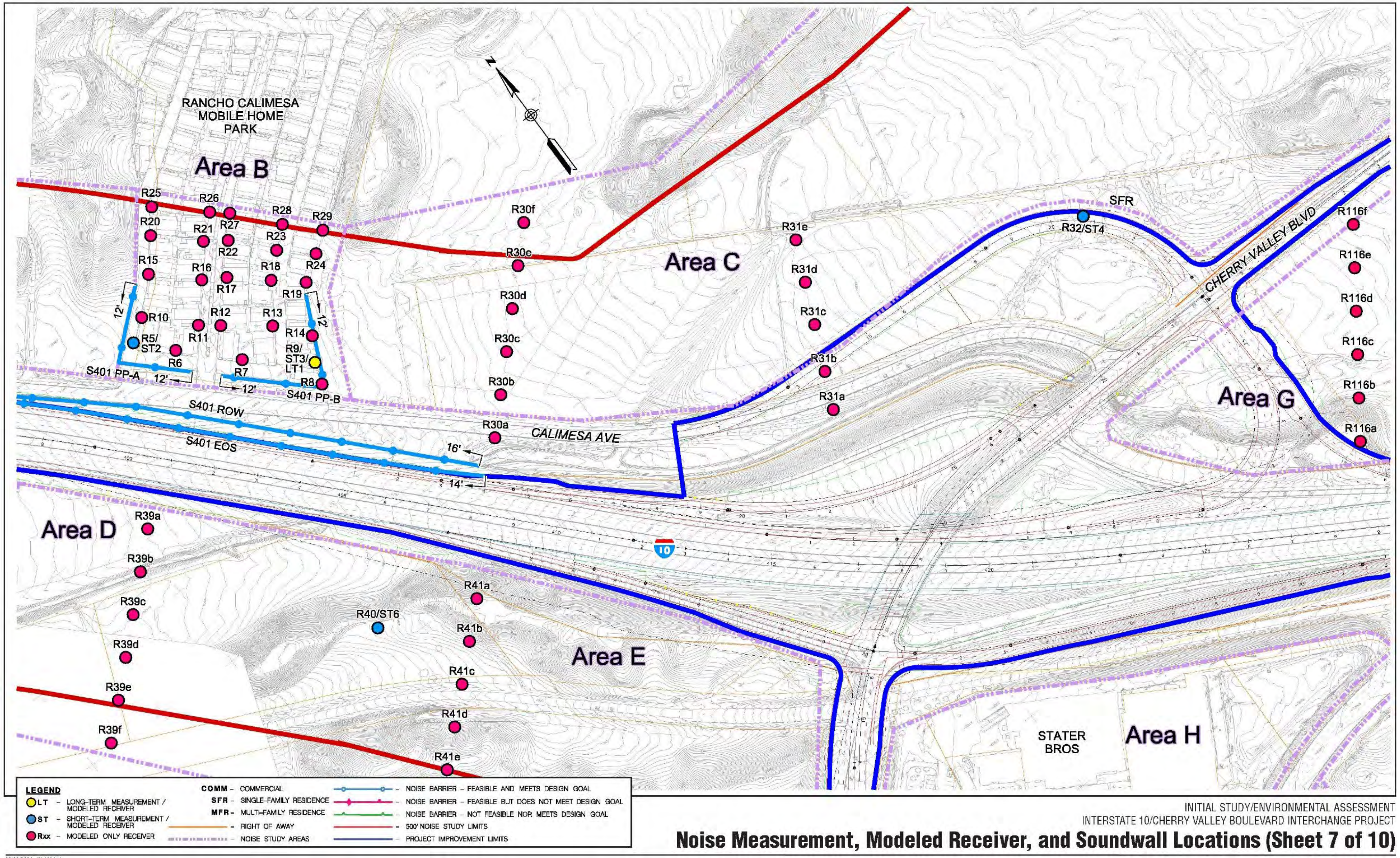

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Figure 2.2.7-9: Noise Measurement, Modeled Receiver, and Soundwall Locations (Sheet 7 of 10)

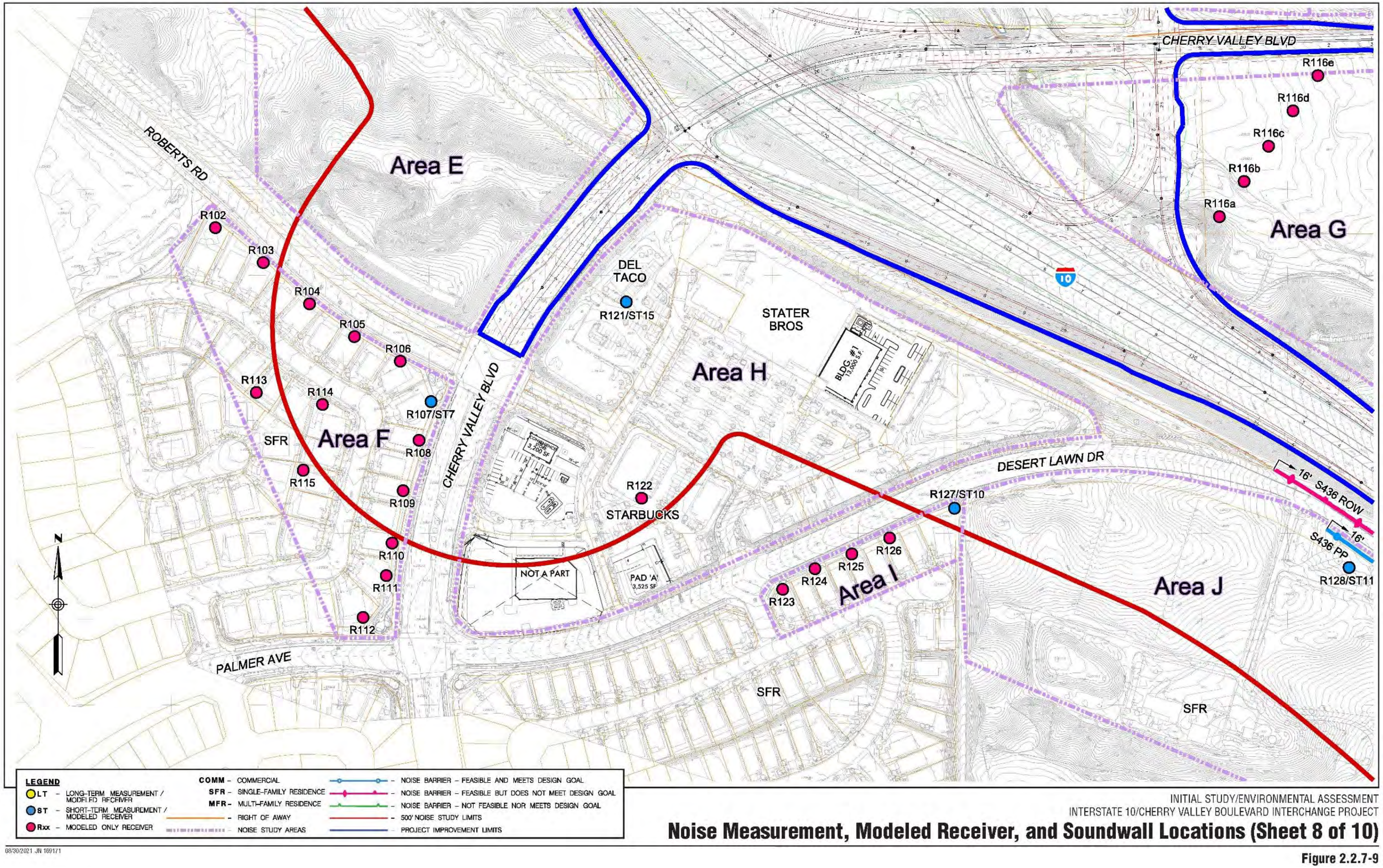

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Figure 2.2.7-10: Noise Measurement, Modeled Receiver, and Soundwall Locations (Sheet 8 of 10)

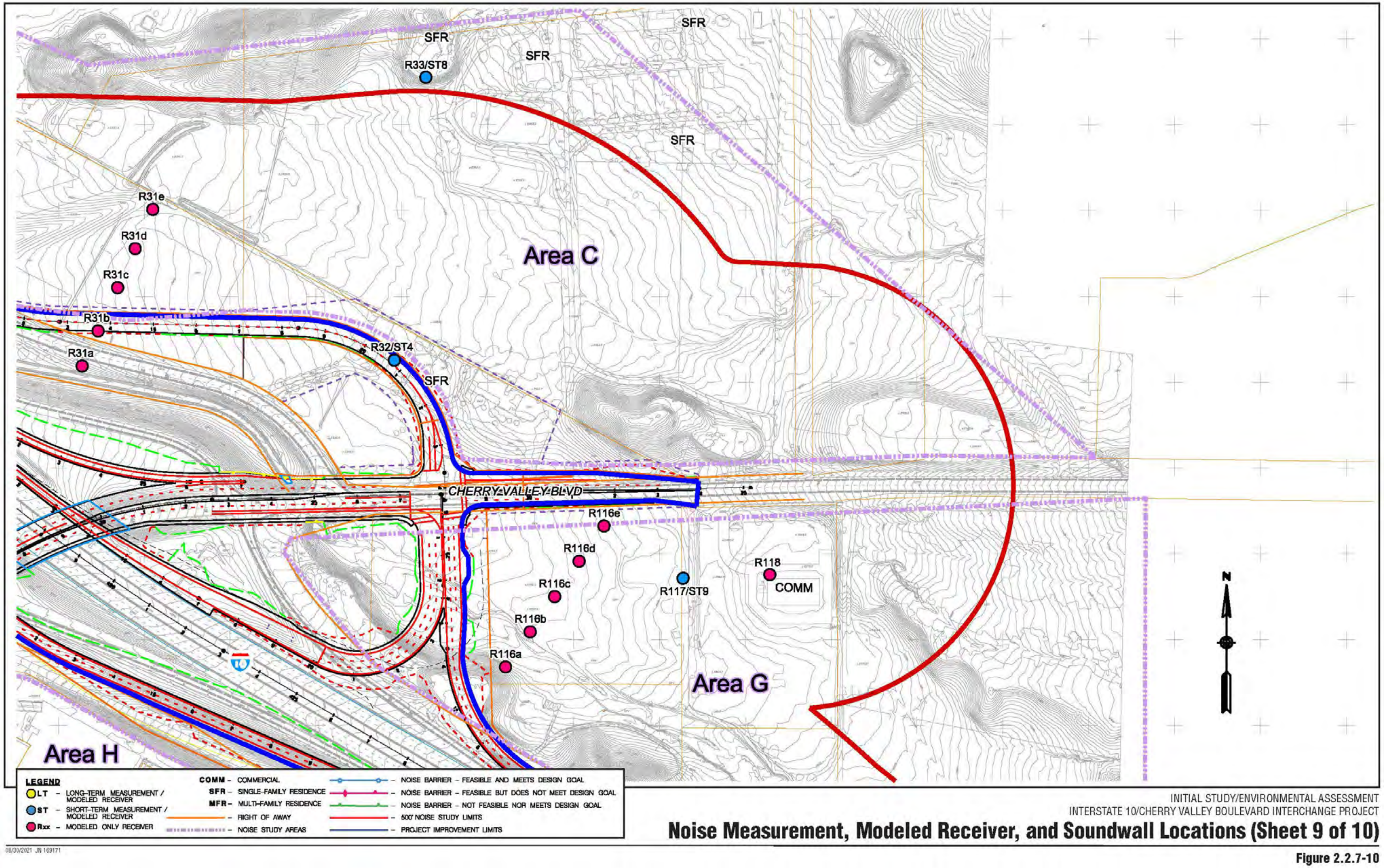

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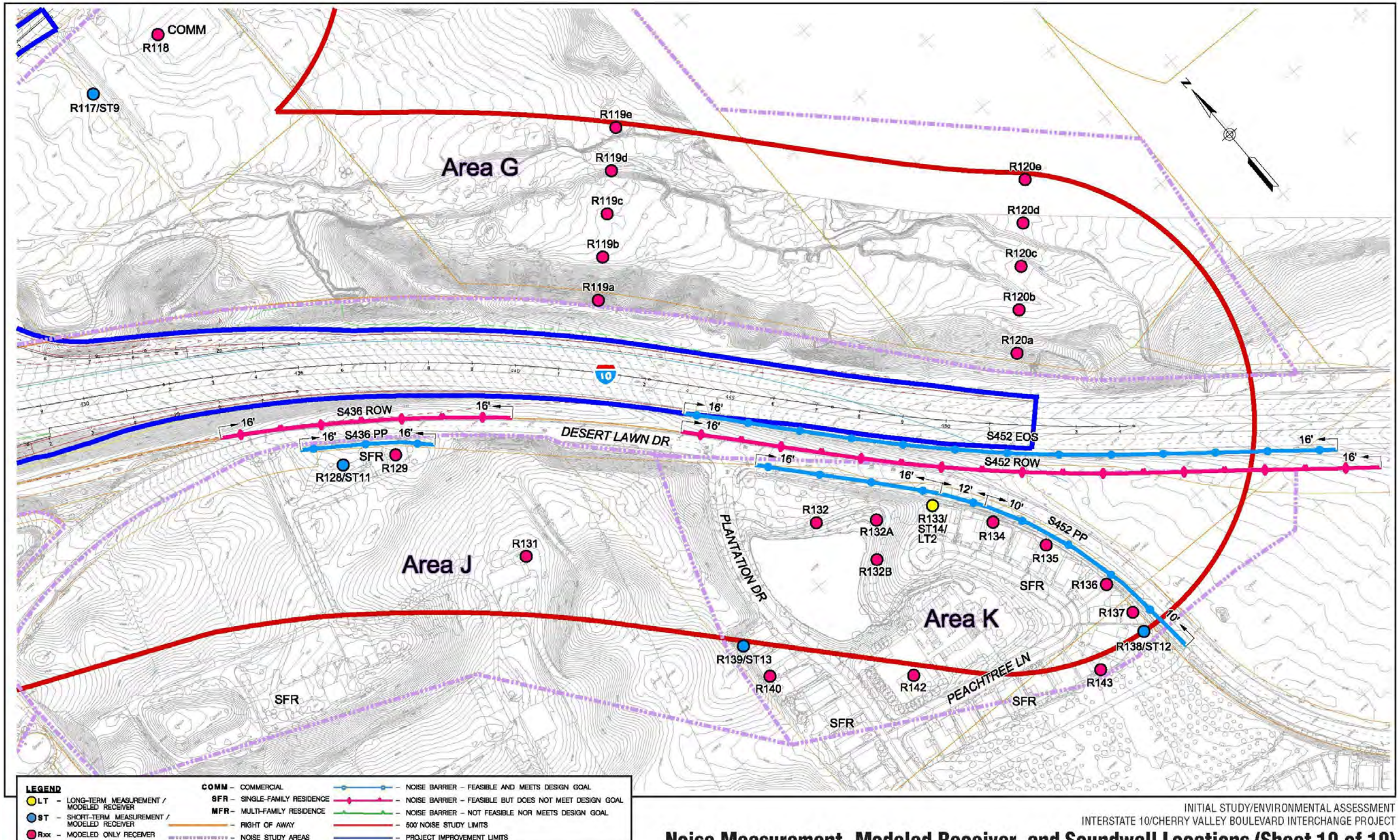
Figure 2.2.7-11 Noise Measurement, Modeled Receiver, and Soundwall Locations (Sheet 9 of 10)



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INTERSTATE 10/CHERRY VALLEY BOULEVARD INTERCHANGE PROJECT

Noise Measurement, Modeled Receiver, and Soundwall Locations (Sheet 10 of 10)

Figure 2.2.7-11

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- Area C: Area C is located north of I-10 and west of Cherry Valley Boulevard. This area contains two single-family residences (Activity Category B) and undeveloped, unpermitted land (Activity Category G). This area is generally flat with one of the residences positioned on an approximate 15-foot high hill. I-10 is approximately the same elevation relative to these land uses. There are no noise barriers located or topographic shielding occurring between the roadway and these land uses.
- Area D: Area D is located south of I-10 and east of Singleton Road. This area contains undeveloped, unpermitted land (Activity Category G). This area is generally flat where I-10 is slightly elevated relative to this area and there are no noise barriers located or topographic shielding occurring between the roadway and this land use.
- Area E: Area E is located south of I-10, west of Cherry Valley Boulevard, and north of Roberts Road. This area contains undeveloped, unpermitted land (Activity Category G). While there are future plans for a potential commercial and residential development, the plans have yet to be permitted. This area contains rolling hills that are elevated relative to I-10. There are no noise barriers located or topographic shielding occurring between the roadway and this land use.
- Area F: Area F is located in the southwest corner of Cherry Valley Boulevard and Roberts Road. This area contains single-family residences (Activity Category B). This area is generally flat and at grade with local roadways in this area. No noise barriers are located, or topographic shielding occurs between the roadways and the land. There is however a development wall along the property lines adjacent to Cherry Valley Boulevard as well as Roberts Road.
- Area G: Area G is located north of I-10 and east of Cherry Valley Boulevard. This area contains a commercial establishment with an outdoor seating area (Activity Category E) and undeveloped, unpermitted land (Activity Category G). This area is generally flat with rolling hills located adjacent to I-10 providing some shielding of the land further north. No noise barriers are located between the roadway and these land uses.
- Area H: Area H is located south of I-10 and east of Cherry Valley Boulevard. This area contains commercial establishments with and without outdoor use areas (Activity Category E) as well as retail facilities (Activity Category F). This area is generally flat where I-10 is slightly depressed compared to the land. No noise barrier is located, or topographic shielding occurs between the roadway and the commercial/retail land uses.
- Area I: Area I is located south of I-10, east of Cherry Valley Boulevard, and south of Desert Lawn Drive. This area contains single-family residences (Activity Category B). This area is generally flat and at grade with local roadways in this area. No noise barriers are located, or topographic shielding occurs between the roadways and the residential land use. There is however a development wall along the property lines adjacent to Desert Lawn Drive as well as the western property line.
- Area J: Area J is located south of I-10, east of Cherry Valley Boulevard, and south of Desert Lawn Drive. This area contains single-family residences (Activity Category B). This area is generally flat with the eastern end of area depressed in relation to Desert Lawn Drive. The land is elevated relative to I-10 in this area. There are no noise

barriers located or topographic shielding occurring between the roadway and the residential land use.

- Area K: Area K is located south of I-10 and at the southeast corner of Desert Lawn Drive and Plantation Drive. This area contains single-family residences (Activity Category B). This area is generally flat where I-10 is at grade relative to this area. No noise barriers are located between the roadways and the residential land use. There is however an approximate four-foot tall berm between the residences and Desert Lawn Drive.

Short-Term Monitoring

Short-term noise measurements were conducted at 15 locations between September 1st through 3rd and on September 15th, 2021. Specific measurement sites were chosen to be representative of acoustically distinct areas, based on their relationship to the I-10 and Cherry Valley Boulevard facilities and the varying topographic features between the areas and the roadways. Measurements occurred for in 10-minute intervals. These measurements were taken during daytime hours when traffic was free flowing. Locations of each Activity Category can be viewed in Figures 2.2.7-2 to 2.2.7-11.

Table 2.2.7-2, Short-Term Noise Measurement Results, summarizes the results of the short-term noise monitoring conducted in the project area. All 15 short-term measurements were conducted for the purpose of calibrating the TNM 2.5 computer noise model, which was then used to evaluate the existing noise environment. Calibration sites were chosen for the major roadway segments affected by the proposed project that were representative of receiver locations. The traffic volumes were recorded with a video camera, and highway traffic speeds were recorded with a radar gun. Traffic counts were tabulated according to five vehicle types: automobiles, medium trucks (two-axle with six-tires), heavy trucks (three or more axle), buses, and motorcycles. As a general rule, the noise model is considered to be calibrated if the field measured noise levels versus the modeled noise levels (using field-collected traffic data) are less than 3 dB of each other. If differences are 3 dB or higher, refinement of the noise model is performed until there is agreement between the two values. If, after thorough reevaluation, calibration still cannot be achieved due to complex topography or other unusual circumstances, then a calibration constant is added such that the measured versus modeled values agree before any predictions can be made with the model. As shown in Table 2.2.7-4, Noise Model Calibration Results, short-term measurements did not result in noise level differences that were greater than 3 dB. As such, calibration adjustments were not required.

Table 2.2.7-2: Short-Term Noise Measurement Results

Site Number	Street Address, City	Area	Land Use	Activity Category/ (NAC)	Meter Location	Measurement Dates	Start Time	Measured L_{eq}(h), dBA[4]
ST1	9950 Calimesa Blvd., Calimesa	A	SFR	B (67)	Back Yard	9/03/2020	9:50	71
ST1	9950 Calimesa Blvd., Calimesa	A	SFR	B (67)	Back Yard	9/03/2020	10:00	72

Site Number	Street Address, City	Area	Land Use	Activity Category/ (NAC)	Meter Location	Measurement Dates	Start Time	Measured $L_{eq}(h)$, dBA[4]
ST2	10320 Calimesa Blvd., Unit 91, Calimesa	B	MH	B (67)	Side Yard	9/01/2020	11:10	69
ST2	10320 Calimesa Blvd., Unit 91, Calimesa	B	MH	B (67)	Side Yard	9/01/2020	11:20	69
ST3	10320 Calimesa Blvd., Unit 2, Calimesa	B	MH	B (67)	Back Yard	9/01/2020	11:10	63
ST3	10320 Calimesa Blvd., Unit 2, Calimesa	B	MH	B (67)	Back Yard	9/01/2020	11:20	63
ST4	10400 Calimesa Blvd., Calimesa	C	SFR	B (67)	Back Yard	9/01/2020	10:30	58
ST4	10400 Calimesa Blvd., Calimesa	C	SFR	B (67)	Back Yard	9/01/2020	10:40	58
ST5	10410 Roberts Rd., Calimesa	D	COM	E (72)	Empty Lot	9/15/2020	9:30	64
ST5	10410 Roberts Rd., Calimesa	D	COM	E (72)	Empty Lot	9/15/2020	9:40	64
ST6	Old Roberts Rd., Calimesa	E	UND	G (--)	Empty Lot	9/15/2020	9:30	74
ST6	Old Roberts Rd., Calimesa	E	UND	G (--)	Empty Lot	9/15/2020	9:40	73
ST7	1076 Poinsettia Circle, Calimesa	F	SFR	B (67)	Back Yard	09/03/2020	10:00	56
ST7	1076 Poinsettia Circle, Calimesa	F	SFR	B (67)	Back Yard	09/03/2020	11:00	55
ST8	36240 Cherry Creek Rd., Calimesa	C	SFR	B (67)	Back Yard	9/03/2020	11:50	60
ST8	36240 Cherry Creek Rd., Calimesa	C	SFR	B (67)	Back Yard	9/03/2020	12:00	59
ST9	36233 Cherry Valley Blvd., Calimesa	G	UND	G (--)	Empty Lot	9/02/2020	13:20	63
ST9	36233 Cherry Valley Blvd., Calimesa	G	UND	G (--)	Empty Lot	9/02/2020	13:30	63
ST10	1180 Raven Ct., Calimesa	I	SFR	B (67)	Back Yard	9/02/2020	11:40	52
ST10	1180 Raven Ct., Calimesa	I	SFR	B (67)	Back Yard	9/02/2020	12:00	52

Site Number	Street Address, City	Area	Land Use	Activity Category/ (NAC)	Meter Location	Measurement Dates	Start Time	Measured $L_{eq}(h)$, dBA[4]
ST11	701 Desert Lawn Dr., Calimesa	J	SFR	B (67)	Back Yard	9/02/2020	11:40	60
ST11	701 Desert Lawn Dr., Calimesa	J	SFR	B (67)	Back Yard	9/02/2020	12:00	60
ST12	17 Peachtree Lane, Calimesa	K	SFR	B (67)	Back Yard	9/02/2020	10:20	53
ST12	17 Peachtree Lane, Calimesa	K	SFR	B (67)	Back Yard	9/02/2020	10:40	52
ST13	1 Plantation, Calimesa	K	SFR	B (67)	Back Yard	9/02/2020	10:20	56
ST13	1 Plantation, Calimesa	K	SFR	B (67)	Back Yard	9/02/2020	10:40	55
ST14	25 Peachtree Lane, Calimesa	K	SFR	B (67)	Back Yard	9/02/2020	10:20	68
ST14	25 Peachtree Lane, Calimesa	K	SFR	B (67)	Back Yard	9/02/2020	10:40	66
ST15	1012 Cherry Valley Blvd, Calimesa	H	COM	E (72)	Parking Lot	9/02/2020	14:00	56
ST15	1012 Cherry Valley Blvd, Calimesa	H	COM	E (72)	Parking Lot	9/02/2020	14:10	56

Notes: 1. ST – Short-Term Measurements.
2. Land Use: SFR – single-family residence; MH – mobile home, COM – commercial; UND – undeveloped land.
3. Measurement duration is 10 minutes.
4. dBA-A-weighted decibels.
Source: Parsons Corporation, Noise Study Report-Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (April 2021).

Long-Term Monitoring

Long-term noise measurements were conducted at two locations for over 24-hour durations between September 1st and 2nd, 2020 to observe hourly noise distribution. Locations of each measurement are shown in Figures 2.2.7-2 to 2.2.7-11. Table 2.2.7-3, Long-Term Noise Measurement Results, summarizes the long-term monitoring results and includes the addresses and land use types of each monitoring location.

Table 2.2.7-3: Long-Term Noise Measurement Results

Site Number[1]	Street Address, City	Area	Land Use[2]	Activity Category/ (NAC)	Meter Location	Measurement Dates	Start Time	Duration (Hours)	Measured Worst-Hour L_{eq}(h), dBA[3]	Peak-Hour Time
LT1	10320 Calimesa Blvd, Unit 2, Calimesa	B	MH	B (67)	Back Yard	9/01/2020 – 9/02/2020	9:20	30	69	06:00
LT2	82378 Crest Ave, Indio	K	SFR	B (67)	Back Yard	9/01/2020 – 9/02/2020	8:51	31	70	06:00

Notes: 1. LT – Long-Term Measurements.
2. Land Use: SFR – single-family residence.
3. Measured Worst Hour– Measured Noise Levels (in dBA) during peak hour traffic.
Source: Parsons Corporation, Noise Study Report-Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (April 2021)

Table 2.2.7-4: Noise Model Calibration Results

Site Number	Noise Study Area[4]	Date	Start Time	Noise Levels, L_{eq} (h) dBA (Measured)	Noise Levels, L_{eq} (h) dBA (Modeled)	Measured Minus Modeled, dB	Applied Adjustment[2], dB
ST1	A	9/03/20	9:50	71	69	2	--
ST2	B	9/01/20	11:10	69	70	-1	--
ST3	B	9/01/20	11:10	63	65	-2	--
ST4	C	9/01/20	10:30	58	61	-3	--
ST5	D	9/15/20	9:40	64	67	-3	--
ST6	E	9/15/20	9:40	73	71	2	--
ST7	F	9/03/20	11:00	55	54	1	--
ST8	C	9/03/20	11:50	60	60	0	--
ST9	G	9/02/20	13:20	63	62	1	--
ST10	I	9/02/20	12:00	52	55	-3	--
ST11	J	9/02/20	12:00	60	63	-3	--
ST12	K	9/02/20	10:20	53	56	-3	--
ST13	K	9/02/20	10:20	56	67	-1	--
ST14	K	9/02/20	10:20	68	68	0	--
ST15	H	9/02/20	14:10	56	55	1	--

Notes: 1. Measured noise levels were measured for a period of 10 minutes.
2. Adjustment factor (K-Factor) is applied to receptors represented by measurement site when deviation is greater than +/- 3 dB. No adjustments are required.
3. ST–Short Term Measurements.
4. Noise Study Areas can be viewed in Figures 2.2.7-2 through 2.2.7-11.
Source: Parsons Corporation, Noise Study Report-Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (April 2021).

Environmental Consequences

Temporary Impacts

No-Build Alternative

Project improvements and associated construction activities would not occur under the No-Build Alternative; therefore, the No-Build Alternative would not result in temporary noise impacts associated with the project.

Build Alternatives 3 and 4

Short-term noise would result from the construction activities that may intermittently dominate the noise environment in the immediate area of construction. Table 2.2.7-5 summarizes noise levels produced by construction equipment commonly used on roadway construction projects. As shown, equipment involved in construction is expected to generate noise levels ranging from 80 to 89 dBA at a distance of 50 feet. Noise produced by construction equipment would be reduced over distance at a rate of approximately 6 dB per doubling of distance.

Table 2.2.7-5: Construction Equipment Noise

Equipment	Maximum Noise Level (dBA)
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82

Source: Parsons Corporation, Noise Study Report-Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (April 2021).

Construction activities associated with Build Alternatives 3 and 4 could expose residential, commercial, and undeveloped uses to temporary noise levels of up to approximately 89 dBA. However, construction-related noise associated with Build Alternatives 3 and 4 would be temporary and would cease upon project completion. Additionally, construction would comply with the Caltrans Standard Specification Section 14-8.02, which would require noise levels from construction activities to not exceed 86 dBA L_{max} at 50 feet from 9 PM to 6 AM. Under Caltrans Standard Specification Section 14-8.02, combustion engines would be equipped with appropriate mufflers to minimize noise generation. By adhering to Caltrans Standard Specifications, temporary noise impacts would not result in adverse effects in this regard.

Permanent Effects

The project is considered a Type I project under 23 CFR 772, as it entails 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, which changes either the horizontal or vertical alignment or increases the number of through-traffic lanes.” Type I projects are required to consider noise abatement measures if forecasted traffic volumes would result in a substantial increase in noise levels for sensitive land uses. Level of service (LOS) C and design year 2045 forecasted traffic volumes were used to predict traffic noise levels and analyze noise impacts at receivers located within the project area.

To determine traffic-related noise associated with the project, traffic noise modeling analysis was conducted. Future noise levels were modeled and analyzed for both the existing and design-year with-project conditions under Build Alternatives 3 and 4. Noise levels were analyzed at the following Build Alternative locations along roadways in the study area: edge of shoulder (EOS) of the roadway, within right of way (ROW), and on private property under existing conditions (2019) and design year (2045) conditions. The project would result in a traffic noise impact if either the traffic noise level at a sensitive receiver location is predicted to "approach or exceed" the established NAC for the sensitive receiver's Activity Category, or if the predicted traffic noise level is 12 dBA or more than the NAC. Traffic noise modeling analysis was developed to determine the traffic-related noise attributed to the project for the No-Build and Build Alternatives using TNM 2.5 computer modeling. Location of the sensitive receivers are shown in Figures 2.2.7-1 to 2.2.7-10 above, and the results of this analysis are presented in Tables 2.2.7-6 to 2.2.7-11.

No-Build Alternative

Under the No-Build Alternative, the I-10/Cherry Valley Boulevard improvements would not occur; however, surrounding planned projects would continue to be developed. For each land use within the project area (single-family residential, mobile homes, commercial, and undeveloped uses), the predicted design-year traffic noise levels under the No-Build Alternative are compared to the predicted design-year (2045) conditions without the project using additional sensitive receivers to determine if a substantial noise increase would occur. The results of this analysis are presented in Tables 2.2.7-6 to 2.2.7-11. Single-family residential uses are considered to be Category B land uses, and are located in outdoor activity areas A, C, F, I, J, and K of the project area. The NAC for Category B land uses under these areas is 67 dBA Leq. Under the No Build Alternative, the predicted design year traffic noise levels with the project ranges from 45 to 71 dBA and would exceed the NAC of 67 dBA Leq. As such, there would be a substantial increase in noise for this land use under the No-Build Alternative.

- Mobile Homes are considered to be Category B land uses, and are located in outdoor activity Aarea B of the project area. Under the No Build Alternative, the predicted design year traffic noise levels with the project ranges from 61 to 72 dBA Leq and would exceed the NAC of 67 dBA Leq. As such, there would be a substantial increase in noise for this land use.
- Commercial uses are considered to be Category E land uses, and are located in outdoor activity areas D, G, and H of the project area. The NAC for Category E land uses under these areas is 72 dBA Leq. Under the No Build Alternative, the predicted design year traffic noise levels with the project ranges from 53 to 65 dBA Leq and would not approach or exceed the NAC of 67 dBA Leq or result in a substantial increase in noise.
- Undeveloped land is considered to be a Category G land use. Properties are located in outdoor activity areas D, E, and G of the project area. Under 23 CFR 772, there is

no noise abatement criteria for this category. Under the No Build Alternative, the predicted design year traffic noise levels with the project ranges from 62 to 74 dBA. As such, consideration of noise abatement is not required for this land use.

Build Alternatives 3 and 4

Under Build Alternatives 3 and 4, the I-10/Cherry Valley Boulevard interchange would be reconfigured into either a diverging diamond interchange (Build Alternative 3) or a partial cloverleaf configuration (Build Alternative 4). Both Build Alternatives would additionally involve widening Cherry Valley Boulevard into a two-lane roadway. Similarly, to the No-Build Alternative, the predicted design-year traffic noise levels under both Build Alternatives 3 and 4 are compared to the predicted design-year (2045) conditions without the project using additional sensitive receivers to determine if a substantial noise increase would occur. Additionally, future design-year noise levels on adjacent properties at various distances from the edge of traveled way (ETW) where noise levels would "approach" (i.e., are within one dB of) or exceed the applicable NAC for properties adjacent to the project limits. Location of the sensitive receivers are shown in Figures 2.2.7-2 to 2.2.7-11 above, and the results of this analysis are presented in Tables 2.2.7-6 to 2.2.7-11.

Build Alternative 3

Area A: The traffic noise modeling results in Tables 2.2.7-6 through 2.2.7-8 indicate traffic noise levels at the single-family residence (Category B) are predicted to be in the range of 71 to 72 dBA L_{eq} in the design year under Build Alternative 3. For of Category B land uses in this area that are adjacent to the project limits, noise levels would approach the NAC within 200 to 600 feet from the ETW. The results also indicate that the increase in noise between existing conditions and the design year would range from 2 to 3 dB. There is no noise abatement criterion for Category G land uses and the Build Alternative would not result in a substantial increase in noise. However, the predicted noise levels in the design year would exceed the required NAC of 67 dBA L_{eq} for Category B land uses and traffic noise impacts are expected to occur at the residence. As such, noise abatement is considered for this area.

Area B: The traffic noise modeling results in Tables 2.2.7-6 through 2.2.7-8 indicate that traffic noise levels at the mobile homes (Category B) in Area B are predicted to be in the range of 60 to 74 dBA L_{eq} in the design year under Alternative 3. The results also indicate that the noise between existing conditions and the design year would increase by 1 to 3 dB. The Build Alternative would not result in a substantial increase in noise. However, the predicted noise levels in the design year would approach and exceed the NAC of 67 dBA L_{eq} for Category B land uses, traffic noise impacts are predicted in Area B. Therefore, noise abatement is considered for this area.

Area C: The traffic noise modeling results in Tables 2.2.7-6 through 2.2.7-8 indicate that traffic noise levels at the single-family residences (Category B) in Area C would be in the range of 62 to 63 dBA L_{eq} at the residences the design year under Build Alternative 3. For Category B land uses in this area that are adjacent to the project limits, noise levels would approach the NAC at a range of 200 to 600 feet from the ETW. The results also indicate that the increase in noise between existing conditions and the design year in undeveloped lands would be 2dB. There is no noise abatement criterion for Category G land uses and the Build Alternative would not result in a substantial increase in noise. Lastly, the predicted noise levels in the design year exceed the required NAC of 67 dBA L_{eq} for single family residences in the area. Therefore, no traffic noise impacts are predicted in Area C.

Area D: The traffic noise modeling results in Tables 2.2.7-6 through 2.2.7-8 indicate that traffic noise levels at the commercial land uses (Category C) in Area D is predicted to be 65 dBA L_{eq} in the design year under Build Alternative 3. Noise levels would approach the NAC of Category C at a range of 200 to 500 feet from the ETW. The results also indicate that the increase in noise between existing conditions and the design year in undeveloped lands would be 2 dB. There is no noise abatement criterion for Activity Category G and the Build Alternative would not result in a substantial increase in noise, nor would the predicted noise levels in the design year exceed the required NAC of 67 dBA L_{eq} for single family residences in the area. Therefore, no traffic noise impacts are predicted in Area D.

Area E: The traffic noise modeling results in Tables 2.2.7-6 through 2.2.7-8 indicate that traffic noise levels at the undeveloped lands in Area E are predicted to be 74 dBA L_{eq} in the design year under Alternative 3. For Categories B and C land uses adjacent to the project limits, noise levels would approach the NAC at a range of 100 to 700 feet. For Category E land uses adjacent to the project limits, noise levels would approach the NAC at a range between 100 and 200 feet from the ETW. The results also indicate that the increase in noise between existing conditions and the design year is predicted to be 2 dB. There is no noise abatement criterion for Category G land uses, and the Build Alternative would not result in a substantial increase in noise. Therefore, no traffic noise impacts are predicted in Area E.

Area F: The traffic noise modeling results in Tables 2.2.7-6 through 2.2.7-8 indicate that traffic noise levels at the single-family residences in Area F range from 43 to 55 dBA L_{eq} in the design year under Alternative 3. The results also indicate that the increase in noise between existing conditions and the design year is predicted to range between 1 and 9 dB. The large increase in noise in the design year would be due to the substantial increase in traffic volume on Roberts Road. However, the predicted noise levels in the design year would not approach or exceed the NAC of 67 dBA L_{eq} for Category B land uses and a substantial increase in noise would not occur. Therefore, no traffic noise impacts are predicted in Area F.

Area G: The traffic noise modeling results in Tables 2.2.7-6 through 2.2.7-8 indicate that traffic noise levels at a commercial establishment in Area G are predicted to be 64 dBA L_{eq} in the design year under Alternative 3. For Category C land uses adjacent to the Build Alternative limits, noise levels would approach the NAC at a range of 100 to 500 feet from the ETW. The results also indicate that the increase in noise between existing conditions and the design year is predicted to be 2 dB. However, the predicted noise level in the design year would not approach or exceed the NAC of 72 dBA L_{eq} at the commercial establishment, and there is no noise abatement criterion for Category G land uses. Therefore, no traffic noise impacts are predicted in Area G.

Area H: The traffic noise modeling results in Tables 2.2.7-6 through 2.2.7-8 indicate that traffic noise levels at the commercial establishments in Area H predicted to be in the range of 54 to 60 dBA L_{eq} in the design year under Build Alternative 3. The results also indicate that the increase in noise between existing conditions and the design year is predicted to range from 2 to 4 dB. The predicted noise levels in the design year would not approach or exceed the NAC of 72 dBA L_{eq} for Category E land uses and a substantial increase in noise would not occur. As such, no traffic noise impacts are predicted in Area H.

Area I: The traffic noise modeling results in Tables 2.2.7-6 through 2.2.7-8 indicate that traffic noise levels at one single-family residence in Area I are predicted to be in the range of 54 to 56 dBA L_{eq} in the design year under Build Alternative 3. The results also indicate that the increase in noise between existing conditions and the design year is predicted to range between 0 and 1 dB. The decrease in traffic noise levels between no-build conditions and build conditions is due to a decrease in traffic volumes on Desert Lawn Drive. The predicted noise levels in the design year would not approach or exceed the NAC of 67 dBA L_{eq} for Category B land uses and a substantial increase in noise would not occur. As such, no traffic noise impacts are predicted in Area I.

Area J: The traffic noise modeling results in Tables 2.2.7-6 through 2.2.7-8 indicate that traffic noise levels at the single-family residences in Area J are predicted to be in the range of 60 to 71 dBA L_{eq} in the design year under Alternative 3. The results also indicate that the increase in noise between existing conditions and the design year is predicted to range from 2 to 3 dB. The Build Alternative would not result in a substantial increase in noise; however, the predicted noise levels in the design year would approach and exceed the NAC of 67 dBA L_{eq} for Category B and Category C land uses, traffic noise impacts are predicted in Area K. Therefore, noise abatement is considered for this area.

Area K: The traffic noise modeling results in Tables 2.2.7-6 through 2.2.7-8 indicate that traffic noise levels at the single-family residences and the Planation by the Lake in Area K are predicted to be in the range of 55 to 70 dBA L_{eq} in the design year under Build Alternative 3. The results also indicate that the increase in noise between existing conditions and the design year is predicted to range from 1 to 4 dB. The Build Alternative would not result in a substantial increase in noise. However, the predicted noise levels in the design year are would approach and exceed the NAC of 67 dBA L_{eq} for Category B and Category C land uses, traffic noise impacts are predicted in Area K. Therefore, noise abatement is considered for this area.

Build Alternative 4

Area A: The traffic noise modeling results in Tables 2.2.7-9 through 2.2.7-11 indicate that traffic noise levels at one single-family residence in Area A are predicted to be in the range of 71 to 72 dBA L_{eq} in the design year under Build Alternative 4. For Category B land uses adjacent to the Build Alternative limits, noise levels would approach the NAC at a range of 400 to 600 feet from the ETW. The results also indicate that the increase in noise between existing conditions and the design year is predicted to range from 2 to 3 dB. While there is no noise abatement criterion for Category G land uses and while the Build Alternative would not result in a substantial increase in noise, the predicted noise levels in the design year would exceed the NAC of 67 dBA L_{eq} for Category B land uses and traffic noise impacts are predicted to occur at the residence. Therefore, noise abatement is considered for this area.

Area B: The traffic noise modeling results in Tables 2.2.7-9 and 2.2.7-11 indicate traffic noise levels at the mobile homes in Area B are predicted to be in the range of 60 to 74 dBA L_{eq} in the design year under Build Alternative 4. The results also indicate that the noise between existing conditions and the design year is predicted to increase by 1 to 3 dB. The Build Alternative would not result in a substantial increase in noise. However, the predicted noise levels in the design year are predicted to approach and exceed the NAC of 67 dBA L_{eq} for Category B land uses, traffic noise impacts are predicted in Area B. Therefore, noise abatement is considered for this area.

Area C: The traffic noise modeling results in Tables 2.2.7-9 and 2.2.7-11 indicate traffic noise levels at the single-family residence in Area C are predicted to be 62 dBA L_{eq} at the residence in the design year under Build Alternative 4. For Category B land uses adjacent to the Build Alternative limits, noise levels would approach the NAC at a range of 300 to 600 feet from the ETW. The results also indicate that the increase in noise between existing conditions and the design year is predicted to be 2 dB. The predicted noise levels in the design year are not predicted to approach or exceed the NAC of 67 dBA L_{eq} for Category B land uses and there is no noise abatement criterion for Category G land uses Therefore, no traffic noise impacts are predicted in Area C.

Area D: The traffic noise modeling results in Tables 2.2.7-9 and 2.2.7-11 indicate traffic noise levels at the commercial establishment in Area D are predicted to be 65 dBA L_{eq} in the design year under Build Alternative 4. For Category C land uses adjacent to the Build Alternative limits, noise levels would approach the NAC at a range of 200 to 500 feet. For Category E land uses adjacent to the project site, noise levels would approach the NAC at a range between 100 and 300 feet from the ETW. The results also indicate that the increase in noise between existing conditions and the design year is predicted to be 2 dB. The predicted noise levels in the design year would not approach or exceed the NAC of 67 dBA L_{eq} for Category E land uses and there is no noise abatement criterion for Category G land uses Therefore, no traffic noise impacts are predicted in Area C.

Area E: The traffic noise modeling results in Tables 2.2.7-9 and 2.2.7-11 indicate traffic noise levels at the noise measurement site located within undeveloped lands (Activity Category G) in Area E is predicted to be 74 dBA L_{eq} in the design year under Build Alternative 3. For Categories B and C land uses adjacent to the project limits, noise levels would approach the NAC at a range of 100 to 700 feet. For Category E land uses adjacent to the project limits, noise levels would approach the NAC at a range between 100 and 200 feet from the ETW. The results also indicate that the increase in noise between existing conditions and the design year is would 2 dB. There is no noise abatement criterion for Activity Category G, and the Build Alternative would not result in a substantial increase in noise. Therefore, no traffic noise impacts are predicted to occur in Area E.

Area F: The traffic noise modeling results in Tables 2.2.7-9 and 2.2.7-11 indicate traffic noise levels at the single-family residences in Area F are predicted to be in the range of 45 to 59 dBA L_{eq} in the design year under Alternative 4. The results also indicate that the increase in noise between existing conditions and the design year is predicted to range between 1 and 9 dB. The large increase in noise in the design year is due to the substantial increase in traffic volume on Roberts Road. The predicted noise levels in the design year are not predicted to approach or exceed the NAC of 67 dBA L_{eq} for Category B land uses and a substantial increase in noise would not occur. As such, no traffic noise impacts are predicted in Area F.

Area G: The traffic noise modeling results in Tables 2.2.7-9 and 2.2.7-11 indicate traffic noise levels a commercial establishment in Area D are predicted to be 64 dBA L_{eq} in the design year under Build Alternative 4. For Category C land uses adjacent to the project limits, noise levels would approach the NAC at a range of 100 to 500 feet from the ETW. The results also indicate that the increase in noise between existing conditions and the design year is predicted to be 2 dB. The predicted noise level in the design year is not predicted to approach or exceed the NAC of 72 dBA L_{eq} at the commercial establishment and there is no noise abatement criterion for Category G land uses. Therefore, no traffic noise impacts are predicted to occur in Area G.

Area H: The traffic noise modeling results in Tables 2.2.7-9 and 2.2.7-11 indicate traffic noise levels the commercial establishments in Area H are predicted to be in the range of 54 to 60 dBA. L_{eq} in the design year under Build Alternative 4. The results also indicate that the increase in noise between existing conditions and the design year is predicted to range from 2 to 4 dB. The predicted noise levels in the design year are not predicted to approach or exceed the NAC of 72 dBA L_{eq} for Category E land uses and a substantial increase in noise would not occur. As such, no traffic noise impacts are predicted in Area H.

Area I: The traffic noise modeling results in Tables 2.2.7-9 and 2.2.7-11 indicate traffic noise levels at the single-family residences in Area I is predicted to be in the range of 54 to 56 dBA L_{eq} in the design year under Build Alternative 4. The results also indicate that the increase in noise between existing conditions and the design year is predicted to range between 0 and 1 dB. The decrease in traffic noise levels between no-build conditions and build conditions is due to a decrease in traffic volumes on Desert Lawn Drive. The predicted noise levels in the design year are not predicted to approach or exceed the NAC of 67 dBA L_{eq} for Category B land uses, and a substantial increase in noise would not occur. As such, no traffic noise impacts are predicted in Area I.

Area J: The traffic noise modeling results in Tables 2.2.7-9 and 2.2.7-11 indicate traffic noise levels at the single-family residences in Area J are predicted to be in the range of 60 to 71 dBA L_{eq} in the design year under Build Alternative 4. The results also indicate that the increase in noise between existing conditions and the design year is predicted to range from 2 to 3 dB. The Build Alternative would not result in a substantial increase in noise, the predicted noise levels in the design year are predicted to exceed the NAC of 67 dBA L_{eq} for Category B land uses and traffic noise impacts are predicted to occur at one of the residences. Therefore, noise abatement is considered for this area.

Area K: The traffic noise modeling results between Tables 2.2.7-9 through 2.2.7-11 indicate traffic noise levels at the single-family residences in Area K are predicted to be in the range of 55 to 70 dBA L_{eq} in the design year under Build Alternative 4. The results also indicate that the increase in noise between existing conditions and the design year is predicted to range from 1 to 3 dB. The Build Alternative would not result in a substantial increase in noise. However, the predicted noise levels in the design year are predicted to approach and exceed the NAC of 67 dBA L_{eq} for Category B and Category C land uses, traffic noise impacts are predicted in Area K. Therefore, noise abatement is considered for this area.

Table 2.2.7-6: Predicted Future Noise Levels and Barrier Analysis at Edge of Shoulder – Alternative 3

Study Area	Receiver I.D.	Barrier I.D.	Land Use[2]	Number of Dwelling Units	Existing Noise Level L_{eq}(h) (dBA)[1]	Predicted No-Build Noise Level (dBA)[1]	Predicted No-Build Noise Level with Project (dBA)	Design Year No-Build Noise Level Minus Existing Conditions, dB	Design Year Build Noise Level Minus No-Build Conditions, dB	Activity Category (NAC)	Impact Type[3]
A	R2[5]	S379 EOS	SFR	--	70	71	72	1	1	B (67)	A/E
A	R2A	S379 EOS	SFR	1	68	70	71	2	1	B (67)	A/E
B	R5	S401 EOS	MH	1	71	72	73	1	1	B (67)	A/E
B	R6	S401 EOS	MH	1	72	73	74	1	1	B (67)	A/E
B	R7	S401 EOS	MH	2	72	73	74	1	1	B (67)	A/E
B	R8	S401 EOS	MH	1	73	74	74	1	0	B (67)	A/E
B	R9	S401 EOS	MH	1	66	67	67	1	0	B (67)	A/E
B	R10	S401 EOS	MH	1	68	69	69	1	0	B (67)	A/E
B	R11	S401 EOS	MH	1	66	67	69	1	2	B (67)	A/E
B	R12	S401 EOS	MH	1	66	67	69	1	2	B (67)	A/E
B	R13	S401 EOS	MH	1	65	66	67	1	1	B (67)	A/E
B	R14	S401 EOS	MH	1	65	67	67	2	0	B (67)	A/E
B	R15	S401 EOS	MH	2	64	66	66	2	0	B (67)	A/E
B	R16	S401 EOS	MH	2	62	64	65	2	1	B (67)	NONE
B	R17	S401 EOS	MH	2	60	62	62	2	0	B (67)	NONE
B	R18	S401 EOS	MH	2	62	64	64	2	0	B (67)	NONE
B	R19	S401 EOS	MH	2	63	64	64	2	-1	B (67)	NONE
B	R20	S401 EOS	MH	2	62	63	64	1	1	B (67)	NONE
B	R21	S401 EOS	MH	2	58	60	60	2	0	B (67)	NONE
B	R22	S401 EOS	MH	2	58	59	60	1	1	B (67)	NONE
B	R23	S401 EOS	MH	2	61	62	63	1	1	B (67)	NONE
B	R24	S401 EOS	MH	2	63	65	65	2	0	B (67)	NONE
B	R25	S401 EOS	MH	1	60	62	62	2	0	B (67)	NONE
B	R26	S401 EOS	MH	1	58	60	61	2	1	B (67)	NONE
B	R27	S401 EOS	MH	1	69	59	60	1	1	B (67)	NONE
B	R28	S401 EOS	MH	1	60	61	62	1	1	B (67)	NONE
B	R29	S401 EOS	MH	1	63	64	64	1	0	B (67)	NONE
C	R32	--	SFR	1	61	63	63	2	0	B (67)	NONE
C	R33	--	SFR	1	60	62	62	2	0	B (67)	NONE

Study Area	Receiver I.D.	Barrier I.D.	Land Use[2]	Number of Dwelling Units	Existing Noise Level L_{eq}(h) (dBA)[1]	Predicted No-Build Noise Level (dBA)[1]	Predicted No-Build Noise Level with Project (dBA)	Design Year No-Build Noise Level Minus Existing Conditions, dB	Design Year Build Noise Level Minus No-Build Conditions, dB	Activity Category (NAC)	Impact Type[3]
D	R36	--	UND	1	67	68	69	1	1	G (--)	NONE
D	R37	--	COM	1	63	64	65	1	1	E (72)	NONE
E	R40	--	UND	1	72	74	74	2	0	G (--)	NONE
F	R102	--	SFR	1	49	57	57	8	0	B (67)	NONE
F	R103	--	SFR	2	49	58	58	9	0	B (67)	NONE
F	R104	--	SFR	2	49	57	57	8	0	B (67)	NONE
F	R105	--	SFR	2	49	57	57	8	0	B (67)	NONE
F	R106	--	SFR	2	51	57	58	6	1	B (67)	NONE
F	R107	--	SFR	1	55	58	59	3	1	B (67)	NONE
F	R108	--	SFR	1	55	57	57	2	0	B (67)	NONE
F	R109	--	SFR	2	54	56	56	2	0	B (67)	NONE
F	R110	--	SFR	2	52	54	55	2	1	B (67)	NONE
F	R111	--	SFR	1	52	54	54	2	0	B (67)	NONE
F	R112	--	SFR	1	53	54	54	1	0	B (67)	NONE
F	R113	--	SFR	4	43	45	45	2	0	B (67)	NONE
F	R114	--	SFR	1	47	50	51	3	1	B (67)	NONE
F	R115	--	SFR	3	45	47	47	2	0	B (67)	NONE
G	R117	--	UND	1	62	63	65	1	2	G (--)	NONE
G	R118	--	COM	1	62	62	64	0	2	E (72)	NONE
H	R121[4]	--	COM	1	56	58	60	2	2	E (72)	NONE
H	R122[4]	--	COM	1	52	53	54	11	1	E (72)	NONE
I	R123	--	SFR	2	53	55	54	2	-1	B (67)	NONE
I	R124	--	SFR	2	54	55	55	1	0	B (67)	NONE
I	R125	--	SFR	2	54	56	55	2	-1	B (67)	NONE
I	R126	--	SFR	2	56	57	56	1	-1	B (67)	NONE
I	R127	--	SFR	1	55	57	56	2	-1	B (67)	NONE
J	R128[5]	EOS	SFR	--	63	65	66	2	1	B (67)	NONE
J	R129	EOS	SFR	1	69	70	71	1	1	B (67)	A/E
J	R131		SFR	1	58	60	60	2	0	B (67)	NONE
K	R132	S452	REC	1	65	67	67	2	0	B (67)	NONE
K	R132A	S452	REC	1	63	65	65	2	0	B (67)	A/E

Study Area	Receiver I.D.	Barrier I.D.	Land Use[2]	Number of Dwelling Units	Existing Noise Level L_{eq} (h) (dBA)[1]	Predicted No-Build Noise Level (dBA)[1]	Predicted No-Build Noise Level with Project (dBA)	Design Year No-Build Noise Level Minus Existing Conditions, dB	Design Year Build Noise Level Minus No-Build Conditions, dB	Activity Category (NAC)	Impact Type[3]
K	R132B	S452	REC	1	63	66	66	3	0	B (67)	NONE
K	R133	S452	SFR	1	68	70	70	2	0	B (67)	A/E
K	R134	S452	SFR	2	68	70	70	2	0	B (67)	A/E
K	R135	S452	SFR	3	67	69	69	2	0	B (67)	A/E
K	R136	S452	SFR	1	65	66	66	1	0	B (67)	A/E
K	R137	S452	SFR	1	59	60	61	1	1	B (67)	NONE
K	R138	S452	SFR	1	57	59	59	2	0	B (67)	NONE
K	R139	S452	SFR	1	57	60	60	3	0	B (67)	NONE
K	R140	S452	SFR	2	57	59	59	2	0	B (67)	NONE
K	R142	S452	SFR	1	53	55	55	2	0	B (67)	NONE
K	R143	S452	SFR	1	56	58	60	2	2	B (67)	NONE

Notes: 1. Leq(h) are A-weighted, peak hour noise levels in decibels.
2 Land Use: SFR – single-family residence; MH – Mobile Home, REC - Recreational; COM – Commercial.
3. S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
4. There are no outdoor use areas at this commercial land use.
5. This receiver was a monitoring site for noise model calibration purposes and was not located at the outdoor use area; however, this site is representative of adjacent outdoor use area.
6. This receiver was a monitoring site for noise model calibration purposes and would not represent a noise sensitive site under future conditions.
Source: Parsons Corporation, Noise Study Report-Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (April 2021).

Table 2.2.7-7: Predicted Future Noise Levels and Barrier Analysis at Right-of-Way – Alternative 3

Study Area	Receiver I.D.	Barrier I.D.	Land Use[2]	Number of Dwelling Units	Existing Noise Level L_{eq}(h) (dBA)[1]	Predicted No- Build Noise Level (dBA)[1]	Predicted No-Build Noise Level with Project (dBA)	Design Year No-Build Noise Level Minus Existing Conditions, dB	Design Year Build Noise Level Minus No-Build Conditions, dB	Activity Category (NAC)	Impact Type[3]
A	R2[5]	S379 EOS	SFR	--	70	71	72	1	1	B (67)	A/E
A	R2A	S379 ROW	SFR	1	68	70	71	2	1	B (67)	A/E
B	R5	S401 ROW	MH	1	71	72	73	1	1	B (67)	A/E
B	R6	S401 ROW	MH	1	72	73	74	1	1	B (67)	A/E
B	R7	S401 ROW	MH	2	72	73	74	1	1	B (67)	A/E
B	R8	S401 ROW	MH	1	73	774	74	1	0	B (67)	A/E
B	R9	S401 ROW	MH	1	66	67	67	1	0	B (67)	A/E
B	R10	S401 ROW	MH	1	68	69	69	1	0	B (67)	A/E
B	R11	S401 ROW	MH	1	66	67	69	1	2	B (67)	A/E
B	R12	S401 ROW	MH	1	66	67	69	1	2	B (67)	A/E
B	R13	S401 ROW	MH	1	65	66	67	1	1	B (67)	A/E
B	R14	S401 ROW	MH	1	65	67	67	2	0	B (67)	A/E
B	R15	S401 ROW	MH	2	64	66	66	2	0	B (67)	A/E
B	R16	S401 ROW	MH	2	62	64	65	2	1	B (67)	NONE
B	R17	S401 ROW	MH	2	60	62	62	2	0	B (67)	NONE
B	R18	S401 ROW	MH	2	62	64	64	2	0	B (67)	NONE
B	R19	S401 ROW	MH	2	63	65	64	2	-1	B (67)	NONE
B	R20	S401 ROW	MH	2	62	63	64	1	1	B (67)	NONE
B	R21	S401 ROW	MH	2	58	60	60	2	0	B (67)	NONE
B	R22	S401 ROW	MH	2	58	59	60	1	1	B (67)	NONE
B	R23	S401 ROW	MH	2	61	62	63	1	1	B (67)	NONE
B	R24	S401 ROW	MH	2	63	65	65	2	0	B (67)	NONE
B	R25	S401 ROW	MH	1	60	62	62	2	0	B (67)	NONE
B	R26	S401 ROW	MH	1	58	60	61	2	1	B (67)	NONE
B	R27	S401 ROW	MH	1	58	59	60	1	1	B (67)	NONE
B	R28	S401 ROW	MH	1	60	61	62	1	1	B (67)	NONE
B	R29	S401 ROW	MH	1	63	64	64	1	0	B (67)	NONE
C	R32	--	SFR	1	61	63	63	2	0	B (67)	NONE
C	R33	--	SFR	1	60	62	62	2	0	B (67)	NONE

Study Area	Receiver I.D.	Barrier I.D.	Land Use[2]	Number of Dwelling Units	Existing Noise Level L_{eq}(h) (dBA)[1]	Predicted No- Build Noise Level (dBA)[1]	Predicted No-Build Noise Level with Project (dBA)	Design Year No-Build Noise Level Minus Existing Conditions, dB	Design Year Build Noise Level Minus No-Build Conditions, dB	Activity Category (NAC)	Impact Type[3]
D	R36	--	UND	1	67	68	69	1	1	G (--)	NONE
D	R37	--	COM	1	63	64	65	1	1	E (72)	NONE
E	R40	--	UND	1	72	74	74	2	0	G (--)	NONE
F	R102	--	SFR	1	49	57	57	8	0	B (67)	NONE
F	R103	--	SFR	2	49	58	58	9	0	B (67)	NONE
F	R104	--	SFR	2	49	57	57	8	0	B (67)	NONE
F	R105	--	SFR	2	49	57	57	8	0	B (67)	NONE
F	R106	--	SFR	2	51	57	58	6	1	B (67)	NONE
F	R107	--	SFR	1	55	58	59	3	1	B (67)	NONE
F	R108	--	SFR	1	55	57	57	2	0	B (67)	NONE
F	R109	--	SFR	2	54	56	56	2	0	B (67)	NONE
F	R110	--	SFR	2	52	54	55	2	1	B (67)	NONE
F	R111	--	SFR	1	52	54	64	2	0	B (67)	NONE
F	R112	--	SFR	1	53	54	64	1	0	B (67)	NONE
F	R113	--	SFR	4	43	45	45	2	0	B (67)	NONE
F	R114	--	SFR	1	47	50	51	3	1	B (67)	NONE
F	R115	--	SFR	3	45	47	47	2	0	B (67)	NONE
G	R117	--	UND	1	62	63	65	1	2	G (--)	NONE
G	R118	--	COM	1	62	62	64	0	2	E (72)	NONE
H	R121[4]	--	COM	1	56	58	60	2	2	E (72)	NONE
H	R122[4]	--	COM	1	52	53	54	1	1	E (72)	NONE
I	R123	--	SFR	2	53	55	54	2	-1	B (67)	NONE
I	R124	--	SFR	2	54	55	55	1	0	B (67)	NONE
I	R125	--	SFR	2	54	56	55	2	-1	B (67)	NONE
I	R126	--	SFR	2	56	57	56	1	-1	B (67)	NONE
I	R127	--	SFR	1	55	57	56	2	-1	B (67)	NONE
J	R128[5]	ROW	SFR	--	63	65	66	2	0	B (67)	A/E
J	R129	ROW	SFR	1	69	70	71	1	0	B (67)	A/E
J	R131		SFR	1	58	60	60	2	0	B (67)	NONE
K	R132	S452	REC	1	65	67	67	2	0	B (67)	A/E
K	R132A	S452	REC	1	63	65	65	2	0	B (67)	NONE

Study Area	Receiver I.D.	Barrier I.D.	Land Use[2]	Number of Dwelling Units	Existing Noise Level L_{eq}(h) (dBA)[1]	Predicted No- Build Noise Level (dBA)[1]	Predicted No-Build Noise Level with Project (dBA)	Design Year No-Build Noise Level Minus Existing Conditions, dB	Design Year Build Noise Level Minus No-Build Conditions, dB	Activity Category (NAC)	Impact Type[3]
K	R132B	S452	REC	1	63	66	66	3	0	B (67)	A/E
K	R133	S452	SFR	1	68	70	70	2	0	B (67)	A/E
K	R134	S452	SFR	2	68	70	70	2	0	B (67)	A/E
K	R135	S452	SFR	3	67	69	69	2	0	B (67)	A/E
K	R136	S452	SFR	1	65	66	66	1	0	B (67)	A/E
K	R137	S452	SFR	1	59	60	61	1	1	B (67)	NONE
K	R138	S452	SFR	1	57	59	59	2	0	B (67)	NONE
K	R139	S452	SFR	1	57	60	60	3	0	B (67)	NONE
K	R140	S452	SFR	2	57	59	59	2	0	B (67)	NONE
K	R142	S452	SFR	1	53	55	55	2	0	B (67)	NONE
K	R143	S452	SFR	1	56	58	60	2	2	B (67)	NONE

Notes: 1. Leq(h) are A-weighted, peak hour noise levels in decibels.
2 Land Use: SFR – single-family residence; MH – Mobile Home, REC - Recreational; COM – Commercial.
3. S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
4. There are no outdoor use areas at this commercial land use.
5. This receiver was a monitoring site for noise model calibration purposes and was not located at the outdoor use area; however, this site is representative of adjacent outdoor use area.
6. This receiver was a monitoring site for noise model calibration purposes and would not represent a noise sensitive site under future conditions.
Source: Parsons Corporation, Noise Study Report-Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (April 2021).

Table 2.2.7-8: Predicted Future Noise Levels and Barrier Analysis at Private Property – Alternative 3

Study Area	Receiver I.D.	Barrier I.D.	Land Use[2]	Number of Dwelling Units	Existing Noise Level $L_{eq}(h)$ (dBA)[1]	Predicted No- Build Noise Level (dBA)[1]	Predicted No-Build Noise Level with Project (dBA)[1]	Design Year No-Build Noise Level Minus Existing Conditions, dB	Design Year Build Noise Level Minus No-Build Conditions, dB	Activity Category (NAC)	Impact Type[3]
A	R2[5]	S379 PP	SFR	--	70	71	72	1	1	B (67)	A/E
A	R2A	S379 PP	SFR	1	68	70	71	2	1	B (67)	A/E
B	R5	S401 PP	MH	1	71	72	73	1	1	B (67)	A/E
B	R6	S401 PP	MH	1	72	73	74	1	1	B (67)	A/E
B	R7	S401 PP	MH	2	72	73	74	1	1	B (67)	A/E
B	R8	S401 PP	MH	1	73	74	74	1	0	B (67)	A/E
B	R9	S401 PP	MH	1	66	67	67	1	0	B (67)	A/E
B	R10	S401 PP	MH	1	68	69	69	1	0	B (67)	A/E
B	R11	S401 PP	MH	1	66	67	69	1	2	B (67)	A/E
B	R12	S401 PP	MH	1	66	67	69	1	2	B (67)	A/E
B	R13	S401 PP	MH	1	65	66	67	1	1	B (67)	A/E
B	R14	S401 PP	MH	1	65	67	67	2	0	B (67)	A/E
B	R15	S401 PP	MH	2	64	66	66	2	0	B (67)	A/E
B	R16	S401 PP	MH	2	62	64	65	2	1	B (67)	NONE
B	R17	S401 PP	MH	2	60	62	62	2	0	B (67)	NONE
B	R18	S401 PP	MH	2	62	64	64	2	0	B (67)	NONE
B	R19	S401 PP	MH	2	63	65	64	2	-1	B (67)	NONE
B	R20	S401 PP	MH	2	62	63	64	1	1	B (67)	NONE
B	R21	S401 PP	MH	2	58	60	60	2	0	B (67)	NONE
B	R22	S401 PP	MH	2	58	59	60	1	1	B (67)	NONE
B	R23	S401 PP	MH	2	61	62	63	1	1	B (67)	NONE
B	R24	S401 PP	MH	2	63	65	65	2	0	B (67)	NONE
B	R25	S401 PP	MH	1	60	62	62	2	0	B (67)	NONE
B	R26	S401 PP	MH	1	58	60	61	2	1	B (67)	NONE
B	R27	S401 PP	MH	1	58	59	60	1	1	B (67)	NONE
B	R28	S401 PP	MH	1	60	61	62	1	1	B (67)	NONE
B	R29	S401 PP	MH	1	63	64	64	1	0	B (67)	NONE

Study Area	Receiver I.D.	Barrier I.D.	Land Use[2]	Number of Dwelling Units	Existing Noise Level $L_{eq}(h)$ (dBA)[1]	Predicted No- Build Noise Level (dBA)[1]	Predicted No-Build Noise Level with Project (dBA)[1]	Design Year No-Build Noise Level Minus Existing Conditions, dB	Design Year Build Noise Level Minus No-Build Conditions, dB	Activity Category (NAC)	Impact Type[3]
C	R32	--	SFR	1	61	63	63	2	0	B (67)	NONE
C	R33	--	SFR	1	60	62	62	2	0	B (67)	NONE
D	R36	--	UND	1	67	68	69	1	1	G (--)	NONE
D	R37	--	COM	1	63	64	65	1	1	E (72)	NONE
E	R40	--	UND	1	72	74	74	2	0	G (--)	NONE
F	R102	--	SFR	1	49	57	57	8	0	B (67)	NONE
F	R103	--	SFR	2	49	58	58	9	0	B (67)	NONE
F	R104	--	SFR	2	49	57	57	8	0	B (67)	NONE
F	R105	--	SFR	2	49	57	57	8	0	B (67)	NONE
F	R106	--	SFR	2	51	57	58	6	0	B (67)	NONE
F	R107	--	SFR	1	55	58	59	3	1	B (67)	NONE
F	R108	--	SFR	1	55	57	57	2	1	B (67)	NONE
F	R109	--	SFR	2	54	5	56	2	0	B (67)	NONE
F	R110	--	SFR	2	52	54	55	2	1	B (67)	NONE
F	R111	--	SFR	1	52	54	54	2	0	B (67)	NONE
F	R112	--	SFR	1	53	54	54	1	0	B (67)	NONE
F	R113	--	SFR	4	43	45	45	2	0	B (67)	NONE
F	R114	--	SFR	1	47	50	51	3	1	B (67)	NONE
F	R115	--	SFR	3	45	47	47	2	0	B (67)	NONE
G	R117	--	UND	1	62	63	65	1	2	G (--)	NONE
G	R118	--	COM	1	62	62	64	0	2	E (72)	NONE
H	R121[4]	--	COM	1	56	58	60	2	2	E (72)	NONE
H	R122[4]	--	COM	1	52	53	54	1	1	E (72)	NONE
I	R123	--	SFR	2	53	55	54	2	-1	B (67)	NONE
I	R124	--	SFR	2	54	55	55	1	0	B (67)	NONE
I	R125	--	SFR	2	54	56	55	2	-1	B (67)	NONE
I	R126	--	SFR	2	56	57	56	1	-1	B (67)	NONE
I	R127	--	SFR	1	55	57	56	2	-1	B (67)	NONE
J	R128[5]	S436 PP	SFR	--	63	65	66	2	-1	B (67)	A/E
J	R129	S436 PP	SFR	1	69	70	71	1	1	B (67)	A/E

Study Area	Receiver I.D.	Barrier I.D.	Land Use[2]	Number of Dwelling Units	Existing Noise Level $L_{eq}(h)$ (dBA)[1]	Predicted No- Build Noise Level (dBA)[1]	Predicted No-Build Noise Level with Project (dBA)[1]	Design Year No-Build Noise Level Minus Existing Conditions, dB	Design Year Build Noise Level Minus No-Build Conditions, dB	Activity Category (NAC)	Impact Type[3]
J	R131	--	SFR	1	58	60	60	2	1	B (67)	NONE
K	R132	S452 PP	REC	1	65	67	67	2	0	B (67)	A/E
K	R132A	S401 PP	REC	1	63	65	65	2	0	B (67)	NONE
K	R132B	S401 PP	REC	1	63	66	66	3	0	B (67)	A/E
K	R133	S401 PP	SFR	1	68	70	70	2	0	B (67)	A/E
K	R134	S401 PP	SFR	2	68	70	70	2	0	B (67)	A/E
K	R135	S401 PP	SFR	3	67	69	69		0	B (67)	A/E
K	R136	S401 PP	SFR	1	65	66	66	2	0	B (67)	A/E
K	R137	S401 PP	SFR	1	59	60	61	1	1	B (67)	NONE
K	R138	S401 PP	SFR	1	57	59	59	1	0	B (67)	NONE
K	R139	S401 PP	SFR	1	57	60	60	2	0	B (67)	NONE
K	R140	S401 PP	SFR	2	57	59	59	3	0	B (67)	NONE
K	R142	S401 PP	SFR	1	53	55	55	2	0	B (67)	NONE
K	R143	S401 PP	SFR	1	56	58	60	2	2	B (67)	NONE

Notes: 1. Leq(h) are A-weighted, peak hour noise levels in decibels.
2 Land Use: SFR – single-family residence; MH – Mobile Home, REC - Recreational; COM – Commercial.
3. S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
4. There are no outdoor use areas at this commercial land use.
5. This receiver was a monitoring site for noise model calibration purposes and was not located at the outdoor use area; however, this site is representative of adjacent outdoor use area.
6. This receiver was a monitoring site for noise model calibration purposes and would not represent a noise sensitive site under future conditions.
Source: Parsons Corporation, Noise Study Report-Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (April 2021).

Table 2.2.7-9: Predicted Future Noise Levels and Barrier Analysis at Edge of Shoulder - Alternative 4

Study Area	Receiver I.D.	Barrier I.D.	Land Use[2]	Number of Dwelling Units	Existing Noise Level L_{eq}(h) (dBA)[1]	Predicted No- Build Noise Level (dBA)[1]	Predicted No-Build Noise Level with Project (dBA)[1]	Design Year No-Build Noise Level Minus Existing Conditions, dB	Design Year Build Noise Level Minus No-Build Conditions, dB	Activity Category (NAC)	Impact Type[3]
A	R2[5]	S379 EOS	SFR	--	70	71	72	1	1	B (67)	A/E
A	R2A	S379 EOS	SFR	1	6	70	71	2	1	B (67)	A/E
B	R5	S401 EOS	MH	1	71	72	72	1	0	B (67)	A/E
B	R6	S401 EOS	MH	1	72	73	73	1	0	B (67)	A/E
B	R7	S401 EOS	MH	2	72	73	74	1	1	B (67)	A/E
B	R8	S401 EOS	MH	1	73	74	74	1	0	B (67)	A/E
B	R9	S401 EOS	MH	1	66	67	67	1	0	B (67)	A/E
B	R10	S401 EOS	MH	1	68	69	69	1	0	B (67)	A/E
B	R11	S401 EOS	MH	1	66	67	68	1	1	B (67)	A/E
B	R12	S401 EOS	MH	1	66	67	68	1	1	B (67)	A/E
B	R13	S401 EOS	MH	1	65	66	67	1	1	B (67)	A/E
B	R14	S401 EOS	MH	1	65	67	67	2	0	B (67)	A/E
B	R15	S401 EOS	MH	2	64	66	66	2	0	B (67)	A/E
B	R16	S401 EOS	MH	2	62	64	65	2	1	B (67)	NONE
B	R17	S401 EOS	MH	2	60	62	62	2	0	B (67)	NONE
B	R18	S401 EOS	MH	2	62	64	64	2	0	B (67)	NONE
B	R19	S401 EOS	MH	2	63	65	65	2	0	B (67)	NONE
B	R20	--	MH	2	62	63	64	1	1	B (67)	NONE
B	R21	--	MH	2	58	60	60	2	0	B (67)	NONE
B	R22	--	MH	2	58	59	60	1	1	B (67)	NONE
B	R23	--	MH	2	61	62	63	1	1	B (67)	NONE
B	R24	--	MH	2	63	65	65	2	0	B (67)	NONE
B	R25	--	MH	1	60	62	62	2	0	B (67)	NONE
B	R26	--	MH	1	58	60	60	2	0	B (67)	NONE
B	R27	--	MH	1	58	59	60	1	1	B (67)	NONE
B	R28	--	MH	1	60	61	62	1	1	B (67)	NONE
B	R29	--	MH	1	58	64	64	1	0	B (67)	NONE
C	R32	--	SFR	1	58	63	--	2	--	B (67)	
C	R33	--	SFR	1	60	62	62	2	0	B (67)	NONE

Study Area	Receiver I.D.	Barrier I.D.	Land Use[2]	Number of Dwelling Units	Existing Noise Level $L_{eq}(h)$ (dBA)[1]	Predicted No- Build Noise Level (dBA)[1]	Predicted No-Build Noise Level with Project (dBA)[1]	Design Year No-Build Noise Level Minus Existing Conditions, dB	Design Year Build Noise Level Minus No-Build Conditions, dB	Activity Category (NAC)	Impact Type[3]
D	R36	--	UND	1	67	68	69	1	1	G (--)	NONE
D	R37	--	COM	1	63	64	65	1	1	E (72)	NONE
E	R40	--	UND	1	72	74	74	2	0	G (--)	NONE
F	R102	--	SFR	1	79	57	57	8	0	B (67)	NONE
F	R103	--	SFR	2	49	58	58	9	0	B (67)	NONE
F	R104	--	SFR	2	49	57	57	8	0	B (67)	NONE
F	R105	--	SFR	2	49	57	57	8	0	B (67)	NONE
F	R106	--	SFR	2	51	57	58	6	1	B (67)	NONE
F	R107	--	SFR	1	55	58	59	3	1	B (67)	NONE
F	R108	--	SFR	1	55	57	58	2	1	B (67)	NONE
F	R109	--	SFR	2	54	56	56	2	0	B (67)	NONE
F	R110	--	SFR	2	52	54	55	2	1	B (67)	NONE
F	R111	--	SFR	1	52	54	54	2	0	B (67)	NONE
F	R112	--	SFR	1	53	54	54	1	0	B (67)	NONE
F	R113	--	SFR	4	43	45	45	2	0	B (67)	NONE
F	R114	--	SFR	1	47	50	50	3	0	B (67)	NONE
F	R115	--	SFR	3	45	47	47	2	0	B (67)	NONE
G	R117	--	UND	1	62	63	64	1	1	G (--)	NONE
G	R118	--	COM	1	62	62	64	0	2	E (72)	NONE
H	R121[4]	--	COM	1	56	58	60	2	1	E (72)	NONE
H	R122[4]	--	COM	1	52	53	54	1	-1	E (72)	NONE
I	R123	--	SFR	2	53	55	54	2	-1	B (67)	NONE
I	R124	--	SFR	2	54	55	54	1	-1	B (67)	NONE
I	R125	--	SFR	2	54	56	55	2	-1	B (67)	NONE
I	R126	--	SFR	2	56	57	56	1	-1	B (67)	NONE
I	R127	--	SFR	1	55	57	56	2	-1	B (67)	NONE
J	R128[5]	S452 EOS	SFR	--	63	65	66	2	1	B (67)	A/E
J	R129	S452 EOS	SFR	1	59	70	71	1	0	B (67)	A/E
J	R131		SFR	1	58	60	60	2	0	B (67)	NONE
K	R132	S452 EOS	REC	1	65	67	67	2	0	B (67)	A/E
K	R132A	S452 EOS	REC	1	63	65	65	2	0	B (67)	NONE

Study Area	Receiver I.D.	Barrier I.D.	Land Use[2]	Number of Dwelling Units	Existing Noise Level L_{eq}(h) (dBA)[1]	Predicted No- Build Noise Level (dBA)[1]	Predicted No-Build Noise Level with Project (dBA)[1]	Design Year No-Build Noise Level Minus Existing Conditions, dB	Design Year Build Noise Level Minus No-Build Conditions, dB	Activity Category (NAC)	Impact Type[3]
K	R132B	S452 EOS	REC	1	63	66	66	3	0	B (67)	A/E
K	R133	S452 EOS	SFR	1	68	70	70	2	0	B (67)	A/E
K	R134	S452 EOS	SFR	2	68	70	70	2	0	B (67)	A/E
K	R135	S452 EOS	SFR	3	67	69	69	2	0	B (67)	A/E
K	R136	S452 EOS	SFR	1	65	66	66	1	0	B (67)	A/E
K	R137	S452 EOS	SFR	1	59	61	61	1	1	B (67)	NONE
K	R138	S452 EOS	SFR	1	57	59	59	2	0	B (67)	NONE
K	R139	S452 EOS	SFR	1	57	60	60	3	0	B (67)	NONE
K	R140	S452 EOS	SFR	2	57	59	59	2	0	B (67)	NONE
K	R142	S452 EOS	SFR	1	53	55	55	2	0	B (67)	NONE
K	R143	S452 EOS	SFR	1	56	58	59	2	1	B (67)	NONE

Notes: 1. Leq(h) are A-weighted, peak hour noise levels in decibels.
2 Land Use: SFR – single-family residence; MH – Mobile Home, REC - Recreational; COM – Commercial.
3. S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
4. There are no outdoor use areas at this commercial land use.
5. This receiver was a monitoring site for noise model calibration purposes and was not located at the outdoor use area; however, this site is representative of adjacent outdoor use area.
6. This receiver was a monitoring site for noise model calibration purposes and would not represent a noise sensitive site under future conditions.
Source: Parsons Corporation, Noise Study Report-Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (April 2021).

Table 2.2.7-10: Predicted Future Noise Levels and Barrier Analysis at Right-of-Way – Alternative 4

Study Area	Receiver I.D.	Barrier I.D.	Land Use[2]	Number of Dwelling Units	Existing Noise Level $L_{eq}(h)$ (dBA)[1]	Predicted No- Build Noise Level (dBA)[1]	Predicted No-Build Noise Level with Project (dBA)[1]	Design Year No-Build Noise Level Minus Existing Conditions, dB	Design Year Build Noise Level Minus No-Build Conditions, dB	Activity Category (NAC)	Impact Type[3]
A	R2[5]	S379 ROW	SFR	--	70	71	72	1	1	B (67)	A/E
A	R2A	S379 ROW	SFR	1	68	70	71	2	1	B (67)	A/E
B	R5	S401 ROW	MH	1	71	72	72	1	1	B (67)	A/E
B	R6	S401 ROW	MH	1	72	73	73	1	1	B (67)	A/E
B	R7	S401 ROW	MH	2	72	73	74	1	1	B (67)	A/E
B	R8	S401 ROW	MH	1	73	74	74	1	0	B (67)	A/E
B	R9	S401 ROW	MH	1	66	67	67	1	0	B (67)	A/E
B	R10	S401 ROW	MH	1	68	69	69	1	0	B (67)	A/E
B	R11	S401 ROW	MH	1	66	67	68	1	2	B (67)	A/E
B	R12	S401 ROW	MH	1	66	67	68	1	2	B (67)	A/E
B	R13	S401 ROW	MH	1	65	66	67	1	1	B (67)	A/E
B	R14	S401 ROW	MH	1	65	67	67	2	0	B (67)	A/E
B	R15	S401 ROW	MH	2	64	66	66	2	0	B (67)	A/E
B	R16	S401 ROW	MH	2	62	64	65	2	1	B (67)	NONE
B	R17	S401 ROW	MH	2	64	62	62	2	0	B (67)	NONE
B	R18	S401 ROW	MH	2	62	64	64	2	0	B (67)	NONE
B	R19	S401 ROW	MH	2	63	65	65	2	-1	B (67)	NONE
B	R20	S401 ROW	MH	2	62	63	64	1	1	B (67)	NONE
B	R21	S401 ROW	MH	2	58	60	60	2	0	B (67)	NONE
B	R22	S401 ROW	MH	2	58	59	60	1	1	B (67)	NONE
B	R23	S401 ROW	MH	2	61	62	63	1	1	B (67)	NONE
B	R24	S401 ROW	MH	2	63	65	65	2	0	B (67)	NONE
B	R25	S401 ROW	MH	1	60	62	62	2	0	B (67)	NONE
B	R26	S401 ROW	MH	1	58	60	61	2	1	B (67)	NONE
B	R27	S401 ROW	MH	1	58	59	60	1	1	B (67)	NONE
B	R28	S401 ROW	MH	1	60	61	62	1	1	B (67)	NONE
B	R29	S401 ROW	MH	1	63	64	64	1	0	B (67)	NONE
C	R32	--	SFR	1	61	63	63	2	0	B (67)	

Study Area	Receiver I.D.	Barrier I.D.	Land Use[2]	Number of Dwelling Units	Existing Noise Level $L_{eq}(h)$ (dBA)[1]	Predicted No- Build Noise Level (dBA)[1]	Predicted No-Build Noise Level with Project (dBA)[1]	Design Year No-Build Noise Level Minus Existing Conditions, dB	Design Year Build Noise Level Minus No-Build Conditions, dB	Activity Category (NAC)	Impact Type[3]
C	R33	--	SFR	1	60	62	62	2	0	B (67)	NONE
D	R36	--	UND	1	67	68	69	1	1	G (--)	NONE
D	R37	--	COM	1	73	64	65	1	1	E (72)	NONE
E	R40	--	UND	1	72	74	74	2	0	G (--)	NONE
F	R102	--	SFR	1	49	57	57	8	0	B (67)	NONE
F	R103	--	SFR	2	49	58	58	9	0	B (67)	NONE
F	R104	--	SFR	2	49	57	57	8	0	B (67)	NONE
F	R105	--	SFR	2	49	57	57	8	0	B (67)	NONE
F	R106	--	SFR	2	51	57	58	6	1	B (67)	NONE
F	R107	--	SFR	1	55	58	59	3	1	B (67)	NONE
F	R108	--	SFR	1	55	57	57	2	0	B (67)	NONE
F	R109	--	SFR	2	54	56	56	2	0	B (67)	NONE
F	R110	--	SFR	2	52	54	55	2	1	B (67)	NONE
F	R111	--	SFR	1	52	54	54	2	0	B (67)	NONE
F	R112	--	SFR	1	53	54	54	1	0	B (67)	NONE
F	R113	--	SFR	4	43	45	45	2	0	B (67)	NONE
F	R114	--	SFR	1	47	50	51	3	1	B (67)	NONE
F	R115	--	SFR	3	45	57	47	2	0	B (67)	NONE
G	R117	--	UND	1	62	63	65	1	2	G (--)	NONE
G	R118	--	COM	1	62	62	54	0	2	E (72)	NONE
H	R121[4]	--	COM	1	56	58	60	2	2	E (72)	NONE
H	R122[4]	--	COM	1	52	53	56	1	1	E (72)	NONE
I	R123	--	SFR	2	53	55	56	2	-1	B (67)	NONE
I	R124	--	SFR	2	54	55	55	1	0	B (67)	NONE
I	R125	--	SFR	2	54	56	55	2	-1	B (67)	NONE
I	R126	--	SFR	2	56	57	56	1	-1	B (67)	NONE
I	R127	--	SFR	1	55	57	56	2	-1	B (67)	NONE
J	R128[5]	--	SFR	--	63	65	66	2	1	B (67)	A/E
J	R129	--	SFR	1	69	70	71	1	1	B (67)	A/E
J	R131	--	SFR	1	58	60	60	2	0	B (67)	NONE
K	R132	--	REC	1	65	57	67	2	0	B (67)	A/E

Study Area	Receiver I.D.	Barrier I.D.	Land Use[2]	Number of Dwelling Units	Existing Noise Level L_{eq}(h) (dBA)[1]	Predicted No- Build Noise Level (dBA)[1]	Predicted No-Build Noise Level with Project (dBA)[1]	Design Year No-Build Noise Level Minus Existing Conditions, dB	Design Year Build Noise Level Minus No-Build Conditions, dB	Activity Category (NAC)	Impact Type[3]
K	R132A	--	REC	1	63	54	65	2	0	B (67)	NONE
K	R132B	--	REC	1	63	55	66	3	0	B (67)	A/E
K	R133	--	SFR	1	68	70	70	2	0	B (67)	A/E
K	R134	--	SFR	2	68	70	70	2	0	B (67)	A/E
K	R135	--	SFR	3	67	69	69	2	0	B (67)	A/E
K	R136	--	SFR	1	65	66	66	1	0	B (67)	A/E
K	R137	--	SFR	1	59	60	61	1	1	B (67)	NONE
K	R138		SFR	1	57	59	59	2	0	B (67)	NONE
K	R139		SFR	1	57	60	60	3	0	B (67)	NONE
K	R140		SFR	2	57	59	59	2	0	B (67)	NONE
K	R142		SFR	1	53	55	55	2	0	B (67)	NONE
K	R143		SFR	1	56	58	60	2	2	B (67)	NONE

Notes: 1. Leq(h) are A-weighted, peak hour noise levels in decibels.
2 Land Use: SFR – single-family residence; MH – Mobile Home, REC - Recreational; COM – Commercial.
3. S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
4. There are no outdoor use areas at this commercial land use.
5. This receiver was a monitoring site for noise model calibration purposes and was not located at the outdoor use area; however, this site is representative of adjacent outdoor use area.
6. This receiver was a monitoring site for noise model calibration purposes and would not represent a noise sensitive site under future conditions.
Source: Parsons Corporation, Noise Study Report-Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (April 2021).

Table 2.2.7-11: Predicted Future Noise Levels and Barrier Analysis at Private Property - Alternative 4

Study Area	Receiver I.D.	Barrier I.D.	Land Use[2]	Number of Dwelling Units	Existing Noise Level $L_{eq}(h)$ (dBA)[1]	Predicted No- Build Noise Level (dBA)[1]	Predicted No-Build Noise Level with Project (dBA)[1]	Design Year No-Build Noise Level Minus Existing Conditions, dB	Design Year Build Noise Level Minus No-Build Conditions, dB	Activity Category (NAC)	Impact Type[3]
A	R2[5]	S379 PP	SFR	--	70	71	72	1	1	B (67)	A/E
A	R2A	S379 PP	SFR	1	68	70	71	2	1	B (67)	A/E
B	R5	S401 PP	MH	1	71	72	72	1	0	B (67)	A/E
B	R6	S401 PP	MH	1	72	73	73	1	0	B (67)	A/E
B	R7	S401 PP	MH	2	72	73	74	1	1	B (67)	A/E
B	R8	S401 PP	MH	1	73	74	74	1	0	B (67)	A/E
B	R9	S401 PP	MH	1	66	67	67	1	0	B (67)	A/E
B	R10	S401 PP	MH	1	68	69	69	1	0	B (67)	A/E
B	R11	S401 PP	MH	1	66	67	68	1	1	B (67)	A/E
B	R12	S401 PP	MH	1	66	67	68	1	1	B (67)	A/E
B	R13	S401 PP	MH	1	65	66	67	1	1	B (67)	A/E
B	R14	S401 PP	MH	1	65	67	67	2	0	B (67)	A/E
B	R15	S401 PP	MH	2	64	66	66	2	0	B (67)	A/E
B	R16	S401 PP	MH	2	62	64	65	2	1	B (67)	NONE
B	R17	S401 PP	MH	2	60	62	62	2	0	B (67)	NONE
B	R18	S401 PP	MH	2	62	64	64	2	0	B (67)	NONE
B	R19	S401 PP	MH	2	63	65	65	2	0	B (67)	NONE
B	R20	S401 PP	MH	2	62	63	64	1	1	B (67)	NONE
B	R21	S401 PP	MH	2	58	60	60	2	0	B (67)	NONE
B	R22	S401 PP	MH	2	58	59	60	1	1	B (67)	NONE
B	R23	S401 PP	MH	2	61	62	63	1	1	B (67)	NONE
B	R24	S401 PP	MH	2	63	65	65	2	0	B (67)	NONE
B	R25	S401 PP	MH	1	60	62	62	2	0	B (67)	NONE
B	R26	S401 PP	MH	1	58	60	60	2	0	B (67)	NONE

Study Area	Receiver I.D.	Barrier I.D.	Land Use[2]	Number of Dwelling Units	Existing Noise Level $L_{eq}(h)$ (dBA)[1]	Predicted No- Build Noise Level (dBA)[1]	Predicted No-Build Noise Level with Project (dBA)[1]	Design Year No-Build Noise Level Minus Existing Conditions, dB	Design Year Build Noise Level Minus No-Build Conditions, dB	Activity Category (NAC)	Impact Type[3]
B	R27	S401 PP	MH	1	58	59	60	1	1	B (67)	NONE
B	R28	S401 PP	MH	1	60	61	62	1	1	B (67)	NONE
B	R29	S401 PP	MH	1	63	64	64	1	0	B (67)	NONE
C	R32	--	SFR	1	61	63	--	2	--	B (67)	
C	R33	--	SFR	1	60	62	62	2	0	B (67)	NONE
D	R36	--	UND	1	67	66	69	1	1	G (--)	NONE
D	R37	--	COM	1	63	64	65	1	1	E (72)	NONE
E	R40	--	UND	1	72	74	74	2	0	G (--)	NONE
F	R102	--	SFR	1	49	57	57	8	0	B (67)	NONE
F	R103	--	SFR	2	49	58	58	9	0	B (67)	NONE
F	R104	--	SFR	2	49	57	57	8	0	B (67)	NONE
F	R105	--	SFR	2	49	57	57	8	0	B (67)	NONE
F	R106	--	SFR	2	51	57	58	8	1	B (67)	NONE
F	R107	--	SFR	1	55	58	59	3	1	B (67)	NONE
F	R108	--	SFR	1	55	57	58	2	1	B (67)	NONE
F	R109	--	SFR	2	54	56	56	2	0	B (67)	NONE
F	R110	--	SFR	2	52	54	55	2	1	B (67)	NONE
F	R111	--	SFR	1	52	54	54	2	0	B (67)	NONE
F	R112	--	SFR	1	53	54	54	1	0	B (67)	NONE
F	R113	--	SFR	4	43	45	45	2	0	B (67)	NONE
F	R114	--	SFR	1	47	50	50	3	0	B (67)	NONE
F	R115	--	SFR	3	45	47	47	2	0	B (67)	NONE
G	R117	--	UND	1	62	63	64	1	0	G (--)	NONE
G	R118	--	COM	1	62	62	64	0	1	E (72)	NONE
H	R121[4]	--	COM	1	56	58	60	2	2	E (72)	NONE
H	R122[4]	--	COM	1	52	53	54	1	1	E (72)	NONE

Study Area	Receiver I.D.	Barrier I.D.	Land Use[2]	Number of Dwelling Units	Existing Noise Level $L_{eq}(h)$ (dBA)[1]	Predicted No- Build Noise Level (dBA)[1]	Predicted No-Build Noise Level with Project (dBA)[1]	Design Year No-Build Noise Level Minus Existing Conditions, dB	Design Year Build Noise Level Minus No-Build Conditions, dB	Activity Category (NAC)	Impact Type[3]
I	R123	--	SFR	2	53	55	54	2	-1	B (67)	NONE
I	R124	--	SFR	2	54	55	54	1	-1	B (67)	NONE
I	R125	--	SFR	2	54	56	55	2	-1	B (67)	NONE
I	R126	--	SFR	2	56	57	56	1	-1	B (67)	NONE
I	R127	--	SFR	1	55	57	56	2	-1	B (67)	NONE
J	R128[5]	S436PP	SFR	--	63	65	66	2	1	B (67)	A/E
J	R129	S436PP	SFR	1	69	70	71	1	1	B (67)	A/E
J	R131	--	SFR	1	58	60	60	2	0	B (67)	NONE
K	R132	S452 PP	REC	1	65	67	67	2	0	B (67)	A/E
K	R132A	S452 PP	REC	1	63	65	65	2	0	B (67)	NONE
K	R132B	S452 PP	REC	1	63	66	66	2	0	B (67)	A/E
K	R133	S452 PP	SFR	1	68	70	70	2	0	B (67)	A/E
K	R134	S452 PP	SFR	2	68	70	70	2	0	B (67)	A/E
K	R135	S452 PP	SFR	3	67	69	69	2	0	B (67)	A/E
K	R136	S452 PP	SFR	1	65	66	66	2	0	B (67)	A/E
K	R137	S452 PP	SFR	1	59	60	61	1	1	B (67)	NONE
K	R138	S452 PP	SFR	1	57	59	59	2	00	B (67)	NONE
K	R139	S452 PP	SFR	1	57	60	60	3	0	B (67)	NONE
K	R140	S452 PP	SFR	2	57	59	59	2	0	B (67)	NONE
K	R142	S452 PP	SFR	1	53	55	55	2	0	B (67)	NONE
K	R143	S452 PP	SFR	1	56	58	59	2	1	B (67)	NONE

Notes: 1. Leq(h) are A-weighted, peak hour noise levels in decibels.
2 Land Use: SFR – single-family residence; MH – Mobile Home, REC - Recreational; COM – Commercial.
3. S = Substantial Increase (12 dBA or more); A/E = Approach or exceed NAC.
4. There are no outdoor use areas at this commercial land use.
5. This receiver was a monitoring site for noise model calibration purposes and was not located at the outdoor use area; however, this site is

representative of adjacent outdoor use area.
6. This receiver was a monitoring site for noise model calibration purposes and would not represent a noise sensitive site under future conditions.
Source: Parsons Corporation, Noise Study Report-Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (April 2021).

Avoidance, Minimization, and/or Mitigation Measures

Under 23 CFR 772, noise abatement is considered for Type I projects if the project is predicted to result in a traffic noise impact. According to the NSR, the predicted design-year traffic noise levels in multiple outdoor activity areas would approach or exceed the applicable NAC and result in substantial traffic noise impact under Build Alternatives 3 and 4. As a result, consideration of noise abatement is required.

Soundwall S379

Project implementation would result in the need for construction of a noise barrier (Soundwall S379) within Area A as noise abatement. According to the NSR, a detailed noise traffic modeling analysis was conducted for Soundwall 379 at EOS, one the ROW line, and at private property locations. The modeling analysis conducted as part of the NSR determined that constructing Soundwall S379 at the private property location (at heights of 6 feet, 8 feet, 10 feet, 12 feet, 14 feet, and 16 feet) would be the only Soundwall to achieve the 7 dB design goal required to be considered feasible. As shown on Figure 2.2.7-2, the Soundwall would begin and end at Stations 377+75 and 379+38 with a combined total length of 182 feet.

The NADR was prepared to determine if all feasible Soundwalls identified in the Preliminary Noise Abatement in the NSR would be cost reasonable and achieve the Caltrans design goal requirements of 7dB reduction. Results of the NADR are shown in Tables 2.2.7-12, Summary of Abatement Key Information –Alternative 3 – Soundwall S379 at Private Property, and 2.2.7-13, Summary of Abatement Key Information –Alternative 4 – Soundwall S379 at Private Property. Both tables show that all feasible noise barriers options identified under both Build Alternatives for Soundwall S379 would not be reasonable, as the estimated constructions costs for the Soundwall at each height would exceed the total reasonable allowance to construct the Soundwall. As such, Soundwall S379 would not be reasonable to implement as a form of noise abatement.

Table 2.2.7-12: Summary of Abatement Key Information –Alternative 3 – Soundwall S379 at Private Property

Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance?	Design Goal Achieved?
6	Yes	1	$107,000	$119,000	No	No
8	Yes	1	$107,000	$129,000	No	No
10	Yes	1	$107,000	$140,000	No	No
12	Yes	1	$107,000	$152,000	No	No
14	Yes	1	$107,000	$164,000	No	No
16	Yes	1	$107,000	$175,000	No	No

Source: Michael Baker International, I-10/Cherry Valley Boulevard Interchange Project Noise Abatement Decision Report (June 2021).

Table 2.2.7-13: Summary of Abatement Key Information –Alternative 4 – Soundwall S379 at Private Property

Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance?	Design Goal Achieved?
6	Yes	1	$107,000	$119,000	No	No
8	Yes	1	$107,000	$129,000	No	No
10	Yes	1	$107,000	$140,000	No	No
12	Yes	1	$107,000	$152,000	No	No
14	Yes	1	$107,000	$164,000	No	No
16	Yes	1	$107,000	$175,000	No	No

Source: Michael Baker International, I-10/Cherry Valley Boulevard Interchange Project Noise Abatement Decision Report (June 2021).

Soundwall S401

Project implementation would result in the construction of a noise barrier (Soundwall S401) within Area B as noise abatement. The modeling analysis conducted as part of the NSR determined that noise barriers located at EOS (at heights of 6 feet, 8 feet, 10 feet, 12 feet, 14 feet, and 16 feet), ROW (at heights of 10, 12, 14, and 16 feet) and private property (at heights of 6 feet, 8 feet, 10 feet, 12 feet, 14 feet, and 16 feet) would achieve the 7 dB design goal required to be considered feasible under Build Alternatives 3 and 4. As shown on Figures 2.2.7-2 and 2.2.7-3, Soundwall S401 at EOS would begin and end at Stations 396+00 and 408+58 with a length of 1,165 feet; Soundwall S401 at ROW would begin and end at Stations 395+00 and 408+00, respectively, with a length of 1,311 feet; Soundwall S401 at private property would begin and end at Stations 399+40 and 403+38 with a total combined length of 818 feet.

The NADR determined the cost reasonableness for each feasible version of Soundwall S401, as well as if the Soundwall achieved Caltrans design goal requirements. Tables 2.2.7-14 to 2.2.7-19 summarize the number of benefitted receptors and reasonable allowances for Soundwall S401 at each feasible height under both Build Alternatives 3 and 4. Due to the cost and/or number of benefited residencies, none of the feasible barriers located at ROW and private property would be beneficial or considered reasonable under both Build Alternatives. Additionally, the additional 4 feet in height for a 16-foot barrier at EOS would not justify the $56,000 and $61,000 increase in construction cost under Build Alternatives 3 and 4, respectively. Therefore, a 14-foot barrier at EOS would be the most reasonable Soundwall to implement under both Build Alternatives 3 and 4.

Table 2.2.7-14: Summary of Abatement Key Information –Alternative 3 – Soundwall S401 at EOS

Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance?	Design Goal Achieved?
6	Yes	5	$535,000	$263,000	Yes	No
8	Yes	7	$749,000	$318,000	Yes	No
10	Yes	8	$856,000	$374,000	Yes	No
12	Yes	16	$1,712,000	$431,000	Yes	No
14	Yes	19	$2,033,000	$488,000	Yes	Yes
16	Yes	23	$2,461,000	$544,000	Yes	Yes

Source: Michael Baker International, I-10/Cherry Valley Boulevard Interchange Project Noise Abatement Decision Report (June 2021).

Table 2.2.7-15: Summary of Abatement Key Information –Alternative 3 – Soundwall S401 at ROW

Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance?	Design Goal Achieved?
10	Yes	4	$428,000	$441,000	No	No
12	Yes	7	$749,000	$505,000	Yes	No
14	Yes	7	$749,000	$568,000	Yes	No
16	Yes	11	$1,177,000	$631,000	Yes	Yes

Source: Michael Baker International, I-10/Cherry Valley Boulevard Interchange Project Noise Abatement Decision Report (June 2021).

Table 2.2.7-16: Summary of Abatement Key Information –Alternative 3 – Soundwall S401 at Private Property

Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance?	Design Goal Achieved?
6	Yes	1	$107,000	$274,000	No	No
8	Yes	3	$321,000	$313,000	Yes	No
10	Yes	6	$642,000	$350,000	Yes	No
12	Yes	8	$856,000	$393,000	Yes	Yes
14	Yes	8	$856,000	$432,000	Yes	Yes
16	Yes	8	$856,000	$472,000	Yes	Yes

Source: Michael Baker International, I-10/Cherry Valley Boulevard Interchange Project Noise Abatement Decision Report (June 2021).

Table 2.2.7-17: Summary of Abatement Key Information –Alternative 4 – Soundwall S401 at EOS

Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance?	Design Goal Achieved?
6	Yes	4	$428,000	$276,000	Yes	No
8	Yes	5	$535,000	$336,000	Yes	No
10	Yes	8	$856,000	$396,000	Yes	No
12	Yes	16	$1,712,000	$457,000	Yes	No
14	Yes	18	$1,926,000	$518,000	Yes	Yes
16	Yes	22	$2,354,000	$579,000	Yes	Yes

Source: Michael Baker International, I-10/Cherry Valley Boulevard Interchange Project Noise Abatement Decision Report (June 2021).

Table 2.2.7-18: Summary of Abatement Key Information –Alternative 4 – Soundwall S401 at ROW

Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance?	Design Goal Achieved?
10	Yes	3	$321,000	$441,000	No	No
12	Yes	4	$428,000	$505,000	No	No
14	Yes	7	$749,000	$568,000	Yes	No
16	Yes	11	$1,177,000	$631,000	Yes	Yes

Source: Michael Baker International, I-10/Cherry Valley Boulevard Interchange Project Noise Abatement Decision Report (June 2021).

Table 2.2.7-19: Summary of Abatement Key Information –Alternative 4 – Soundwall S401 at Private Property

Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance?	Design Goal Achieved?
6	Yes	1	$107,000	$274,000	No	No
8	Yes	4	$428,000	$313,000	Yes	No
10	Yes	7	$749,000	$350,000	Yes	No
12	Yes	8	$856,000	$393,000	Yes	Yes
14	Yes	10	$1,070,000	$432,000	Yes	Yes
16	Yes	10	$1,070,000	$472,000	Yes	Yes

Source: Michael Baker International, I-10/Cherry Valley Boulevard Interchange Project Noise Abatement Decision Report (June 2021).

Soundwall S436

Project implementation would result in the construction of a noise barrier (Soundwall S436) within Area J as noise abatement. According to the NSR, analyzing Soundwall S436 at the EOS was not considered because the EOS is approximately 20 feet below the impacted receivers R128 and R129. The modeling analysis conducted as part of the NSR concluded that, under both Build Alternatives 3 and 4, constructing a Soundwall on the ROW line would prove to not be feasible at each height. However, under both Build Alternatives 3 and 4, constructing Soundwall S436 at the private property location (at heights of 8 feet, 10 feet, 12 feet, 14 feet, and 16 feet) would be the only Soundwall to achieve the seven dB design goal required to be considered feasible. As shown in Figure 2.2.7-6, Soundwall S436 at private property would begin and end at Stations 434+89 and 438+15 with a length of 310 feet.

The NADR determined the cost reasonableness for each feasible Soundwall, as well as if the Soundwall achieved Caltrans design goal requirements. Tables 2.2.7-20, Summary of Abatement Key Information Alternative 3 – Soundwall S436 at Private Property, and 2.2.7-21, Summary of Abatement Key Information Alternative 4 – Soundwall S436 at Private Property, summarize the number of benefitted receptors and reasonable allowances for each barrier height of each Soundwall location under both Build Alternatives 3 and 4. Under both Build Alternatives, the estimated construction cost of Soundwall S436 would outweigh the total reasonable allowance to construct the Soundwall. Therefore, Soundwall S346 would not be reasonable to implement as a form of noise abatement.

Table 2.2.7-20: Summary of Abatement Key Information Alternative 3 – Soundwall S436 at Private Property

Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance?	Design Goal Achieved?
8	Yes	1	$107,000	$163,000	No	No
10	Yes	1	$107,000	$178,000	No	No
12	Yes	1	$107,000	$194,000	No	No
14	Yes	1	$107,000	$209,000	No	No
16	Yes	1	$107,000	$224,000	No	No

Source: Michael Baker International, I-10/Cherry Valley Boulevard Interchange Project Noise Abatement Decision Report (June 2021).

Table 2.2.7-21: Summary of Abatement Key Information Alternative 4 – Soundwall S436 at Private Property

Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance?	Design Goal Achieved?
8	Yes	1	$107,000	$163,000	No	No
10	Yes	1	$107,000	$178,000	No	No
12	Yes	1	$107,000	$194,000	No	No
14	Yes	1	$107,000	$209,000	No	No
16	Yes	1	$107,000	$224,000	No	No

Source: Michael Baker International, I-10/Cherry Valley Boulevard Interchange Project Noise Abatement Decision Report (June 2021).

Soundwall S452

Project implementation would result in the construction of a noise barrier (Soundwall S436) within Area K as noise abatement. The noise modeling analysis conducted as part of the NSR found that Soundwall S452 at the EOS location would be able to achieve the seven dB design goal required to be considered feasible under Build Alternative 3 (at heights of 10 feet, 12 feet, 14 feet, and 16 feet) and under Build Alternative 4 (at a height 16 feet). The noise modeling analysis found that Soundwall S452 would additionally be a feasible private property location under Build Alternative 3 (at heights of 10 feet, 12 feet, 14 feet, and 16 feet) and Build Alternative 4 (at heights of 8 feet, 10 feet, 12 feet, 14 feet, and 16 feet). As shown in Figure 2.2.7-6, Soundwall S452 at EOS would begin and end at Stations 440+00 and 459+00 with a length of 1,511 feet. Soundwall S452 at the private property location would begin and end at Stations 445+80 and 455+42, respectively, with a length of 1,109 feet.

The NADR determined the cost reasonableness for each feasible Soundwall, as well as if the Soundwall achieved Caltrans design goal requirements. Tables 2.2.7-22 through 2.2.7-25 summarize the number of benefitted receptors and reasonable allowances for each barrier height of each Soundwall location under Both Build Alternatives. According to the NADR, if Soundwall S452 were to be located at private properties, the estimated construction cost and the impacts at each feasible height would not justify a recommendation to be incorporated as noise abatement. Under Build Alternative 3, Soundwall S452 located at EOS would cost less than the $1,070,000 total reasonable allowance and would be considered reasonable and feasible at heights of 14 and 16 feet. However, according to the NADR, increase in benefitted residences at a height of 16 feet does not justify the increase in cost. Therefore, under Build Alternatives 3, a Soundwall located at EOS with a height of 14 feet is recommended as noise abatement at this location. Under Build Alternatives 3 and 4, Soundwall S452 with a height of 16 feet located at EOS would be the only feasible option. As such, a

Soundwall with a height of 16 feet is recommended as noise abatement at this location.

Tables 2.2.7-22: Summary of Abatement Key Information –Alternative 3 – Soundwall S452 at EOS

Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance?	Design Goal Achieved?
10	Yes	1	$107,000	$457,000	No	No
12	Yes	8	$856,000	$531,000	Yes	No
14	Yes	10	$1,070,000	$604,000	Yes	Yes
16	Yes	10	$1,070,000	$677,000	Yes	Yes

Source: Michael Baker International, I-10/Cherry Valley Boulevard Interchange Project Noise Abatement Decision Report (June 2021).

Tables 2.2.7-23: Summary of Abatement Key Information –Alternative 3 – Soundwall S452 at Private Property

Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance?	Design Goal Achieved?
8	Yes	7	$749,000	$374,000	Yes	No
10	Yes	7	$749,000	$427,000	Yes	No
12	Yes	7	$749,000	$482,000	Yes	No
14	Yes	7	$749,000	$536,000	Yes	No
16	Yes	11	$1,177,000	$589,000	Yes	Yes

Source: Michael Baker International, I-10/Cherry Valley Boulevard Interchange Project Noise Abatement Decision Report (June 2021).

Tables 2.2.7-24: Summary of Abatement Key Information –Alternative 4 – Soundwall S452 at EOS

Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance?	Design Goal Achieved?
16	Yes	10	$1,070,000	$677,000	Yes	No

Source: Michael Baker International, I-10/Cherry Valley Boulevard Interchange Project Noise Abatement Decision Report (June 2021).

Tables 2.2.7-25: Summary of Abatement Key Information –Alternative 4 – Soundwall S452 at Private Property

Height (feet)	Acoustically Feasible?	Number of Benefited Residences	Total Reasonable Allowance	Estimated Constructio n Cost	Cost Less than Allowance?	Design Goal Achieved?
8	Yes	7	$749,000	$374,000	Yes	No
10	Yes	7	$749,000	$427,000	Yes	No
12	Yes	7	$749,000	$482,000	Yes	No
14	Yes	7	$749,000	$536,000	Yes	No
16	Yes	10	$1,070,000	$589,000	Yes	Yes

Source: Michael Baker International, I-10/Cherry Valley Boulevard Interchange Project Noise Abatement Decision Report (June 2021).

Based on the studies completed to date, Caltrans intends to incorporate noise abatement in the form of Soundwalls (noise barriers) S401 and S452, with the following respective lengths and average heights:

- S401: 1,165 feet long and 14 feet high (under both Build Alternatives); and
- S452: 1,511 feet long and 14 feet high (under Build Alternative 3) to 16 feet high (under Build Alternative 4)

Calculations based on preliminary design data show that the barrier(s) will reduce noise levels by 5 dB for mobile homes and single-family residences at the estimated cost of $488,000 to $589,000. These measures may change based on input received from the public. If conditions have substantially changed during final design, noise abatement may not be constructed. The final decision on noise abatement will be made upon completion of the project design.

2.2.8 Energy

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) and 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.

Affected Environment

This section is based primarily on the Energy Analysis Report (EAR) (dated January 2021) prepared for the project.

Existing Traffic Conditions

Daily Vehicle Miles Traveled (VMT) was calculated by multiplying the amount of daily traffic on a roadway segment by the length of the segment. Annual VMT was calculated by multiplying daily VMT from the travel demand model by the number of days per year, with a seasonal factor to account for variations in travel patterns throughout the year. Table 2.2.8-1 shows existing VMT on I-10 at daily and annual timescales. Table 2.2.8-2 shows the annual energy consumption of the project site under Existing 2019 conditions.

Table 2.2.8-1: Existing (2019) Operational Vehicle Miles Traveled

	Vehicle Miles Traveled
Daily	1,881,820
Annual	652,991,540

Source: ICF, Energy Analysis Report, January 2021.

Table 2.2.8-2: Annual Direct Energy Use (Mobile Sources) (Existing Year 2019)

Fuel Usage	No-Build Alternative	Build Alternative 3	Build Alternative 4
Gasoline	66,794	N/A	N/A
Diesel	16,835	N/A	N/A

Source: ICF, Energy Analysis Report, January 2021.

Existing and Projected Vehicle Mix

I-10, part of the California Freeway and Expressway System, has been recognized as an essential link in a multi-modal transportation network. The route is also part of the Federal Surface Transportation Assistance Act Route Network for oversized Trucks and the Subsystem of Highways for the Movement of Extralegal Permit Loads. Under existing (2019) conditions, truck traffic as a percentage of freeway ADT within the study area is approximately nine percent. In the Opening Year (2025), truck traffic would account for approximately nine percent of total daily volumes. During the Design Year (2045), truck traffic would account for approximately nine percent of total daily volumes.

Energy Resources

California contains abundant sources of renewable and non-renewable energy. The primary energy resources within California are described in the following sections.

Non-Renewable Energy

Non-renewable energy resources include petroleum, natural gas, and coal. These energy resources are considered fossil fuels because they were formed when large quantities of dead organisms, usually zooplankton (i.e., microscopic organisms drifting in water bodies), algae, and other vegetation, were buried beneath sedimentary rock and exposed to intense heat and pressure over thousands of years. Fossil fuels are considered non-renewable resources because they cannot be replenished on a meaningful human timeframe. These resources will eventually run out because they cannot be renewed at a sufficient rate for sustainable economic extraction.

Petroleum
Petroleum is a broad category that includes both crude oil and other petroleum products. The terms oil and petroleum are sometimes used interchangeably. Crude oil is a naturally occurring, yellow-to-black liquid found in geological formations beneath the Earth's surface. It is a mixture of hydrocarbons, which are compounds of hydrogen and carbon. Crude oil is recovered mostly through oil drilling and refined and separated into a large number of petroleum products. These products include gasoline, diesel, liquefied petroleum gas/propane, kerosene, lubricants, waxes, asphalt, and various types of jet fuels, oils, and miscellaneous products.

Natural Gas
Natural gas is a hydrocarbon gas mixture, consisting primarily of methane, along with other gases in smaller quantities, including carbon dioxide (CO2), nitrogen, and hydrogen sulfide. Natural gas is often found in proximity to petroleum and coal in geological formations beneath the Earth's surface. Before natural gas can be used as fuel, it must be processed to remove impurities and water.

Coal
Coal is a combustible black or brownish-black sedimentary rock found beneath the Earth's surface in layers called coal beds. Coal is composed primarily of carbon, along with varying quantities of other elements, including hydrogen, sulfur, oxygen, and nitrogen.

Renewable Energy
Renewable energy is generally defined as energy that comes from resources that are naturally replenished on a human timescale. Sources of renewable energy include the wind, sun, waves, and the heat of the Earth (i.e., geothermal heat). In addition, organic matter (also referred to as biomass), such as crops, animal waste, and municipal solid waste, can serve as sources of renewable energy, called biofuels. Renewable energy (hydroelectric, solar, and geothermal [i.e., Geysers]) resources are continually replenished through natural processes.

Electricity
Electricity can be made from renewable or non-renewable energy resources. California has an electricity generation system that generates more than 285,000 gigawatt-hours each year. Non-renewable energy resources that produce electricity in California include coal, natural gas, and nuclear power. Only a few small coal-fired plants are operating in California. Natural gas power plants are the leading source of electricity in the State, accounting for 43

percent of electricity consumption in California. Nuclear power, another type of non-renewable energy, accounts for approximately 9 percent of electricity generation in California. Nuclear power is a non-renewable energy source because nuclear power plants usually use a very rare type of uranium, U-235.

California is among the top states in the nation in net electricity generation from renewable resources. Approximately 35 percent of California's electricity in 2018 was generated from renewable energy resources. The California Renewable Portfolio Standard set a goal that called for 33 percent of electricity generation to come from eligible renewable resources by 2020.

Transportation Fuels

Petroleum products are the leading source of energy used for transportation in the United States. Gasoline, the leading transportation fuel in the United States, accounted for 53 percent of the nation's transportation fuel consumption in 2019 and 97 percent of the State's transportation fuel consumption. Diesel is the second-largest transportation fuel in California, representing 17 percent of total fuel sales. Because of concerns about energy security and GHG emissions, other sources of motor vehicle fuels are being explored, including renewable fuels and alternative fuels.

Alternative fuels are generally alternatives to traditional gasoline and diesel fuels. These can include the fossil fuels, natural gas, and liquefied petroleum gas as well as renewable biofuels, which include biodiesel (vegetable-oil- or animal-fat-based diesel fuel) and alcohol (methanol, ethanol, and butanol) derived from crops, animal waste, or municipal solid waste. Other alternative fuels include electricity and hydrogen. Many renewable and alternative fuels result in substantially lower GHG emissions compared to fossil fuels. GHGs include CO2, methane, nitrous oxide, and fluorinated gases.

Energy Consumption

Energy consumption is commonly expressed in British thermal units (BTUs), which is the quantity of heat required to raise the temperature of one pound of water one-degree Fahrenheit at sea level. Because other units of energy can be converted into equivalent BTUs, the BTU is used as a basis for comparing the consumption of different types of energy resources, such as electricity (kilowatt hour), natural gas (cubic foot), gasoline (gallon), and diesel fuel (gallons).

In 2018, California's per capita energy consumption ranked 48th in the United States because of the state's mild climate and energy efficiency programs. The following describes the existing consumption rates of non-renewable energy resources (petroleum, transportation fuels, etc.) in the state of California.

Petroleum

Petroleum consumption in California is shown in Table 2.2.8-3, Petroleum Consumption in California 2018 for the year 2018. Data for petroleum consumption in Riverside County are not readily available. As shown in Table 2.2.8-3, approximately 583,547 in the thousands of barrels are used for transportation fuels, making up 85.7 percent of the total petroleum consumption in California.

Table 2.2.8-3: Petroleum Consumption in California 2018

Sector	Thousand Barrels	Percent Total Consumption
Residential	6,400	0.9
Commercial	17,254	2.5
Industrial	74,005	10.9
Transportation	583,547	85.7
Electric Power	66	0.01
Total	681,272	100.0

Source: ICF, Energy Analysis Report, January 2021.

Transportation Fuels

Fossil fuels, specifically, petroleum products, gasoline, and diesel, have been the leading transportation fuel in the United States, accounting for 97 percent of the State's transportation fuel consumption. California's fossil fuel consumption for the transportation sector is shown in Table 2.2.8-4, Traditional Fuel Consumption in California for the Transportation Sector in 2018. As shown in Table 2.2.8-4, approximately 1,764.4 in trillion BTU's of gasoline are consumed, making up approximately 56.6 percent of the total fossil fuel consumption in the State.

Table 2.2.8-4: Traditional Fuel Consumption in California for the Transportation Sector in 2018

Sector	Trillion BTU	Percent Total Consumption
Aviation gasoline	2.2	0.1
Distillate fuel oil	483.8	15.5
Jet fuel	684.8	22.0
Hydrocarbon gas liquids	0.7	0.0
Lubricants	13.2	0.4
Gasoline	1,764.4	56.6
Residual fuel oil	168.8	5.4
Total Fossil Fuel Consumption	3,118.0	100

Source: ICF, Energy Analysis Report, January 2021.

Methodology

The energy analysis is based on the methodology described in Caltrans' Standard Environmental Reference, Volume 1, Chapter 13 – Energy, as well as guidance provided by Caltrans regarding CEQA updates, effective April 27, 2019. The energy analysis addresses both direct and indirect energy consumption, which are defined as follows:

Direct Energy. In the context of transportation, direct energy involves all energy consumed by vehicles (e.g., automobiles, trains, airplanes) for propulsion. This energy consumption is a function of traffic characteristics, such as VMT, speed, vehicle mix, and the thermal value of the fuel being used. In addition, direct energy also includes the one-time energy expenditure involved in construction of the project. Therefore, analysis of direct energy use includes the following factors:

- Direct Energy (Mobile Sources): The energy consumed by vehicle propulsion within the facility during operation of the project.
- Direct Energy (Construction): The energy consumed by construction vehicles and equipment during construction of the project.
- Indirect Energy: Maintenance activities that would result in long-term indirect energy consumption from the use of the equipment required to operate and maintain the roadway.

Direct energy consumption from mobile sources associated with the project was estimated using traffic model forecasts for VMT from the Traffic Operations Analysis Report prepared for the project (refer to Section 2.2.9, Traffic and Transportation) and the EMFAC2017 air quality model, which provides estimated fuel consumption rates for the Existing Year 2019, Opening Year 2025, and Design Year 2045. Estimated energy consumption in 2045 is the most conservative (i.e., highest) because population and employment are projected to be higher in that year than in any earlier year. Therefore, the energy consumption of the Build Alternatives is compared with projected 2045 baseline conditions, which assumes that limited baseline transportation improvements have occurred and that the proposed project improvements were not implemented. The EMFAC2017 model incorporates energy and conservation measures that were adopted as of December 2017, such as the federal Phase 2 Greenhouse Gas Standards, but it does not consider policies that were not yet adopted. EMFAC2017 uses average values of energy consumption for various vehicle types, based on available data; using the level of VMT, it is possible to calculate energy consumption per VMT and, ultimately, per day or per year.

Direct energy use associated with fuel consumption during project construction was estimated by converting CO2 emissions generated by diesel and gasoline equipment for the 2-year construction period, using the rate of CO2 emissions emitted per gallon of combusted gasoline and diesel. These CO2 emissions were obtained from the I-10/Cherry Valley Boulevard Improvement Project Air Quality Report, which quantified CO2 emissions using the Sacramento Metropolitan Air Quality Management District Roadway Construction Emissions Model.

To assess indirect energy use from maintenance of the project facility, as well as maintenance of vehicles using the facility, energy use factors were obtained from Caltrans' Energy and Transportation Systems Handbook. The

I-10/Cherry Valley Boulevard resource study area for potential energy impacts is a subarea of the overall Sothern California Association of Governments (SCAG) region and defined by comparing 2045 regional travel demand model forecasts of daily traffic volumes using the highway network under the No-Build Alternative to one set of traffic volumes for future-year scenarios.

Environmental Consequences

The analysis of project impacts is conducted at the regional level and, therefore, by its nature, is an analysis of cumulative impacts. The analysis that follows discusses the direct and indirect energy use impacts for each project alternative.

Temporary Impacts

No-Build Alternative

Construction activities under the No-Build Alternative would not occur as a result of the I-10/Cherry Boulevard Interchange project. Therefore, energy consumption related to construction activities would not occur.

Build Alternatives 3 and 4

Direct energy use from construction sources is the energy that is consumed during construction activities by vehicles and equipment. Project construction would consume primarily diesel fuel through the operation of heavy-duty equipment as well as commercial trucks for material deliveries and debris hauling; gasoline would be consumed during workers' vehicle trips to and from the construction site.

Project construction would also involve the use of on-road gasoline vehicles by construction workers. Overall, construction fuel consumption for the proposed project was calculated by converting the estimated CO2 emission levels generated by diesel-powered off-road equipment and on-road gasoline vehicles for the construction period, as provided by the Air Quality Report prepared for the proposed project, into the number of gallons of diesel and gasoline that would be consumed during project construction activities.

As shown in Table 2.2.8-5, construction activities associated with implementation of Build Alternative 3 would consume approximately 249,785 gallons of diesel fuel and 16,224 gallons of gasoline, with energy consumption totaling approximately 33,619 million BTUs over the two-year period. As shown in Table 2.2.8-6, construction activities associated with implementation of Build Alternative 4 would result in the consumption of approximately 243,793 gallons of diesel fuel and 16,224 gallons of gasoline, with energy consumption totaling approximately 32,855 million BTUs over the two-year period. These energy consumption levels represent a nominal demand on local and regional fuel supplies and would be accommodated. Furthermore, this demand would be temporary and cease once construction is complete. The demand for fuel would have no noticeable effect on peak or baseline demands for energy.

Although construction would result in a short-term increase in energy use, construction design features would help conserve energy. For example, recycled materials, including removed asphalt concrete pavement and cement concrete pavement, would be used where feasible. Recycled products typically have lower energy costs for manufacturing and transportation because recycled products do not require raw materials, which must be mined and transported to a processing facility. If new materials must be used, a fly ash mix may be considered to lower the heat island effect,[8] depending on what is allowable under Caltrans specifications. Additionally, project construction would include the use of reclaimed water and energy-efficient lighting, such as light emitting diode (LED) traffic signals. The energy conservation features would be consistent with State and local policies to reduce energy consumption. Therefore, Build Alternatives 3 and 4 would not result in the inefficient, wasteful, or unnecessary consumption of energy and would not result in an adverse effect in this regard.

Table 2.2.8-5: Direct Energy Use During 2-Year Construction Period (Build Alternative 3)

Source	Diesel Consumption (gallons)	Gasoline Consumption (gallons)	Fuel Consumption (million BTUs)
Soil Hauling	7,450	--	950
Asphalt Hauling	9,853	--	1,256
Worker Commute	--	16,224	1,781
Water Truck	3,526	--	449
Off-road Equipment	228,958	--	29.183
Total	**249,785**	**16,224**	**33,619**

Source: ICF, Energy Analysis Report, January 2021.

Table 2.2.8-6: Direct Energy Use During 2-Year Construction Period (Build Alternative 4)

Source	Diesel Consumption (gallons)	Gasoline Consumption (gallons)	Fuel Consumption (million BTUs)
Soil Hauling	1,064	--	136
Asphalt Hauling	10,246	--	1,306
Worker Commute	--	16,224	1,781
Water Truck	3,526	--	449
Off-road Equipment	228,956	--	29,183
Total	**243,793**	**16,224**	**32,855**

Source: ICF, Energy Analysis Report, January 2021.

[8] The heat island effect occurs when the sun heats dry, exposed urban surfaces, such as roofs and pavement, to temperatures 50 to 90 degrees Fahrenheit (°F) hotter than the air.

Permanent Impacts

No-Build Alternative

Direct Energy Use (Mobile Sources)

Under the No-Build Alternative, the increase in forecast traffic volumes would result in a worsening of traffic congestion, slower traffic speeds, and increases in traffic delays. As shown below in Tables 2.2.8-7 and 2.2.8-8, between the Opening Year and the Design Year, the annual VMT under the No-Build Alternative would increase by over 478,000.Without the improvements proposed under Build Alternatives 3 and 4, congested traffic conditions and limitations on mobility would be more prevalent throughout the study area. These conditions would contribute to inefficient energy consumption because vehicles would use extra fuel while idling in stop-and-go traffic or moving at slow speeds along congested roadways.

The No-Build Alternative would not be consistent with regional and local policies because there would be no decrease in traffic congestion, and operational, mobility, and travel-time conditions for the mainline, interchanges, and ramps would continue to deteriorate, thus contributing to inefficient energy consumption.

Indirect Energy Use

Indirect energy use involves the energy use that is consumed during maintenance of the facility, and the maintenance of vehicles using the facility. The indirect energy use factor is directly relative to the number of lane miles added to the facility; refer to the analysis described in the Build Alternatives 3 and 4 section, under the Indirect Energy Use subsection. As shown in Tables 2.2.8-12 and 2.2.8-13 below, the indirect energy use for facility maintenance in the study area under No-Build Alternative in Opening Year 2025 conditions would remain relatively similar to that of the No-Build Alternative in Design Year 2045. Indirect energy use for vehicle maintenance under No-Build Alternative in Opening Year 2025 conditions would increase to 2,805.99 in billion BTUs by the Design Year 2045. Build Alternatives 3 and 4 would have approximately 1.98 and 2.07 additional lane miles, respectively, along the I-10 corridor. This would result in higher levels of indirect energy use. As shown in Tables 2.2.8-12, by the Opening Year 2025 the No-Build would result in 0.02 percent less indirect energy use compared to Build Alternatives 3 and 4. Table 2.2.8-13 shows that by Design Year 2045 the No-Build alternative would result in 0.001 percent less indirect energy use compared to Build Alternative 3, and 0.002 percent less indirect energy use compared to Build Alternative 4.

Build Alternatives 3 and 4

Direct Energy Use (Mobile Sources)

Energy calculations for transportation projects are dependent on VMT and vehicle fuel consumption. For the study area, energy calculations are based on annual VMT. VMT for Opening Year (2025) and Design Year (2045) conditions for the No-Build Alternative and both Build Alternatives 3 and 4 are shown in Tables 2.2.8-7 and 2.2.8-8. As shown in Table 2.2.8-1, above, and Tables 2.2.8-7 and 2.2.8-8, below, daily and annual VMT under Existing (2019) conditions are lower than daily and annual VMT in the Opening Year 2025 and Design Year 2045 under all Alternatives. The increase in daily and annual VMT can be attributed to the projected increase in population growth as well as increased employment in the region as a result of planned projects in the vicinity. Table 2.2.8-8, Operational Vehicle Miles by Alternative (Design Year 2045), shows that by the Design Year 2045, the daily and annual VMT under Build Alternatives 3 and 4 would be less then when compared to each respective VMT under the No-Build Alternative.

Table 2.2.8-7: Operational Vehicle Miles by Alternative (Opening Year 2025)

VMT	No-Build Alternative	Build Alternative 3	Build Alternative 4
Daily VMT	2,389,676	2,389,676	2,389,676
Annual VMT[1]	829,217,628	829,217,628	829,217,628

Notes: 1. Annual values were derived by multiplying the daily values by 347, per California Air Resources Board methodology
Source: ICF, Energy Analysis Report, January 2021.

Table 2.2.8-8: Operational Vehicle Miles by Alternative (Design Year 2045)

VMT	No-Build Alternative	Build Alternative 3	Build Alternative 4
Daily VMT	3,768,143	3,767,723	3,767,723
Annual VMT[1]	1,307,545,581	1,307,399,796	1,307,399,796

Notes: 1. Annual values were derived by multiplying the daily values by 347, per California Air Resources Board methodology
Source: ICF, Energy Analysis Report, January 2021.

The energy consumption of each alternative is related directly to gasoline and diesel fuel consumption by automobiles and trucks. In addition to VMT, fleet mix and travel speeds also affect fuel consumption. Operational energy consumption was estimated based on vehicle types (e.g., automobiles, trucks, light-duty trucks, medium-duty trucks, and heavy-duty trucks) traveling within the project vicinity using the CT-EMFAC2017 model, which relies on emission factors from the EMFAC2017 (version 1.0.2) model. The EMFAC2017 model output provided the total gallons of combined gasoline and diesel fuel.

Energy use can be represented in terms of the thermal value of the fuel and is usually measured in BTU. Gallons of fuel can be converted to BTUs by using the heat content of the fuel. Diesel fuel has a heat content of 127,460 BTUs per gallon, and gasoline has a heat content of 109,772 BTUs per gallon. Annual direct energy use under each alternative is analyzed in Tables 2.2.8-9 and 2.2.8-10.

Table 2.2.8-9: Annual Direct Energy Use (Mobile Sources) (Opening Year 2025)

Fuel Usage	No-Build Alternative	Build Alternative 3	Build Alternative 4
Gasoline	69,426	69,423	69,423
Diesel	18,570	18,570	18,570

Source: ICF, Energy Analysis Report, January 2021.

Table 2.2.8-10: Annual Direct Energy Use (Mobile Sources) (Design Year 2045)

Fuel Usage	No-Build Alternative	Build Alternative 3	Build Alternative 4
Gasoline	81,993	81,984	81,984
Diesel	23,572	23,569	23,569
2019 BTU (billion)	7,332	N/A	N/A
2025 BTU (billion)	7,621	7,621	7,621
2045 BTU (billion)	9,001	9,000	9,000
2025 percent change from no build	---	0.005	0.005
2045 percent change from no build	---	0.011	0.011

Source: ICF, Energy Analysis Report, January 2021.

As shown in Tables 2.2.8-2, 2.2.8-9, and 2.2.8-10 the annual energy consumption between Existing Year 2019 and Design Year 2045 would increase by 1,669 million BTUs (23 percent) and VMT is projected to increase by 27 percent. This slight disparity is attributed to fleet turnover, as older, less fuel-efficient vehicles are replaced by later-model, more fuel-efficient vehicles over time. These later-model replacement vehicles would also include hybrid and all-electric vehicles. Among the Build Alternatives, only a slight change in energy consumption would occur because of the following reasons: 1) no change in project-vicinity VMT, and 2) the relatively small magnitude of this single interchange capacity enhancement considering the larger region. Therefore, energy consumption under either Build Alternatives 3 or 4 would be negligible compared with the No-Build Alternative.

Federal and State regulations and policies (e.g., Surface Transportation Act, Energy Policy Act, California's Transportation Plan) are intended to achieve goals that include reducing congestion, improving air quality, and increasing vehicle fuel efficiency. Build Alternatives 3 and 4 would not conflict with these regulations or policies. The regional and local policies (e.g., SCAG 2020-2045 RTP, City of Calimesa General Plan, and Riverside County General Plan) include goals that involve reducing congestion, reducing traffic on arterial roads, promoting mass transit, reducing VMT, and increasing vehicle occupancy rates. Build Alternatives 3 and 4 would be consistent with these policies because the project would enhance operations by improving reliability and travel times within the I-10 corridor and improve traffic flow by reducing congestion and offering motorists a faster and more reliable commute. Lastly, operations under Build Alternatives 3 and 4 would include implementation of intelligent transportation systems to help manage the efficiency of the existing highway system. Intelligent transportation systems are commonly referred to as electronics, communications, or information processing, used singly or in combination, to improve the efficiency or safety of a surface transportation system. Furthermore, based on the Energy Analysis Report, no substantial alterations to the existing energy infrastructure would be required and the project would have minimal impacts on operational energy consumption.

Indirect Energy Use

Indirect energy use is the energy that is consumed during maintenance of the facility, and the maintenance of vehicles using the facility. Indirect energy use may also include peripheral energy effects, which includes the use of energy sources that are not used by the transportation system itself, but rather energy used as a result of changes in land use, population density, or transportation patterns that are induced by the project, which would affect the energy demand, supply, and distribution within the surrounding area. However, because the project area is already urbanized and located along an existing transportation corridor, the project would not be expected to induce substantial changes in land use, population density, or transportation patterns that would increase energy demand, supply, or distribution.

To assess indirect energy use from maintenance of the project facility, as well as manufacturing and maintaining vehicles using the facility, energy use factors were obtained from Caltrans' Energy and Transportation Systems Handbook. These factors are shown in Table 2.2.8-11, Indirect Energy Use Factors.

Table 2.2.8-11: Indirect Energy Use Factors

Type of Indirect Energy Use	Indirect Energy Use Factor
Facility maintenance energy (urban roadway, asphalt concrete pavement)	1.776 x108 BTU per Lane Mile
Vehicle maintenance energy (medium truck; sum of oil: 594, tire: 366, and general maintenance and repair: 1,186)	2,146 BTU per Mile

Source: ICF, Energy Analysis Report, January 2021.

As shown in Table 2.2.8-9, the facility maintenance energy use factor is the energy used to maintain an urban roadway with asphalt concrete pavement. For vehicle manufacturing and maintenance, Caltrans' Energy and Transportation Systems Handbook includes energy use factors for light, medium, and heavy trucks. For this analysis, the energy use factors for medium trucks were used as an average for the various types of vehicles that would use the project facility. Total vehicle maintenance energy is the sum of three factors: 1) the energy to produce the oil, 2) the energy to produce the tires, and 3) the energy to conduct general maintenance and repair. Indirect energy was calculated using indirect energy use factors provided by the Caltrans' Energy and Transportation Systems Handbook. For facility maintenance, the indirect energy use factor is 1.776 x108 BTU per lane mile for an urban roadway with asphalt concrete pavement. For the resource study area, this indirect energy use factor for facility maintenance was multiplied by the total lane distances of the I-10/Cherry Valley Boulevard study area (2.48 miles) and then by the number of lanes along the corridor under each scenario (i.e., 12 lanes under the No-Build Alternative, 27 lanes under Build Alternative 3, and 31 lanes under Build Alternative 4).

For the regional area, the number of lane miles in 2018 in the SCAG planning area (137,732.92 miles) was multiplied by the indirect energy use factor for facility maintenance to obtain estimates for facility maintenance energy use. Although various types of roadways are in the SCAG planning area, the indirect energy use factor for an urban roadway with asphalt concrete pavement was used for the regional area to provide a general estimate of indirect energy use and simplify the calculations, thereby ensuring consistency with those for the study area. Build Alternatives 3 and 4 would have approximately 1.98 and 2.07 additional lane miles, respectively, compared with the No-Build Alternative. For this reason, the regional area energy was adjusted to include the additional energy that Build Alternatives 3 and 4 would require for facility maintenance above the No-Build scenario.

For vehicle maintenance, the indirect energy use factor is 2,146 BTU per mile for medium trucks. This indirect energy use factor is the sum of three factors: 1) oil energy, 2) tire energy, and 3) general maintenance and repair energy. The energy use factor for medium trucks was used as an average for the various types of vehicles that would use the project facility. The indirect energy use factor for vehicle maintenance was multiplied by the annual VMT numbers for the study area provided by Caltrans and the regional area obtained from SCAG's 2020-2045 RTP/SCS.

Tables 2.2.8-12 and 2.2.8-13 show that both Build Alternatives 3 and 4 would result in an increase in indirect energy use in the project study area under Opening Year 2025 (totaling approximately 0.02 percent for Build Alternatives 3 and 4) and Design Year 2045 conditions (totaling approximately 0.001 percent for Build Alternative 3 and 0.002 percent for Build Alternative 4) compared with the No-Build Alternative. Tables 2.2.8-14 and 2.2.8-15 show that both Build Alternatives 3 and 4 would result in negligible changes in indirect energy use in the region in Opening Year 2025 and Design Year 2045 conditions compared with the No-Build Alternative. Both Build Alternatives 3 and 4 would not substantially contribute to indirect energy use at the regional level and would not be expected to result in permanent adverse indirect energy impacts. Build Alternatives 3 and 4 would be consistent with federal, regional, and local plans and policies. Therefore, project implementation would not result in an inefficient, wasteful, or unnecessary consumption of energy. The Build Alternatives would not result in adverse effects in this regard.

Table 2.2.8-12: Indirect Energy Use in the Project Study Area (Opening Year 2025)

Alternative	Indirect Energy for Facility Maintenance (billion BTUs)	Indirect Energy for Vehicle Maintenance (billion BTUs)	Total Indirect Energy Use (billion BTUs)	Numeric Difference between Build Alternatives and No-Build Alternative	Percent Difference between Build Alternatives and No-Build Alternative
No-Build Alternative	0.57	1,779.50	1,780.07	--	--
Build Alternative 3	0.92	1,779.42	1,780.34	0.27	0.02
Build Alternative 4	0.94	1,779.42	1,780.35	0.28	0.02

Source: ICF, Energy Analysis Report, January 2021.

Table 2.2.8-13: Indirect Energy Use in the Project Study Area (Design Year 2045)

Alternative	Indirect Energy for Facility Maintenance (billion BTUs)	Indirect Energy for Vehicle Maintenance (billion BTUs)	Total Indirect Energy Use (billion BTUs)	Numeric Difference between Build Alternatives and No-Build Alternative	Percent Difference between Build Alternatives and No-Build Alternative
No-Build Alternative	0.57	2,805.99	2,806.56	--	--
Build Alternative 3	0.92	2,805.68	2,806.60	0.04	0.001
Build Alternative 4	0.94	2,805.68	2,806.62	0.05	0.002

Source: ICF, Energy Analysis Report, January 2021.

Table 2.2.8-14: Indirect Energy Use in the SCAG Regional Area (Opening Year 2025)

Alternative	Indirect Energy for Facility Maintenance (billion BTUs)	Indirect Energy for Vehicle Maintenance (billion BTUs)	Total Indirect Energy Use (billion BTUs)	Numeric Difference between Build Alternatives and No-Build Alternative	Percent Difference between Build Alternatives and No-Build Alternative
No-Build Alternative	24,461.37	352,536.01	376,997	--	--
Build Alternative 3	24,462.29	352,536.01	376,998	0.92	0.002
Build Alternative 4	24,462.30	352,536.01	376,998	0.94	0.002

Source: ICF, Energy Analysis Report, January 2021.

Table 2.2.8-15: Indirect Energy Use in the SCAG Regional Area (Design Year 2045)

Alternative	Indirect Energy for Facility Maintenance (billion BTUs)	Indirect Energy for Vehicle Maintenance (billion BTUs)	Total Indirect Energy Use (billion BTUs)	Numeric Difference between Build Alternatives and No-Build Alternative	Percent Difference between Build Alternatives and No-Build Alternative
No-Build Alternative	24,461.37	385,460.41	409,922	--	--
Build Alternative 3	24,462.29	385,460.41	409,923	0.92	0.0328
Build Alternative 4	24,462.30	385,460.41	409,923	0.94	0.0333

Source: ICF, Energy Analysis Report, January 2021.

Avoidance, Minimization, and/or Mitigation Measures

No measures are proposed.

2.3 Biological Environment

2.3.1 Natural Communities

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 2.3.5. Wetlands and other waters are also discussed below in Section 2.3.2.

Affected Environment

This section is based upon the Natural Environment Study (Minimal Impacts) (NES-MI) prepared for the project dated December 2020.

For the purposes of this analysis, a biological study area (BSA) was established for the project; refer to Figure 2.3.1-1, Biological Study Area. The BSA is comprised of a 500-foot buffer surrounding the combined grading limits of Build Alternatives 3 and 4.

Existing Conditions

Eight special-status natural vegetation communities were identified by the California Natural Diversity Database (CNDDB) during the records search as occurring in the USGS Beaumont, El Casco, Forest Falls, and Yucaipa, California 7.5-minute quadrangles: Canyon Live Oak Ravine Forest, Riversidian Alluvial Fan Sage Scrub, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Riparian Forest, Southern Riparian Scrub, Southern Sycamore Alder Riparian Woodland, and Southern Willow Scrub. However, none of these natural communities of special concern were found within the BSA during the field surveys. There are 10 vegetation communities that were observed during the field survey within the BSA. Additionally, the BSA were observed to contain four land cover types: open water, ornamental, disturbed habitat, and developed. Through delineation using aerial photographs, and then later digitized, these vegetation communities and the land cover types were quantified by existing acreage within the BSA. These calculations are listed within Table 2.3.1-1, Existing Vegetations and Figure 2.3.1-2, Vegetation Communities and Other Land Uses. It should be noted that one vegetation community listed, the Cuyamaca Cypress Stands, is identified as a Special-Status Plant Species.

Figure 2.3.1-1: Biological Study Area

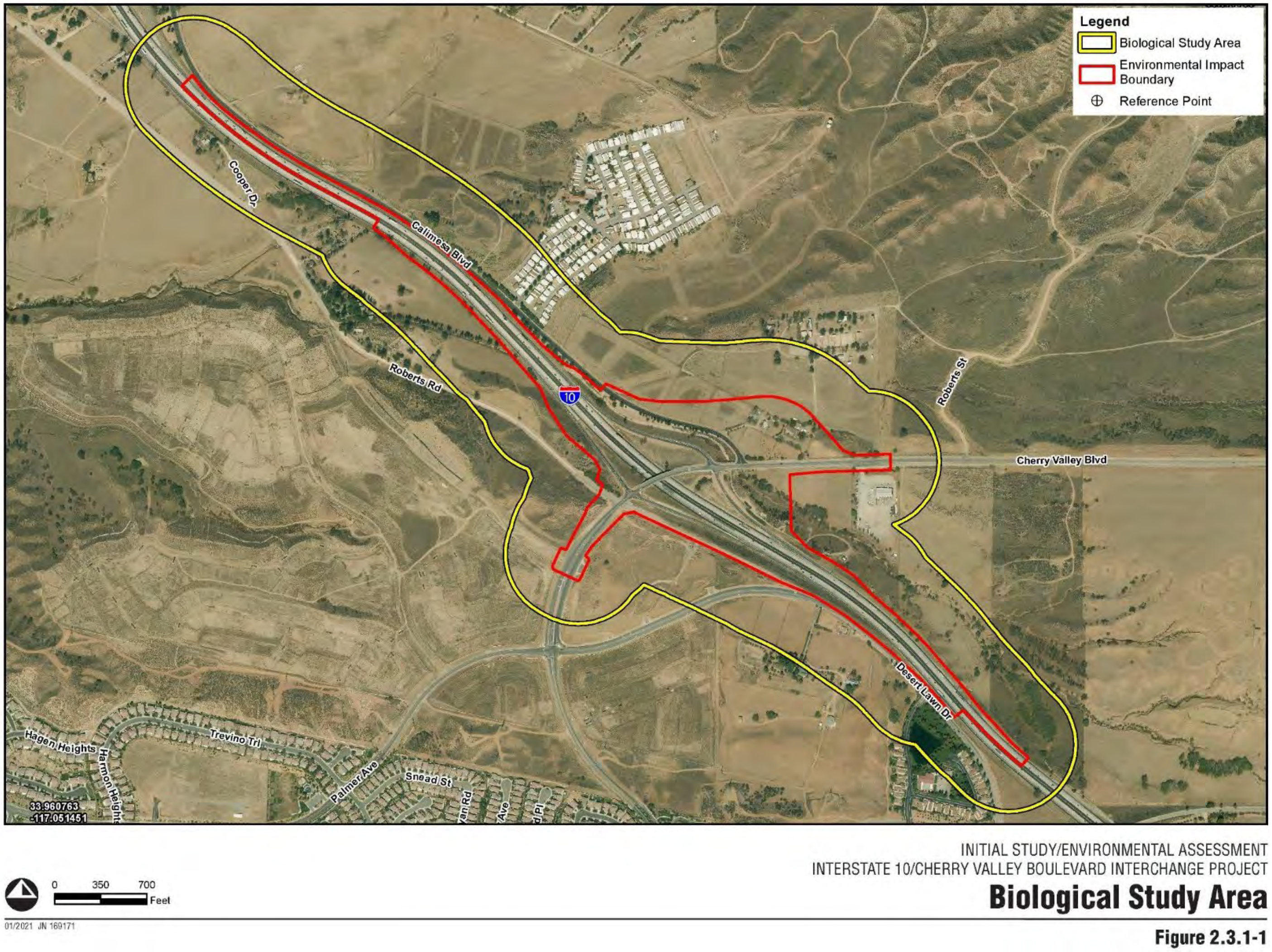
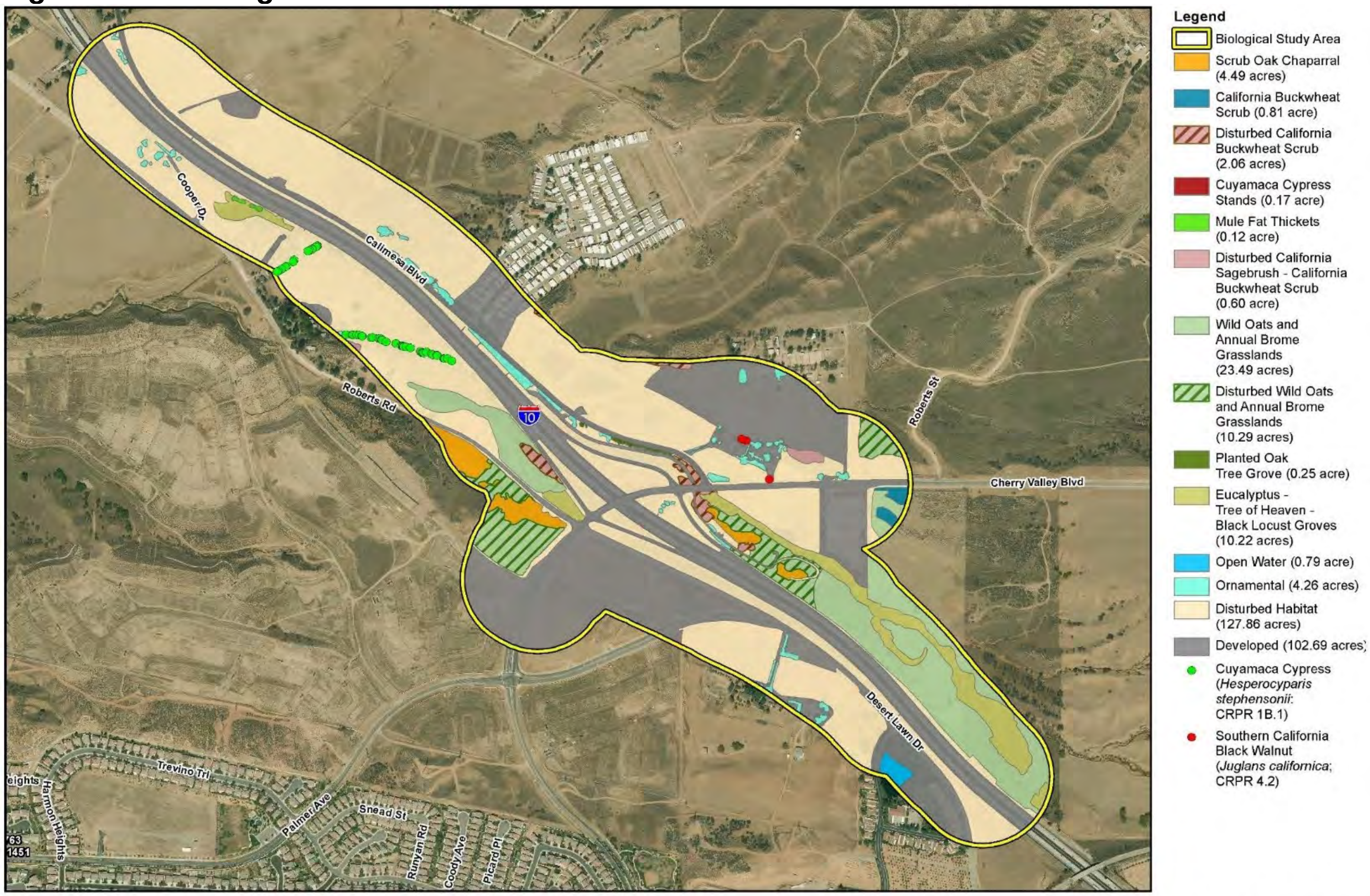


Table 2.3.1-1: Existing Vegetation

Vegetation Types and Other Areas in the BSA	Existing Acres
Scrub Oak Chaparral (*Quercus berberidifolia* Shrubland Alliance)	4.49
California Buckwheat Scrub (*Eriogonum fasciculatum* Shrubland Alliance)	0.81
Disturbed California Buckwheat Scrub (*Eriogonum fasciculatum* Shrubland Alliance)	2.06
Cuyamaca Cypress Stands (*Hesperocyparis stephensonii* Woodland Special Stands)	0.17
Mule Fat Thickets (*Baccharis salicifolia* Shrubland Alliance)	0.12
Disturbed California Sagebrush – (purple sage) Scrub (*Artemisia californica* – [*Salvia leucophylla]* Shrubland Alliance)	0.60
Wild Oats and Annual Brome Grasslands (*Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance)	23.49
Disturbed Wild Oats and Annual Brome Grasslands (*Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance)	10.29
Planted Oak Tree Grove (*Quercus agrifolia* Forest and Woodland Alliance)	0.25
Eucalyptus – Tree of Heaven – Black Locust Groves (*Eucalyptus* spp. - *Ailanthus altissima* - *Robinia pseudoacacia* Woodland Semi-Natural Alliance)	10.22
Open Water	0.79
Ornamental	4.26
Disturbed Habitat	127.86
Developed	102.69

Source: Michael Baker International, Natural Environment Study (Minimal Impacts) (December 2020).

Figure 2.3.1-2: Vegetation Communities and Other Land Uses



0 350 700 Feet

01/2021 JN 169171

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
INTERSTATE 10/CHERRY VALLEY BOULEVARD INTERCHANGE PROJECT

Vegetation Communities and Other Land Uses

Figure 2.3.1-2

Scrub Oak Chaparral (4.49 acres)
Scrub oak chaparral (*Quercus berberidifolia* Shrubland Alliance) encompasses approximately 4.49 acres of the BSA. Specifically, this vegetation community can be found on the open parcels located to the south of Roberts Road and south of the Cherry Valley Boulevard, within the central portion of the BSA. Inland scrub oak (*Quercus berberidifolia*) is the dominant plant species in this vegetation community with chamise (*Adenostoma fasciculatum*), holly leaf cherry (*Prunus ilicifolia*), and redberry buckthorn (*Rhamnus crocea*) occurring at lower densities. California buckwheat (*Eriogonum fasciculatum*), turkey-mullein (Croton setiger), short podded mustard (*Hirschfeldia incana*), and various non-native grasses also occur within the understory.

California Buckwheat Scrub (0.81 acres)
Approximately 0.81 acre of California buckwheat scrub (*Eriogonum fasciculatum* Shrubland Alliance) vegetation occurs within the BSA, on the parcels located to the south of Cherry Valley Boulevard and north of I-10, in the eastern portion of the BSA. This vegetation community is intermixed with the wild oats and annual brome grasslands and is dominated by California buckwheat. Other plant species observed within this vegetation community include deerweed (*Acmispon glaber*), turkey-mullein, short podded mustard and various non-native grasses.

Disturbed California Buckwheat Scrub (2.06 acres)
Disturbed California buckwheat scrub vegetation (*Eriogonum fasciculatum* Shrubland Alliance) encompasses various portions of the BSA located to the north and south of I-10. Disturbances within this vegetation community have occurred as a result of past agricultural uses, weed abatement, illegal trash dumping, and off-road vehicle uses. This vegetation community is comprised of scattered patches of California buckwheat intermixed with Russian thistle (*Salsola tragus*), short podded mustard, and various non-native grasses.

Cuyamaca Cypress Stands (0.17 acres)
Approximately 0.17 acre of Cuyamaca cypress stands (*Hesperocyparis stephensonii* Woodland Special Stands) occurs within the western portion of the BSA, to the south of I-10 and north of Roberts Road. This vegetation community is dominated by Cuyamaca cypress (*Hesperocyparis stephensonii*), a California Rare Plant Rank (CRPR) 1B.1 species. In addition, Cuyamaca cypress stands have a State rank of S1; “critically imperiled in the State because of extreme rarity (often five or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the State/province.” 49 individuals of Cuyamaca cypress were recorded within the western portion of the BSA. In addition, multiple individuals were observed surrounding the commercial property located to the north of Roberts Road, within and outside of the BSA.

According to the NES-MI, cypresses have been located north of Roberts Road since 1996. Cuyamaca cypress is the rarest cypress in California and is only known from just four locations in San Diego County. Cuyamaca cypress is known to occur at elevations ranging from 3,396 to 5,594 feet above mean sea level (amsl) and is restricted to gabbroic soils. It appears that the Cuyamaca cypress stands that occur within the western portion of the BSA, have been ornamentally planted at some point in the past; the cypresses occur well outside their known elevation range and the soils present are not gabbroic and instead consist of sandy loam and gravelly loamy fine sand substrates. In addition, the Cuyamaca cypress is known only to occur in San Diego County, which further suggests that this vegetation community does not naturally occur within the western portion of the BSA and is instead an ornamentally planted community.

Mule Fat Thickets (0.12 Acre)

Approximately 0.12 acre of mule fat thickets (*Baccharis salicifolia* Shrubland Alliance) occur within the northwest portion of the BSA, to the south of I-10 and north of Roberts Road. This vegetation community is dominated by mule fat (*Baccharis salicifolia*). Saplings of tree of heaven (*Ailanthus altissima*) occur intermixed with the mule fat. Short podded mustard and various non-native grasses comprise the understory of this vegetation community.

Disturbed California Sagebrush – (purple sage) scrub (0.60 Acre)

Approximately 0.60 acre of disturbed California sagebrush – (purple sage) scrub (*Artemisia californica* – [*Salvia leucophylla*] Shrubland Alliance) vegetation occurs along a small hillside located to the east of Calimesa Boulevard and north of Cherry Valley Boulevard. In addition, this vegetation community occurs in the western portion of the BSA, to the north of Roberts Road and south of I-10. California sagebrush (*Artemisia californica*) and California buckwheat are co-dominant species within this disturbed vegetation community. Non-native grasses and short podded mustard can be found intermixed with the California sagebrush and California buckwheat. Disturbances within this vegetation community are primarily a result of weed abatement.

Wild Oats and Annual Brome Grasslands (23.49 Acres)

The wild oats and annual brome grasslands vegetation community (*Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance) comprises approximately 23.49 acres of the BSA. The wild oats and annual brome grasslands can be found in the southeast portion of the BSA, to the north of I-10, and central portion of the BSA, to the south of I-10. This vegetation community is primarily dominated by non-native plant species which include ripgut brome (*Bromus diandrus*), slender oat (*Avena barbata*), wild oat (*Avena fatua*), foxtail brome (*Bromus madritensis* ssp. *rubens*), red stemmed filaree (*Erodium cicutarium*), pigweed amaranth (*Amaranthus albus*), and short podded mustard.

Disturbed Wild Oats and Annual Brome Grasslands (10.29 Acres)
The disturbed wild oats and annual brome grasslands vegetation community (*Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance) encompasses approximately 10.29 acres of the BSA. The non-native plant species that dominate this vegetation community occur sparsely throughout and are in poor condition as a result of on-going weed abatement activities and historical agricultural uses. Additionally, a higher concentration of non-native, herbaceous plant species occurs throughout and include red stemmed filaree, pigweed amaranth, short podded mustard, Russian thistle, and prickly lettuce (*Lactuca serriola*).

Planted Oak Tree Grove (0.25 Acre)
A planted oak tree grove (*Quercus agrifolia* Forest and Woodland Alliance) consisting of California live oak (*Quercus agrifolia*) can be found within the central portion of the BSA. The oaks are located adjacent to Calimesa Boulevard paralleling I-10 and to the south of Calimesa Boulevard and north of I-10.

Eucalyptus – Tree of Heaven – Black Locust Groves (10.22 Acres)
Approximately 10.22 acres of eucalyptus – tree of heaven – black locust groves (*Eucalyptus* spp. - *Ailanthus altissima* - *Robinia pseudoacacia* Woodland Semi-Natural Alliance) occur within the BSA. This natural community occurs within the southeast portion of the BSA, to the north of I-10 and south of Cherry Valley Boulevard, within the central portion of the BSA in between the I-10 east off-ramp and Roberts Road, and within the northwest portion of the BSA, to the south of I-10 and north of Roberts Road. Tree of heaven, black locust (*Robinia pseudoacacia*), and eucalyptus (*Eucalyptus* spp.) dominate the canopy of this vegetation community. Within the southeast portion of the BSA, a few individuals of cottonwood (*Populus fremontii*) and mule fat can be found intermixed with the tree of heaven and eucalyptus.

Open Water (0.79 Acre)
Approximately 0.79 acre of open water occur within the southeast portion of the BSA, to the south of Desert Lawn Drive and east of Plantation Drive. Specifically, the open water consists of the artificial pond that occurs within the Plantation on the Lake residential community.

Ornamental (4.26 Acres)
Approximately 4.26 acres of ornamental vegetation occurs throughout the BSA. The ornamental vegetation primarily consists of carrotwood (*Cupaniopsis anacardioides*), China berry tree (*Melia azedarach*), olive (*Olea europaea*), black locust, pine (*Pinus* spp.), Peruvian pepper tree (*Schinus molle*), Brazilian pepper tree (*Schinus terebinthifolius*), Siberian elm (*Ulmus pumila*), and Mexican fan palm (*Washingtonia robusta*).

Disturbed Habitat (127.86 Acres)
Disturbed habitat areas comprise approximately 127.86 acres of the BSA. Disturbed habitat within the BSA has been physically disturbed by anthropogenic activities (e.g., routine weed abatement, historical agricultural activities, illegal trash dumping, and off-road vehicle uses). Surface soils within these areas have been heavily compacted/disturbed, are generally devoid of vegetation, or support non-native and ruderal/weedy plant species. Vegetation that is present primarily consists of non-native plant species including pigweed amaranth, wild oat, Pacific false bindweed (*Calystegia purpurata* ssp. *purpurata*), tocalote (*Centaurea melitensis*), lamb's quarters (*Chenopodium album*), red stemmed filaree, prostrate sandmat (*Euphorbia prostrata*), short podded mustard, stinknet (*Oncosiphon piluliferum*), and puncture vine (*Tribulus terrestris*).

Developed (102.69 Acres)
Developed areas make up approximately 102.69 acres of the BSA and consist of areas that have been constructed upon or have been physically altered to a degree that native vegetation is no longer supported. Developed areas within the BSA are permanent or semi-permanent structures, paved, or impervious surfaces (i.e., I-10 and associated on- and off-ramps, Calimesa Boulevard, Coit Avenue, Cherry Valley Boulevard, Roberts Road, Cooper Drive, Desert Lawn Drive, Plantation Drive, Peachtree Lane, the Rancho Calimesa Mobile Home Ranch, the Plantation on the Lake residential community, existing rural residential and commercial properties, and ongoing residential development).

Habitat Connectivity
Habitat linkages are key features for wildlife movement between habitat patches. Wildlife corridors are generally defined as those areas that provide opportunities for individuals or local populations to conduct seasonal migrations, permanent dispersals, or daily commutes, while linkages generally refer to broader areas that provide movement opportunities for multiple keystone/focal species or allow for propagation of ecological processes (e.g., for movement of pollinators), often between areas of conserved land.

There are no known designated Western Riverside Multiple Species Habitat Conservation Plan (WR-MSHCP) Criteria Cells, habitat linkages, or designated conservation areas within the BSA. Further, wildlife movement within and adjacent to the BSA potentially occurs within the ephemeral drainage features that connect to the surrounding interior areas, foothills, and mountain ranges. The north, east, and western portions of the BSA and surrounding areas consists of relatively undisturbed natural habitats which allows wildlife to move freely across the BSA to surrounding habitats. These areas provide movement opportunities for coyote, bobcat (Lynx rufus) as well as providing suitable nesting/foraging habitat for a variety of seasonal bird species that migrate through the region.

Environmental Consequences

Temporary Impacts

No-Build Alternative

No transportation improvements would occur under the No-Build Alternative; therefore, the No-Build Alternative would not impact natural communities.

Build Alternatives 3 and 4

As described above, 10 natural vegetation communities were observed within the BSA: the Scrub Oak Chaparral (*Quercus berberidifolia* Shrubland Alliance), California Buckwheat Scrub (*Eriogonum fasciculatum* Shrubland Alliance), Disturbed California Buckwheat Scrub (*Eriogonum fasciculatum* Shrubland Alliance), Cuyamaca Cypress Stands (*Hesperocyparis stephensonii* Woodland Special Stands), Mule Fat Thickets (*Baccharis salicifolia* Shrubland Alliance), Disturbed California Sagebrush – (*purple sage*) Scrub (*Artemisia californica – [Salvia leucophylla]* Shrubland Alliance), Wild Oats and Annual Brome Grasslands (*Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance), Disturbed Wild Oats and Annual Brome Grasslands (*Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance), Planted Oak Tree Grove (*Quercus agrifolia* Forest and Woodland Alliance), and Eucalyptus – Tree of Heaven – Black Locust Groves (*Eucalyptus* spp. - *Ailanthus altissima - Robinia pseudoacacia* Woodland Semi-Natural Alliance). Of these 10 communities, the Cuyamaca cypress stands is the only natural community that is considered a natural community of special concern. According to the NES-MI, the Build Alternatives have the potential to result in indirect impacts to this special-status vegetation community related to fugitive dust or spread of non-native seeds. Adherence to Caltrans Standard Specifications Section 14-10.01, General (Solid Waste Disposal and Recycling), would ensure project materials are not cast from the project site into nearby habitats and project related debris, spoils, and trash are contained and removed to a proper disposal facility. Caltrans Standard Specifications Section 18-1.03A, General (Dust Palliatives), would ensure dust control during project construction. Refer to Section 2.3.6 for a discussion regarding invasive species. Additionally, workers will receive environmental awareness training prior to the initiation of work (Measure NC-1) and construction equipment shall be inspected and cleaned prior to use in the project area to minimize the importation of non-native plant material (Measure NC-2). Thus, based on the NES-MI, it was determined that the Build Alternatives would have “no effect” on the Cuyamaca cypress stands and no compensatory mitigation would be required.

In addition, an ornamentally planted oak tree grove consisting of California live oak is located within the central portion of the BSA, to the south of Calimesa Boulevard. If implementation of the Build Alternatives would require tree removal/pruning of California live oak and it is determined that the project is not exempt from the oak tree permit requirements per Section 18.80.030 of the City of Calimesa Zoning Code, an application for oak tree removal/encroachment permit shall be obtained prior to the initiation of project activities (Measure NC-3).

Permanent Impacts

No-Build Alternative

No transportation improvements would occur under the No-Build Alternative; therefore, the No-Build Alternative would not result in permanent impacts on natural communities.

Build Alternatives 3 and 4

As stated above, the Cuyamaca cypress stands are considered to be a natural community of special concern. Based on the NES-MI, permanent impacts to the Cuyamaca cypress stands are not anticipated. Therefore, permanent impacts as a result of implementation of the Build Alternatives would not be adverse.

Table 2.3.1-2: Build Alternative 3 Impacts to Vegetation Communities and Other Land Uses

Vegetation Communities/Land Use Types	Temporary (acres)	Permanent (acres)
Scrub Oak Chaparral (*Quercus berberidifolia* Shrubland Alliance)	0.00	0.06
California Buckwheat Scrub (*Eriogonum fasciculatum* Shrubland Alliance)	0.00	0.00
Disturbed California Buckwheat Scrub (*Eriogonum fasciculatum* Shrubland Alliance)	0.22	0.30
Cuyamaca Cypress Stands (*Hesperocyparis stephensonii* Woodland Special Stands)	0.00	0.00
Mule Fat Thickets (*Baccharis salicifolia* Shrubland Alliance)	0.00	0.00
Disturbed California Sagebrush – California Buckwheat Scrub - (purple sage) scrub (*Artemisia californica* - (*Salvia leucophylla*) Shrubland Alliance)	0.00	0.00
Wild Oats and Annual Brome Grasslands (*Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance)	0.00	0.30
Disturbed Wild Oats and Annual Brome Grasslands (*Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance)	0.00	0.22
Eucalyptus – Tree of Heaven – Black Locust Groves (*Eucalyptus* spp. - *Ailanthus altissima - Robinia pseudoacacia* Woodland Semi-Natural Alliance)	0.00	0.28
Open Water	0.00	0.00
Ornamental	0.59	0.24
Planted Oak Tree Grove	0.21	0.002
Disturbed	6.09	14.61
Developed	16.89	9.08
TOTAL*	**24.00**	**25.10**

Source: Michael Baker International, Natural Environment Study (Minimal Impacts) (August 2020).

Table 2.3.1-3: Build Alternative 4 Impacts to Vegetation Communities and Other Land Uses

Vegetation Communities/Land Use Types	Temporary (acres)	Permanent (acres)
Scrub Oak Chaparral (*Quercus berberidifolia* Shrubland Alliance)	0.20	0.36
California Buckwheat Scrub (*Eriogonum fasciculatum* Shrubland Alliance)	0.00	0.00
Disturbed California Buckwheat Scrub (*Eriogonum fasciculatum* Shrubland Alliance)	0.66	0.41
Cuyamaca Cypress Stands (*Hesperocyparis stephensonii* Woodland Special Stands)	0.00	0.00
Mule Fat Thickets (*Baccharis salicifolia* Shrubland Alliance)	0.00	0.00
Disturbed California Sagebrush – California Buckwheat Scrub - (purple sage) scrub (*Artemisia californica* - (*Salvia leucophylla*) *Shrubland Alliance*)	0.00	0.00
Wild Oats and Annual Brome Grasslands (*Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance)	0.00	0.51
Disturbed Wild Oats and Annual Brome Grasslands (*Avena* spp. - *Bromus* spp. Herbaceous Semi-Natural Alliance)	0.27	0.89
Eucalyptus – Tree of Heaven – Black Locust Groves (*Eucalyptus* spp. - *Ailanthus altissima - Robinia pseudoacacia* Woodland Semi-Natural Alliance)	0.39	0.42
Open Water	0.00	0.00
Ornamental	0.32	0.23
Planted Oak Tree Grove	0.22	0.01
Disturbed	6.70	14.72
Developed	16.43	8.37
TOTAL*	**25.19**	**25.92**

Source: Michael Baker International, Natural Environment Study (Minimal Impacts) (August 2020).

There are no known designated WR-MSHCP Criteria Cells, habitat linkages, or designated conservation areas within the BSA. The Build Alternatives are not expected to impede wildlife movement through the BSA, specifically through the north, east, and western portions, and the project site would continue to provide opportunities for local wildlife movement and function as a corridor for highly mobile wildlife species.

Avoidance, Minimization, and/or Mitigation Measures

NC-1: Prior to the commencement of construction, a qualified biologist shall prepare and present a Workers Environmental Awareness Program (WEAP) training in Spanish and English to all contractors, subcontractors, and workers expected to be on-site throughout the entire construction period. The WEAP shall include a brief review of any special-status vegetation communities and special-status species, including habitat requirements and where they might be found, and other sensitive biological resources that could occur in and adjacent to the project. The WEAP shall address the biological mitigation measures listed in the project's approved Mitigation Monitoring and Reporting Program, as well as applicable conditions and provisions of any associated environmental permits (e.g., Section 404 permit, Section 401 Certification, Section 1602 SAA), including but not limited to pre-construction biological surveys, pre-construction installation of perimeter sediment and erosion control best management practices per the RWQCB-approved Storm Water Pollution Prevention Plan, and any recurrent nesting bird surveys (as needed).

NC-2: All construction equipment shall be inspected and cleaned prior to use in the project area to minimize the importation of non-native plant material. A weed abatement program shall be implemented should invasive plant species colonize the area within the limits of disturbance post-construction.

NC-3: An application for an oak tree removal/encroachment permit shall be obtained prior to the initiation of project activities. A permit shall be issued by the Community Development Director for the removal, encroachment, or relocation of a protected oak tree(s) only if the director has made the following findings:

- A reasonable and conforming use of the property justifies the removal of trees.
- No other permit for removal of an oak tree on the same property has been issued within the prior one-year period.
- The retention or relocation of the tree prevents reasonable use of the property on which it is located and, if required, the applicant has applied for any related discretionary or ministerial permits for the proposed use of property or that the tree has been determined to be damaged or diseased by a licensed arborist, as documented in a report to be reviewed and approved by the Community Development Department.
- Replacement trees or acorns shall be planted to replace each tree that is removed, if feasible, based upon site characteristics, or other appropriate mitigation shall be provided. [Ord. 342 § 3 (Exh. A), 2016].

2.3.2 Wetlands and Other Waters

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (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. The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high water mark (OHWM), in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. 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 Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] 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 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.

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 FHWA and/or the Department, 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 (RWQCBs) 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 the Water Quality section for more details.

Affected Environment

This section is based upon the Natural Environment Study (Minimal Impacts) (NES-MI) prepared for the project dated December 2020, which included preparation of a Delineation of State and Federal Jurisdictional Waters (dated November 2020).

Methodology

Prior to the field delineation, a literature review was conducted to determine watershed characteristics and the locations/types of aquatic resources that may be present in the project area. High-resolution aerial photographs, USFWS National Wetland Inventory (NWI) maps, and USGS topographic maps were examined to determine the potential areas of USACE, RWQCB, and CDFW jurisdiction within the project boundary. The U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Web Soil Survey, and Flood Insurance Rate Map (FIRM), were concurrently reviewed for the project site's existing conditions.

The jurisdictional delineation was conducted on foot and included a systematic inspection and evaluation of all drainage features present within the survey area on August 14, 2019. The channel widths within drainage features were measured based on the discernible ordinary high-water mark (OHWM) in order to quantify acreage and linear feet of potential waters of the United States (WoUS). Where there were observed changes in the OHWM width, transects were recorded to obtain an accurate representation of the entire reach of each feature. Width of streambed and bank and associated riparian vegetation and/or wildlife resources were also measured in order to quantify potential jurisdictional streambed. The lateral extent of potential jurisdictional streambed was measured from bank to bank at the top of the channel, or to the drip-line of the associated riparian vegetation where it extends beyond the bank of the channel. While in the field data points were obtained with a Garmin 62 Global Positioning System (GPS) Map62 in order to record and identify the active channels using field indicators such as OHWM, picture locations, and drainage features. The data was then transferred and added to the project's jurisdictional map using Geographic Information System software.

Existing Conditions

Wetland: Based on the results of the field delineation, no jurisdictional wetland features were noted within the boundaries of the survey area. Soil pits were dug within the drainage features described below (Drainage 1), where dominant hydrophytic vegetation and hydrologic indicators were observed. Soil pit one (SP1) was dug within the central portion of the project site where dominant hydrophytic vegetation (mulefat; FAC) was observed. SP1 was dug to a depth of approximately 12 inches and consisted of a single soil horizon. SP1 exhibited a texture of sand and displayed a matrix color of 10YR 4/3 when moist. No redoximorphic features were identified within the matrix of SP1. Indicators of wetland hydrology including drift deposits and drainage patterns were noted around SP1. Based on the results of the field delineation, it was determined that SP1 only met two (hydrophytic vegetation; hydrology) of the three (hydrophytic vegetation, hydric soils, and hydrology) required wetland parameters and thus did not qualify as a wetland.

Non-Wetland Features: Multiple unnamed drainage features were observed to either enter the project site, or exist within the BSA. All on-site drainages exhibited a bed and bank and are considered CDFW jurisdictional streambed. All on-site drainages qualify as Corps non-wetland WoUS and evidence of an OHWM was noted within the project site, which totaled approximately 1.15 acres. Each observed drainage is described below:

Drainage 1

Drainage 1 is an unnamed, ephemeral drainage feature which enters the project site as an earthen feature from the southeast and flows northwest through the project site exiting at the northwestern boundary. It measures approximately 2,519 linear feet in length with an average width of approximately 21 feet within the boundaries of the project site. During significant storm events, surface water runoff from surrounding areas is collected within Drainage 1 and conveyed northwest across the central portion of the project site. Drainage 1 enters a 10-foot wide concrete box culvert underneath Cherry Valley Boulevard and flows continue within a trapezoidal concrete lined channel adjacent and parallel to Calimesa Boulevard. From there, Drainage 1 transitions into a 22-foot wide concrete box culvert as it proceeds west and underneath I-10. Drainage 1 daylights as earthen channel in the northwestern portion of the project site and continues northwest outside of the project area. The earthen segments of Drainage 1 are characterized by a loose substrate composed of fine sediment, sand, and cobble. No surface water was observed within Drainage 1 during the August 14, 2019 site visit. Evidence of an OHWM was observed during field delineation via a natural line impressed on the bank, change in particle size distribution, presence of a wrack line, and changes in vegetation community from a lack of vegetation within the channel to riparian scrub and upland species. Dominant vegetation species occurring within Drainage 1 include tree of heaven (Ailanthus altissima, Facultative Upland [FACU]) and mulefat (Baccharis salicifolia, Facultative [FAC]). Plant species vary in their tolerance of wetland conditions. On the National Wetland Plant List, there are five categories of wetland indicator status ratings, used to indicate a plant's likelihood for occurrence in wetlands versus non-wetlands:

- Obligate Wetland (OBL). Almost always occur in wetlands.
- Facultative Wetland (FACW). Usually occur in wetlands, but may occur in non-wetlands.
- Facultative (FAC). Occur in wetlands and non-wetlands.
- Facultative Upland (FACU). Usually occur in non-wetlands, but may occur in wetland.
- Obligate Upland (UPL). Almost always occur in non-wetlands.

SP1 was dug within the channel where dominant hydrophytic vegetation and hydrologic indicators were observed.

Drainage 3

Drainage 3 is an unnamed, ephemeral drainage feature located in the northern portion of the project site and is a tributary to Drainage 1. Drainage 3 is composed of grouted riprap and concrete within the project site. There is little to no vegetation associated with Drainage 3 which measures approximately 197 linear feet in length with an average width of approximately 40 feet. Evidence of an OHWM was observed via litter and debris, and a natural line impressed on the bank. During significant storm events, surface water runoff from the surrounding area to the east is collected within Drainage 3 and conveyed southwest into Drainage 1. No surface water was observed within Drainage 3 during the August 14, 2019 site visit and because Drainage 3 is composed of grouted riprap and concrete, no soil pits were performed.

Drainage 4

Drainage 4 is an unnamed, ephemeral drainage feature located in the northwestern portion of the project site along the southside of I-10. Due to limited access to this portion of the project site and safety concerns as a result of the proximity of Drainage 4 to I-10, this drainage feature was not surveyed during the August 14, 2019 site reconnaissance. Based on the a reviewal of aerial imagery and a desktop delineation analysis, Drainage 4 is an earthen drainage feature and measures approximately 22 linear feet in length with an average width of approximately 14 feet. During precipitation events, run-off from the adjacent roadway and flows from the surrounding area to the north are collected within Drainage 4 and conveyed northwest parallel to I-10. No soil pits were dug within Drainage 4 due to the access restrictions noted above. Table 2.3.2-1, Summary of Jurisdictional Areas, below provides a summary of the jurisdictional limits for Drainages 1, 3, and 4.

Table 2.3.2-1: Summary of Jurisdictional Areas

Jurisdictional Feature	Linear Feet	Corps/RWQCB Non-Wetland Waters of the U.S. (acres)	CDFW Streambed/ Associated Riparian Vegetation (acres)
Drainage 1	2,519	0.61	1.36
Drainage 3	197	0.06	0.08
Drainage 4	22	0.01	0.01
TOTAL*	**2,738**	**0.68**	**1.45**

Source: Michael Baker International, Delineation of State and Federal Jurisdictional Waters, November 2020.

Environmental Consequences

No-Build Alternative

Project improvements would not occur under the No-Build Alternative; therefore, the No-Build Alternative would not impact wetlands and other waters.

Build Alternatives 3 and 4

Drainages 1, 3, and 4 are considered ephemeral drainage features and therefore would not meet the definition of a WoUS pursuant to the Navigable Waters Protection Rule. However, Drainages 1, 3, and 4 qualify as waters of the State and Regional Board jurisdiction totals approximately 0.68 acre (2,738 linear feet) non-wetland waters of the State. Additionally, all on-site drainages (Drainage 1, 3, and 4) exhibited a clear bed and bank and CDFW jurisdiction totaled approximately 1.45 acre. Based on the results of the field delineation, it was determined that approximately 0.40 acre of CDFW jurisdictional vegetated streambed, 0.87 acre of CDFW jurisdictional non-vegetated streambed, and 0.18 acre of associated riparian vegetation is located within the project site.

Based on the Delineation prepared for the project, Build Alternative 3 would permanently impact approximately 0.02 acre (63 linear feet) of Corps/Regional Board jurisdiction (non-wetland waters of the State) and 0.03 acre (63 linear feet) of CDFW jurisdiction. Build Alternative 4 would permanently impact approximately 0.06 acre (221 linear feet) of Corps/Regional Board jurisdiction (non-wetland waters of the State) and approximately 0.16 acre (221 linear feet) of CDFW jurisdiction; refer to Tables 2.3.2-2, Corps/RWQCB Jurisdictional Impact Summary, and 2.3.2-3, CDFW Jurisdictional Impact Summary, below.

Table 2.3.2-2: Corps/RWQCB Jurisdictional Impact Summary

Jurisdictional Feature	Corps/RWQCB On-Site Acreage (Linear Feet)	Alt. 3 Impact Acreage (Linear Feet)	Alt. 4 Impact Acreage (Linear Feet)
Drainage 1	0.61 (2,519)	0.01 (57)	0.06 (215)
Drainage 3	0.06 (197)	-	-
Drainage 4	0.01 (22)	0.001 (6)	0.001 (6)
TOTAL	**0.68 (2,738)**	**0.02 (63)**	**0.06 (221)**

Source: Michael Baker International, Jurisdictional Delineation Report, November 2020.

Table 2.3.2-3: CDFW Jurisdictional Impact Summary

Jurisdictional Feature	CDFW On-Site Acreage (Linear Feet)	Alt. 3 Impact Acreage (Linear Feet)	Alt. 4 Impact Acreage (Linear Feet)
Drainage 1	1.36 (2,519)	0.03 (57)	0.16 (215)
Drainage 3	0.08 (197)	-	-
Drainage 4	0.01 (22)	0.002 (6)	0.002 (6)
TOTAL	**1.45 (2,738)**	**0.03 (63)**	**0.16 (221)**

Source: Michael Baker International, Jurisdictional Delineation Report, November 2020.

The Build Alternatives would be subject to the following permits/approvals prior to construction:

- Receive a Section 404 Nationwide Permit No. 14: Linear Transportation Projects,
- Santa Ana Regional Water Quality Control Board 401 Water Quality Certification, and
- CDFW 1602 Streambed Alteration Agreement (SAA), satisfying all associated requirements, prior to completion of final design.

In consultation with the regulatory agencies, compensatory mitigation for permanent impacts to State and Federal jurisdictional areas shall be provided if required under the conditions of the regulatory approvals. Regulatory approvals from the USACE, RWQCB, and the CDFW will be obtained prior to construction (Measure WET-1), and limits of construction will be clearly defined beforehand (WET-2). With the implementation of these measures, the

Build Alternatives would not cause adverse effects to the unnamed drainage features in the project area.

Avoidance, Minimization, and/or Mitigation Measures

WET-1: The following regulatory approvals shall be obtained prior to commencement of any construction activities within the identified jurisdictional areas: 1) A Nationwide Permit from USACE; 2) RWQCB CWA Section 401 Water Quality Certification (WQC); and 3) CDFW Section 1602 Streambed Alteration Agreement (SAA). As part of the regulatory approval process, permanent and temporary impacts on jurisdictional waters shall be mitigated at a minimum ratio of 1:1 at an approved mitigation bank, applicant-sponsored mitigation area, or on site, in consultation with the resource agencies.

WET-2: The limits of construction shall be clearly delineated by a survey crew prior to the commencement of project activities. The limits of construction shall be defined with silt fencing or orange construction fencing and checked by a qualified biologist before initiation of construction.

2.3.3 Plant Species

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 2.3.5 in this document for detailed information about these species.

This section of the document discusses all 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 California Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act (CEQA), found at California Public Resources Code, Sections 21000-21177.

Affected Environment

This section is based upon the Natural Environment Study (Minimal Impacts) (NES-MI) prepared for the project dated December 2020. For the purposes of this technical report, a biological study area (BSA) was established for the project and would be referred to throughout this analysis; refer to Figure 2.3.1-1. The BSA is comprised of the project site plus a 500-foot buffer based on the grading limits of the Build Alternatives.

Methodology

Prior to conducting the habitat assessment, a literature review and records search was conducted for special-status biological resources potentially occurring on or within the vicinity of the BSA. The record search was focused within USGS Beaumont, El Casco, Forest Falls, and Yucaipa, California 7.5-minute quadrangles, were determined through a query of the CDFW CNDDB RareFind 5, the CNPS Online Inventory of Rare and Endangered Plants of California (Online Inventory), the Calflora Database, species listings provided by the CDFW and the USFWS, the RCA online WR-MSHCP Information Application, and those species covered under the WR-MSHCP and evaluated in its associated technical documents. In addition, an Official Species List was obtained from the USFWS Carlsbad Field Office via the Information for Planning and Conservation (IPaC) database on June 22, 2020.

Additionally, available reports, survey results, and literature detailing the biological resources previously observed on or within the vicinity of the BSA were reviewed to gain an understanding of existing site conditions, confirm previous species observations, and note the extent of any disturbances that have occurred within the BSA that would otherwise limit the distribution of special-status biological resources. Standard field guides and texts were reviewed for specific habitat requirements of special-status and non-special-status biological resources.

The literature review provided a baseline from which to inventory existing biological resources and evaluate the ability of the BSA to support special-status biological resources. Additional occurrence records of those species that have been documented on or within the vicinity of the BSA were derived from database queries. The CNDDB was used, in conjunction with Geographic Information Systems (GIS) ArcView software, to identify special-status species occurrence records within the USGS Beaumont, El Casco, Forest Falls, and Yucaipa, California 7.5-minute quadrangles. In addition, the goals and objectives of the Western Riverside County Multiple Species Habitat Conservation Plan (WR-MSHCP) were reviewed for applicability to the BSA.

During the field surveys conducted on July 10, 2019 and June 9, 2020, biologists extensively surveyed all special-status habitats and/or natural areas, where accessible, that were determined to have a higher potential to support special-status plant species. All plant species observed during the field surveys, as well as dominant plant species within each vegetation community, were recorded in a field notebook. Plant species observed during the field surveys were identified by visual characteristics and morphology in the field, while unusual and less familiar plant species were photographed and later identified in the laboratory using taxonomical guides.

Existing Conditions
The NES-MI prepared for the project analyzes impacts to sensitive plant species.

A total of 63 special status plant species were identified during the CNDDB, CNPS, and IPaC records search as potentially occurring on the BSA. One special-status plant species was observed within the BSA during the field investigations: southern California black walnut (*Juglans californica*; CRPR 4.2). It should be noted that Cuyamaca cypress (*Hesperocyparis stephensonii*; CRPR 1B.1) did not come up in the literature review, however; 49 individuals were observed within the western portion of the BSA (refer to Section 2.3.1 for further discussion of the *Cuyamaca cypress*). Based on the results of the field surveys and a review of specific habitat preferences, occurrence records, known distributions, and elevation ranges, it was determined that the BSA has a low potential to support Yucaipa onion (*Allium marvinii*; CRPR 1B.2), Jaeger's milk-vetch (*Astragalus pachypus var. jaegeri*; CRPR 1B.1), Plummer's mariposa-lily (*Calochortus plummerae*; CRPR 4.2), Parry's spineflower (*Chorizanthe parryi var. parryi*; CRPR 1B.1), Robinson's pepper-grass (*Lepidium virginicum var. robinsonii*; CRPR 4.3), and San Bernardino aster (*Symphyotrichum defoliatum*; CRPR 1B.2). All remaining special-status plant species identified during the literature review are not expected to occur within the BSA.

Southern California Black Walnut
The southern California black walnut (*Juglans californica*; CRPR 4.2) is a fully covered special-status species under the WR-MSHCP and is a CRPR species. Field survey results found three individuals of southern California black walnut were observed within the northeast portion of the BSA, to the north of Cherry Valley Boulevard. The three individuals were observed growing adjacent to existing rural residential land uses and were intermixed with various non-native ornamental tree species (i.e., tree of heaven (*Eucalyptus* spp. - *Ailanthus altissima -Robinia pseudoacacia* Woodland Semi-Natural Alliance), Peruvian pepper tree (*Schinus molle*), pine (*Pinus* spp), etc.).

Environmental Consequences
Temporary Impact
No-Build Alternative
Project improvements would not occur under the No-Build Alternative; therefore, the No-Build Alternative would not impact plant species.

Build Alternatives 3 and 4

Cuyamaca cypress (*Hesperocyparis stephensonii*; CRPR 1B.1) and southern California black walnut (*Juglans californica*; CRPR 4.2) were the only special-status plant species observed within the western portion of the BSA. No additional special-status plant species were observed during the field surveys. Based on the results of the field surveys and a review of specific habitat preferences, occurrence records, known distributions, and elevation ranges, it was determined that the BSA has a low potential to support Yucaipa onion (*Allium marvinii*; CRPR 1B.2), Jaeger's milk-vetch (*Astragalus pachypus var. jaegeri;* CRPR 1B.1), Plummer's mariposa-lily (*Calochortus plummerae*; CRPR 4.2), Parry's spineflower (*Chorizanthe parryi var. parryi*; CRPR 1B.1), Robinson's pepper-grass (*Lepidium virginicum var. robinsonii*; CRPR 4.3), and San Bernardino aster (*Symphyotrichum defoliatum*; CRPR 1B.2). All remaining special-status plant species identified during the literature review are not expected to occur within the BSA. Although some marginal habitat preferred by Yucaipa onion (*Allium marvinii;* CRPR 1B.2), Jaeger's milk-vetch (*Astragalus pachypus var. jaegeri;* CRPR 1B.1), Plummer's mariposa-lily (*Calochortus plummerae;* CRPR 4.2), Parry's spineflower (*Chorizanthe parryi var. parryi;* CRPR 1B.1) Robinson's pepper-grass (*Lepidium virginicum var. robinsonii*; CRPR 4.3), and San Bernardino aster (*Symphyotrichum defoliatum*; CRPR 1B.2) occurs within the BSA, these species were not observed during the field surveys. In addition, all these species are fully covered under the WR-MSHCP and require no further analysis.

Although marginal habitats preferred by Robinson's pepper-grass (*Lepidium virginicum var. robinsonii*; CRPR 4.3) and San Bernardino aster (*Symphyotrichum defoliatum*; CRPR 1B.2) are present within the BSA, these species were not observed during the field surveys. In addition, the closest extant occurrence record for Robinson's pepper-grass (*Lepidium virginicum var. robinsonii*; CRPR 4.3) was observed in 2001, approximately four miles southwest of the BSA in a Riverside County landfill area located to the north of Moreno Valley. The closest extant occurrence record for San Bernardino aster (*Symphyotrichum defoliatum*; CRPR 1B.2) was observed in 1951 approximately four miles southwest of the BSA along a portion of San Timoteo Canyon.

The construction activities associated with the development of the proposed Build Alternatives have the potential to result in indirect impacts, such as fugitive dust or spread of non-native seeds, to potential habitats favored by the species that surround the BSA and the special-status species observed within the BSA (Cuyamaca cypress and southern California black walnut). As discussed, construction workers will receive environmental awareness training prior to the initiation of work (Measure NC-1) and construction equipment would be inspected and cleaned prior to use in the project area to minimize the importation of non-native plant material (Measure NC-2). Additionally, a survey crew will delineate the limits of construction, and the limits of construction would be defined with silt fencing or orange construction fencing and checked by a qualified biologist prior to construction (WET-2). As such, no adverse effects would occur to special-status plant species.

Permanent Impact
No-Build Alternative
Project improvements would not occur under the No-Build Alternative; therefore, the No-Build Alternative would not impact plant species.

Build Alternatives 3 and 4
Based on the presence of marginal habitat within the BSA, the results of the field surveys, and the lack of recent occurrence records in the area, direct impacts to Cuyamaca cypress are not anticipated to occur as a result of implementation of the Build Alternatives. Three individuals of southern California black walnut were observed within the northeast portion of the BSA, to the north of Cherry Valley Boulevard. Project implementation would result in direct impacts to one southern California black walnut located within the BSA. The remaining two walnuts on the rural residential property located to the north of Cherry Valley Boulevard would be indirectly impacted by the Build Alternatives. As discussed above, the Southern California black walnut is a fully covered species under the WR-MSHCP. Therefore, no compensatory mitigation would be required for the loss of the single tree directly north of Cherry Valley Boulevard. As such, there would be no adverse effects in this regard. Three individuals of southern California black walnut were observed within the northeast portion of the BSA, to the north of Cherry Valley Boulevard. Project implementation would result in direct impacts to one southern California black walnut located within the BSA. The remaining two walnuts on the rural residential property located to the north of Cherry Valley Boulevard would be indirectly impacted by the project. As discussed above, the Southern California black walnut is a fully covered species under the WR-MSHCP. Therefore, no compensatory mitigation would be required for the loss of the single tree directly north of Cherry Valley Boulevard. As such, there would be no adverse effects in this regard.

Avoidance, Minimization, and/or Mitigation Measures
Please see Section 2.3.1 for Measures NC-1 and NC-2, and Section 2.3.2 for Measure WET-2.

2.3.4 Animal Species

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), 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 the Threatened and Endangered Species Section 2.3.5, 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 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
- Sections 4150 and 4152 of the California Fish and Game Code

Affected Environment

This section is based upon the Natural Environment Study (Minimal Impacts) (NES-MI) prepared for the project dated December 2020.

Methodology

Prior to conducting the habitat assessment, a literature review and records search was conducted for special status biological resources potentially occurring on or within the vicinity of the BSA. The record search was focused on the USGS Beaumont, El Casco, Forest Falls, and Yucaipa, California 7.5-minute quadrangles. Previous special-status animal species occurrence records were determined through a query of the CDFW CNDDB RareFind 5, the CNPS Online Inventory of Rare and Endangered Plants of California (Online Inventory), the Calflora Database, species listings provided by the CDFW and the USFWS, the RCA online WR-MSHCP Information Application, and those species covered under the WR-MSHCP and evaluated in its associated technical documents. In addition, an Official Species List was obtained from the USFWS Carlsbad Field Office via the IPaC database on June 22, 2020. In addition to these databases, available reports, survey results, aerial photography and literature detailing the biological resources previously observed on or within the vicinity of the BSA were reviewed. The CNDDB was used, in conjunction with Geographic Information Systems (GIS) ArcView software, to identify special-status species occurrence records within the BSA. Prior to conducting the habitat assessment, a literature review and records search was conducted for special status biological resources potentially occurring on or within the vicinity of the BSA. The record search was focused on the USGS Beaumont, El Casco, Forest Falls, and Yucaipa, California 7.5-minute quadrangles. Previous special-status plant and animal species occurrence records were determined through a query of the CDFW

California Natural Diversity Database RareFind 5 (CNDDB), the CNPS Online Inventory of Rare and Endangered Plants of California (Online Inventory), the Calflora Database, species listings provided by the CDFW and the USFWS, the RCA online WR-MSHCP Information Application, and those species covered under the WR-MSHCP and evaluated in its associated technical documents. In addition, an Official Species List was obtained from the USFWS Carlsbad Field Office via the IPaC database on June 22, 2020. In addition to these databases, all available reports, survey results, aerial photography and literature detailing the biological resources previously observed on or within the vicinity of the BSA were reviewed. The CNDDB was used, in conjunction with Geographic Information Systems (GIS) ArcView software, to identify special-status species occurrence records within the BSA.

Special attention was given to special-status habitats and/or undeveloped areas, which have higher potential to support special-status animal species such as those identified during the records search. According to the WR-MSHCP, the BSA is within the designated survey area for the burrowing owl (*Athene cunicularia*). As such, focused surveys were conducted by a qualified biologists during the 2019 breeding season (March 1 to August 31) on July 10, July 24, August 7, and August 21, 2019 in accordance with the survey guidelines and protocols provided in the *Burrowing Owl Survey Instructions for the Western Riverside County Multiple Species Habitat Conservation Plan Area*.

All animal species observed were recorded in a field notebook. Wildlife detections were made through observation of scat, trails, tracks, burrows, nests, and/or visual and aural observation.

Existing Conditions

The CNDDB, IPaC, and CNPS literature records search identified 84 special-status animal species as having the potential to occur in the BSA. The BSA is not located within Federally designated Critical Habitat. Based on the results of the field surveys and a review of specific habitat preferences, occurrence records, known distributions, and elevation ranges, it was determined that the BSA has a high potential to support bird species, such as the Cooper's hawk, southern (*Accipiter cooperii*),California rufous-crowned sparrow(*Eremophila alpestris actia*), burrowing owl (BUOW); and a moderate potential to support the California horned lark (*Eremophila alpestris actia*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), white-tailed kite(*Elanus leucurus*), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*); and a low potential to support orange-throated whiptail (*Aspidoscelis hyperythra*), tricolored blackbird (*Agelaius tricolor*), grasshopper sparrow (*Ammodramus savannarum*), southern California legless lizard (*Anniella stebbinsi*), golden eagle (*Aquila chrysaetos*), crotch bumble bee (*Bombus crotchii*), northern harrier (*Circus hudsonius*), Stephen's kangaroo rat (*Dipodomys stephensi*), loggerhead shrike (*Lanius ludovicianus*), western yellow bat (*Lasiurus xanthinus*), southern grasshopper mouse (*Onychomys torridus ramona*), Los Angeles pocket mouse (*Perognathus longimembris brevinasus*), coast horned lizard (*Phrynosoma blainvillii*), and western spadefoot (*Spea hammondii*).

Bats occur throughout most of southern California and may forage throughout most of the open natural vegetation communities located throughout the BSA; however, their roosting habitat within the BSA is somewhat limited. The Cherry Valley Boulevard bridge, ornamental palm trees, and eucalyptus trees within the BSA have the potential to provide suitable roosting habitat for bats; however, no bats or sign were detected during the field surveys. The Cherry Valley Boulevard overcrossing (Cherry Valley Boulevard over I-10) provides marginal roosting habitat, if any, due to the continuous crossing of traffic above and below the bridge. Additionally, the palm trees appear to be routinely maintained and therefore would not be expected to provide suitable roosting opportunities.

The results of the burrowing owl focused survey resulted in no burrowing owls or sign, occupied burrows, or remnant burrows were observed on or within the vicinity of the BSA. However, two special-status animal species were detected within the BSA during the field investigations: San Diegan tiger whiptail and double-crested cormorant.

San Diegan Tiger Whiptail

The San Diegan tiger whiptail is a fully covered species under the WR-MSHCP and a CDFW Species of Special Concern. It is found in coastal southern California, mostly west of the Peninsular Ranges and south of the Transverse Ranges, and north into Ventura County. It is found in a variety of ecosystems, primarily hot and dry open areas with sparse vegetation in chaparral, woodland, and riparian areas. It is associated with rocky areas with little vegetation or sunny microhabitats within shrub or grassland associations. According to the NES-MI, one individual San Diegan tiger whiptail was observed during the field surveys within the California buckwheat scrub vegetation community located in the northeast portion of the BSA, to the south of Cherry Valley Boulevard. In addition, the scrub oak chaparral vegetation community provides suitable habitat for this species.

Double-Crested Cormorant

The double-crested cormorant is a fully covered species under the WR-MSHCP and a CDFW Watch List species. This yearlong resident of California is usually found resting in the daytime and roosting overnight beside water on offshore rocks, islands, cliffs, dead branches of trees, wharfs, jetties, or sometimes transmission lines. This species forages in shallow water (less than 30 feet deep) and nests on the ground, on rocks, or in reeds with no vegetation or atop trees in a colony. The breeding season for double-crested cormorant generally extends from April to July or August, but can vary slightly from year to year based upon seasonal weather conditions. According to the

NES-MI, one individual was observed in the southeast portion of the BSA during the field surveys. The individual was observed resting on a water pump associated with artificial pond that occurs within the Plantation on the Lake residential community. This individual was most likely passing through and used the artificial pond as a quick place to rest. This species is not expected to nest within the BSA; double-crested cormorant is known to nest closer to the coast in colonies.

Cooper's Hawk

The Cooper's hawk is a fully covered species under the WR-MSHCP and a CDFW Watch List species that is adapted to urban environments and commonly occurs within the vicinity of the BSA. This species typically forages along broken woodlands and habitat edges and usually nests in deciduous trees in dense woodland and riparian areas, often near streams. The breeding season for Cooper's hawk generally extends from January 1 through July 31, but can vary slightly from year to year based upon seasonal weather conditions. According to the NES-MI, no Cooper's hawks were detected during the field surveys; however, this species often occurs in urban environments within close proximity to humans and was determined to have a potential to forage across the various natural vegetation communities and disturbed areas within and adjacent to the BSA. This species is not expected to nest within the BSA due to the lack of suitable nesting habitat (i.e., hardwood stands and mature forests).

Southern California Rufous-Crowned Sparrow

Southern California rufous-crowned sparrow is a fully covered species under the WR-MSHCP and a CDFW Watch List species. This yearlong resident typically occurs from 3,000 to 6,000 feet above mean sea level (amsl), and breeds in sparsely vegetated scrubland on hillsides and canyons. It prefers coastal sage scrub dominated by California sagebrush, but it can also be found breeding in coastal bluff scrub, low-growing serpentine chaparral, and along the edges of tall chaparral habitats. The breeding season for southern California rufous-crowned sparrow generally extends from February 1 through August 31, but can vary slightly from year to year based upon seasonal weather conditions. According to the NES-MI, no Southern California rufous-crowned sparrows were detected during the field surveys. However, the scrub oak chaparral and California buckwheat scrub vegetation communities within the BSA provide suitable foraging and nesting habitat for this species. In addition, the closest extant occurrence record was recorded in 2002 on the properties located within and adjacent to the western portion of the BSA; three adults were captured between May 11 and July 25 in habitat consisting of grassland and coastal sage scrub ecotone.

Burrowing Owl

In addition to the NES-MI, this sub-section is based upon the Burrowing Owl Focused Survey for the Interstate 10/Cherry Valley Boulevard Interchange

Improvement project – Riverside County, California (BUOW Survey), dated July 2020.

The burrowing owl (BUOW) is fully covered under the WR-MSHCP and is a CDFW Species of Special Concern. BUOW is a grassland specialist distributed throughout western North America where it occupies open areas with short vegetation and bare ground within shrub, desert, and grassland environments. BUOW use a wide variety of arid and semi-arid environments with well-drained, level to gently-sloping areas characterized by sparse vegetation and bare ground. BUOW are dependent upon the presence of burrowing mammals (e.g., California ground squirrels, coyotes, American badger [*Taxidea taxus*]) whose burrows are used for roosting and nesting. The presence or absence of mammal burrows is often a major factor that limits the presence or absence of BUOW. Where mammal burrows are scarce, BUOW have been found occupying man-made cavities, such as buried and non-functioning drainpipes, stand-pipes, and dry culverts. BUOW may also burrow beneath rocks and debris or large, heavy objects such as abandoned cars, concrete blocks, or concrete pads. They also require open vegetation allowing open line-of-sight of the surrounding habitat to forage as well as watch for predators. The breeding season for burrowing owl generally extends from March 1 through August 31 but can vary slightly from year to year based upon seasonal weather conditions.

Focused surveys were conducted by qualified biologists during the 2019 breeding season (March 1 to August 31) on July 10, July 24, August 7, and August 21. The BSA contains numerous suitable burrows (greater than four inches in diameter) and ground squirrel burrow complexes capable of providing roosting and nesting opportunities for BUOW. The majority of the suitable burrows and ground squirrel burrow complexes were located on the undeveloped parcels located within the north, northeast, northwest, and eastern portions of the BSA. Although the BSA contains numerous suitable burrows and line-of-site opportunities for BUOW, no BUOW sign (i.e., pellets, whitewash, feathers, or prey remains) were observed. Further, no BUOW were observed on or within the vicinity of the BSA during the four surveys.

Based on the NES-MI, most of the undeveloped parcels located within the BSA that would provide suitable habitat for BUOWs have been routinely disturbed and maintained through weed abatement since 1996. Additionally, undeveloped parcels located to the south of I-10 have been undergoing continual disturbance due to residential and commercial development since 2005. It is likely that these disturbances and lack of nearby populations have precluded BUOW from occurring within the BSA and surrounding areas. In addition, the existing telephone poles, light posts, fencing, and tall ornamental vegetation that occurs within and adjacent to the BSA further decrease the likelihood that BUOW would occur as these features provide perching opportunities for larger raptor species (i.e., red-tailed hawk) that prey on BUOW.

California Horned Lark

The California horned lark is a fully covered species under the WR-MSHCP and a CDFW Watch List species. It typically forages in groups in shortgrass prairies, grasslands, disturbed fields, or similar habitat types. This species nests on the open ground, often next to grass clumps or other objects. The breeding season for California horned lark generally extends from February 1 through August 31, but can vary slightly from year to year based upon seasonal weather conditions. The wild oats and annual brome grassland, disturbed wild oats and annual brome grassland, and disturbed habitat areas within and adjacent to the BSA provide suitable foraging and nesting habitat for California horned lark. Based on the NES-MI, no California horned larks, nests, or nesting behaviors were observed during the field surveys conducted as part of the project.

Northwestern San Diego Pocket Mouse

The Northwestern San Diego pocket mouse is a fully covered species under the WR-MSHCP and a CDFW Species of Special Concern. It is found in open habitat on the Pacific slope from southwestern San Bernardino County to northwestern Baja California. Habitat types include coastal sage scrub, sage scrub/grassland ecotones, and chaparral communities. A major habitat requirement is the presence of low growing vegetation or rocky outcroppings, as well as sandy soil to dig burrows. According to the NES-MI, northwestern San Diego pocket mouse was not detected during the field surveys. The scrub oak chaparral, wild oats and annual brome grasslands, and California buckwheat scrub vegetation communities within the BSA provide suitable habitat preferred by this species. In addition, the CNDDB records search identified 109 individuals were captured between May 11 and July 25, 2002 on the properties located within and adjacent to the western portion of the BSA. This occurrence record is presumed extant.

White-tailed Kite

The White-tailed Kite is a fully covered species under the WR-MSHCP and a CDFW Fully Protected species. It is a yearlong resident of the California that occurs in the coastal ranges and valleys. White-tailed kite can be found in low elevation, open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. It uses trees with dense canopies for cover. Important prey item for white-tailed kite is the California vole (*Microtus californicus*). It nests in tall (20 to 50 feet) coast live oaks.

Based on the NES-MI, white-tailed kite was not detected during the field surveys. All the natural vegetation communities and disturbed areas within the BSA provide suitable foraging habitat preferred by this species. This species is not expected to nest within the BSA due to the lack of tall coast live oaks and trees with dense canopies.

San Diego Black-tailed Jackrabbit
San Diego black-tailed jackrabbit is a fully covered species under the WR-MSHCP and a CDFW Species of Special Concern. It occupies many diverse habitats, but primarily is found in arid regions supporting short-grass habitats, agricultural fields, or sparse coastal scrub. The scrub oak chaparral, wild oats and annual brome grasslands, and California buckwheat scrub vegetation communities within the BSA provide suitable habitat preferred by this species. San Diego black-tailed jackrabbit was not detected during the field surveys conducted for the project.

Environmental Consequences

Temporary Impacts

No-Build Alternative
Project improvements would not occur under the No-Build Alternative; therefore, the No-Build Alternative would not impact animal species.

Build Alternatives 3 and 4

Bat Species
Bat species (i.e Yuma myotis (*Myotis yumanensis*), Mexican free-tailed bat (*Tadarida brasiliensis*), and big brown bat (*Eptesicus fuscus*)) may forage through most of the open natural vegetation communities located in the BSA. The Cherry Boulevard bridge, ornamental palm trees, and eucalyptus trees within the BSA have the potential to provide suitable roosting habitat for bats. However, there were no bats detected around the Cherry Valley Boulevard bridge, palm trees, or eucalyptus trees were detected during the field surveys. Prior to the commencement of project activities, a bat survey will be conducted to identify the presence of bats or potential bat roosting cavities (AS-1). As such, substantial adverse effects would not occur in this regard.

San Diegan Tiger Whiptail
Based on the NES-MI, the scrub oak chaparral vegetation community provides suitable habitat for the San Diegan tiger whiptail. Build Alternative 3 would result in 0.0 temporary impacts and Build Alternative 4 would result in approximately 0.20 acre of temporary impacts to suitable scrub oak habitat. As described in previous sections, one individual San Diegan tiger whiptail was observed during the field surveys, and the scrub oak chaparral vegetation community found within the BSA provides suitable habitat for this species. Although Build Alternative 4 would result in impacts to suitable habitat for this species, impacts would be limited relative to the amount of suitable habitat that would remain available in the BSA and immediate vicinity. To prevent direct impacts, biological monitoring will occur on-site during ground and habitat disturbance activities (AS-2). As such, temporary construction effects on the San Diegan Tiger Whiptail would not be adverse.

Double-Crested Cormorant
Based on the NES-MI, one double-crested cormorant was observed in the southeast portion of the BSA during the field surveys. However, due to a lack

of suitable nesting habitat within the BSA, no temporary direct or indirect impacts to nesting double-crested cormorants are anticipated to occur as a result of the proposed project. Double-crested cormorant is a fully covered species under the WR-MSHCP. According to the NES-MI, Build Alternatives 3 and 4 would not result in adverse effects to suitable foraging habitat for double-crested cormorant and no measures would be required.

Cooper's Hawk

Cooper's hawks were not observed during the field surveys and due to a lack of suitable nesting habitat within the BSA, no temporary direct or indirect impacts to nesting Cooper's hawks are anticipated to occur as a result of the proposed project. However, this species often occurs in urban environments within close proximity to humans and was determined to have a potential to forage across the various natural vegetation communities and disturbed areas within and adjacent to the BSA. Build Alternatives 3 and 4 would result in approximately 7.11 acres and 8.76 acres of temporary impacts to suitable foraging habitat for Cooper's hawk, respectively. Therefore, implementation of the Build Alternatives has the potential to result in temporary direct and indirect impacts to suitable foraging habitat preferred by Cooper's hawk; however, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. Additionally, Cooper's hawk is a fully covered species under the WR-MSHCP. With implementation of Measure NC-1 identified above, the proposed project would not result in adverse effects to Cooper's hawk.

Southern California Rufous-Crowned Sparrow

Southern California rufous-crowned sparrow was not observed during the field surveys. However, the scrub oak chaparral and California buckwheat scrub vegetation communities within the BSA provide suitable foraging and nesting habitat for this species. Based on the NES-MI, Build Alternative 3 would result in no temporary impacts, and Build Alternative 4 would result in approximately 0.20 acres of temporary impacts to the suitable foraging and nesting habitat for Southern California rufous-crowned sparrow. In addition, construction-related disturbance may have an adverse impact on this species, especially during the breeding season (generally February 1 through August 31 for this species) when individuals may be attempting to incubate eggs or raise young within or adjacent to the BSA. Construction-related noise, vibration, dust, or visual disturbances may disrupt nesting activities or may cause birds to leave the area until construction is completed. In extreme cases nesting efforts may be abandoned, resulting in take of young or eggs. Therefore, implementation of the Build Alternatives have the potential to result in temporary direct and indirect impacts to suitable foraging and nesting habitat preferred by California rufous-crowned sparrow. Nesting birds are protected pursuant to the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (Sections 3503, 3503.3, 3511, and 3513). To minimize potential impacts to this migratory bird species, implementation a pre-construction clearance survey would be performed if project activities occur during the breeding season (technically February 1st through September 30th) (Measure AS-3).

Southern California rufous-crowned sparrow is a fully covered species under the WR-MSHCP. Although the Build Alternatives would result in impacts to suitable foraging and nesting habitat for this species, impacts would be limited relative to the amount of suitable foraging and nesting habitat that would remain available in the BSA and immediate vicinity. With implementation of Measures NC-1 and AS-3, the Build Alternatives would not result in adverse effects to southern California rufous-crowned sparrow.

Burrowing Owl
Although there were no BUOW or BUOW signs observed during the field visit, ground squirrel burrow complexes capable of providing roosting and nesting opportunities as well as other suitable foraging and nesting habitat for the BUOW were observed. Based on the NES-MI, Build Alternative 3 would result in approximately 6.09 acres of temporary impacts and Build Alternative 4 would result in approximately 6.97 acres of temporary impacts to the suitable foraging and nesting habitat for burrowing owl. In addition, construction-related disturbance may have an adverse effect on this species, especially during the breeding season (generally March 1 through August 31) when individuals may be attempting to incubate eggs or raise young within or adjacent to the BSA. Construction-related noise, vibration, dust, or visual disturbances may disrupt nesting activities or may cause birds to leave the area until construction is completed. In extreme cases, nesting efforts may be abandoned, resulting in take of young or eggs. Therefore, implementation of the Build Alternatives has the potential to result in temporary direct and indirect impacts to suitable foraging and nesting habitat preferred by BUOW. To address this, implementing a pre-construction clearance survey shall be conducted no more than 30 days prior to initiating ground disturbance activities to confirm that BUOW remain absent and impacts do not occur to any occupied burrows that may be located on or within the BSA (Measure AS-4).

Although the Build Alternatives would result in impacts to suitable foraging and nesting habitat for BUOW, impacts would be limited relative to the amount of suitable foraging and nesting habitat that would remain available in the BSA and immediate vicinity. Therefore, with implementation of Measures NC-1 and AS-4, temporary construction activities would not result in adverse effects to BUOW.

California Horned Lark
No California horned larks, nests, or nesting behaviors were observed during the field surveys. However, wild oats and annual brome grassland, disturbed wild oats and annual brome grassland, and disturbed habitat areas within and adjacent to the BSA provide suitable foraging and nesting habitat for California horned lark. Based on the NES-MI, Build Alternative 3 would result

in approximately 6.09 acres of temporary impacts and Build Alternative 4 would result in approximately 6.97 acres of temporary impacts to the suitable foraging and nesting habitat for the California horned lark. In addition, construction-related disturbance may have an adverse effect on this species, especially during the nesting bird breeding season (generally February 1 through September 30) when individuals may be attempting to incubate eggs or raise young within or adjacent to the BSA. Construction-related noise, vibration, dust, or visual disturbances may disrupt nesting activities or may cause birds to leave the area until construction is completed. In extreme cases nesting efforts may be abandoned, resulting in the take of young or eggs. Therefore, implementation of the Build Alternatives has the potential to result in temporary direct and indirect impacts to suitable foraging and nesting habitat preferred by California horned lark.

To minimize potential impacts to migratory bird species pursuant to the MBTA and CFGC, implementation of a pre-construction clearance survey would be performed if project activities occur during the breeding season (technically February 1st through September 30th) (Measure AS-3).

California horned lark is a fully covered species under the WR-MSHCP. Although the proposed project would result in impacts to suitable foraging and nesting habitat for this species, impacts would be limited relative to the amount of suitable foraging and nesting habitat that would remain available in the BSA and immediate vicinity. With implementation of Measures NC-1 and AS-3, temporary construction activities would not result in adverse effects to California horned lark.

Northwestern San Diego Pocket Mouse

The northwestern San Diego pocket mouse was not observed during the field surveys; however, the scrub oak chaparral, wild oats and annual brome grasslands, and California buckwheat scrub vegetation communities provide suitable habitat preferred by the species. Based on the NES-MI, Build Alternative 3 would not result in any temporary impacts. Build Alternative 4 would result in approximately 0.20 acres of temporary impacts to the suitable habitat for the northwestern San Diego pocket mouse. Therefore, implementation of the Build Alternatives has the potential to result in temporary direct and indirect impacts to suitable habitat preferred by northwestern San Diego pocket mouse.

Northwestern San Diego pocket mouse is a fully covered species under the WR-MSHCP. Although the Build Alternatives would result in impacts to suitable habitat for this species, impacts would be limited relative to the amount of suitable habitat that would remain available within the BSA and immediate vicinity. With the implementation of Measure NC-1, temporary construction impacts to the northwestern San Diego pocket mouse would not be adverse.

White-tailed Kite

White-tailed kite was not observed during the field surveys and is not expected to nest within the BSA due to the lack of tall coast live oaks and trees with dense canopies. However, all of the natural vegetation communities and disturbed areas within the BSA provide suitable foraging habitat preferred by this species. Based on the NES-MI, Build Alternative 3 would result in approximately 7.11 acres of temporary impacts and Build Alternative 4 would result in approximately 6.97 acres of temporary impacts to the suitable foraging habitat preferred by white-tailed kite. Therefore, implementation of the Build Alternatives has the potential to result in temporary direct and indirect impacts to suitable foraging habitat preferred by white-tailed kite.

White-tailed kite is a fully covered species under the WR-MSHCP. Although the Build Alternatives would result in impacts to suitable habitat for this species, impacts would be limited relative to the amount of suitable habitat that would remain available within the BSA and immediate vicinity. With the implementation of Measure NC-1, temporary construction impacts to the white-tailed kite would not be adverse.

San Diego Black-tailed Jackrabbit

San Diego black-tailed jackrabbit was not observed during the field surveys. However, the scrub oak chaparral, wild oats and annual brome grasslands, and California buckwheat scrub vegetation communities within the BSA provide suitable habitat preferred by this species. Based on the NES-MI, Build Alternative 3 would not result in any temporary impacts. Build Alternative 4 would result in approximately 0.20 acres of temporary impacts to the suitable habitat for San Diego black-tailed jackrabbit. Therefore, implementation of the Build Alternatives has the potential to result in temporary direct and indirect impacts to suitable foraging habitat preferred by San Diego black-tailed jackrabbit.

San Diego black-tailed jackrabbit is a fully covered species under the WR-MSHCP. Although the Build Alternatives would result in impacts to suitable habitat for this species, impacts would be limited relative to the amount of suitable habitat that would remain available within the BSA and immediate vicinity. With the implementation of Measure NC-1, temporary construction impacts to the San Diego black-tailed jackrabbit would not be adverse.

Permanent Impacts

No-Build Alternative

Project improvements would not occur under the No-Build Alternative; therefore, the No-Build Alternative would not impact animal species.

Build Alternatives 3 and 4

Orange-throated whiptail, (*Aspidoscelis hyperythra*), tricolored blackbird (*Agelaius tricolor*), grasshopper sparrow (*Ammodramus savannarum*), golden eagle (*Aquila chrysaetos*), northern harrier (*Circus hudsonius*), Stephen's kangaroo rat (*Dipodomys stephensi*), loggerhead shrike (*Lanius ludovicianus*), Los Angeles pocket mouse (*Perognathus longimembris brevinasus*), coast horned lizard (*Phrynosoma blainvillii*), and western spadefoot (*Spea hammondii*) are all fully covered under the WR-MSHCP and require no further analysis. The Build Alternatives may result in direct impacts to marginal habitats preferred by southern California legless lizard, Crotch bumble bee, western yellow bat, and southern grasshopper mouse; however, impacts would be limited relative to the amount of suitable habitat that remains available in the BSA and surrounding immediate vicinity. Therefore, it has been determined that the Build Alternatives would have no effect on any federally-/State-listed species identified by the CNDDB or USFWS IPaC Species List.

Bat Species

Project operations are not anticipated to create significantly adverse effects towards any suitable foraging habitat for bat species.

San Diegan Tiger Whiptail

One individual San Diegan tiger whiptail and suitable habitat for the species were observed during the field survey. Based on the NES-MI, Build Alternative 3 would result in approximately 0.06 acres of permanent impacts and Build Alternative 4 would result in approximately 0.36 acres of permanent impacts to the suitable scrub oak chaparral habitat for the San Diegan tiger whiptail. Therefore, the Build Alternatives have the potential to result in permanent impacts to the suitable habitat preferred by San Diegan tiger whiptail.

San Diegan tiger whiptail is a fully covered species under the WR-MSHCP, and no mitigation for loss of this species would be required. Although the Build Alternatives would result in permanent impacts to suitable habitat for this species, impacts would be limited relative to the amount of suitable habitat that would remain available in the BSA and immediate vicinity. To avoid potential permanent impacts to San Diegan tiger whiptail individuals within the BSA, Measure AS-2 is recommended, which would require a qualified biological monitor be retained on-site during ground and habitat disturbance activities associated with the Build Alternatives. With implementation of Measure AS-2, the Build Alternatives would not result in permanent adverse effects to San Diegan tiger whiptail.

Double-Crested Cormorant

Based on the NES-MI, one double-crested cormorant was observed in the southeast portion of the BSA during the field surveys. However, due to a lack of suitable nesting habitat within the BSA, no permanent impacts to nesting double-crested cormorants are anticipated to occur as a result of the proposed project. Double-crested cormorant is a fully covered species under the WR-MSHCP. Build Alternatives 3 and 4 would not result in adverse effects to suitable foraging habitat for double-crested cormorant and no measures would be required.

Cooper's Hawk

Based on the NES-MI, Cooper's hawk was not detected during the field surveys and due to a lack of suitable nesting habitat within the BSA, no permanent impacts to nesting Cooper's hawks are anticipated to occur as a result of the Build Alternatives. However, this species often occurs in urban environments within close proximity to humans and was determined to have a potential to forage across the various natural vegetation communities and disturbed areas within and adjacent to the BSA. The NES-MI determined that Build Alternative 3 would result in approximately 16.02 acres of permanent impacts and Build Alternative 4 would result in approximately 8.37 acres of permanent impacts to the suitable foraging habitat for the Cooper's Hawk. Therefore, implementation of the Build Alternatives has the potential to result in permanent impacts to suitable foraging habitat preferred by Cooper's hawk.

Cooper's hawk is a fully covered species under the WR-MSHCP. Although the Build Alternatives would result in impacts to suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable foraging habitat that would remain available in the BSA and immediate vicinity. With the implementation of a Workers Environmental Awareness Program (WEAP) (Measure NC-1), the Build Alternatives would not result in permanent adverse effects to suitable habitat for the Cooper's Hawk.

Southern California Rufous-Crowned Sparrow

Southern California rufous-crowned sparrow was not detected during the field surveys. However, the scrub oak chaparral and California buckwheat scrub vegetation communities within the BSA provide suitable foraging and nesting habitat for this species. Based on the NES-MI, Build Alternative 3 would result in approximately 0.06 acres of permanent impacts and Build Alternative 4 would result in approximately 0.36 acres of permanent impacts to the suitable foraging and nesting habitat for southern California rufous-crowned sparrow. In addition, construction-related disturbance may have an adverse impact on this species, especially during the breeding season (generally February 1 through August 31 for this species) when individuals may be attempting to incubate eggs or raise young within or adjacent to the BSA. Construction-related noise, vibration, dust, or visual disturbances may disrupt nesting activities or may cause birds to leave the area until construction is completed. In extreme cases nesting efforts may be abandoned, resulting in take of young or eggs. Therefore, implementation of the Build Alternatives has the potential to result in permanent impacts to suitable foraging and nesting habitat preferred by southern California rufous-crowned sparrow. To minimize potential impacts to this migratory bird species, implementation of a pre-construction clearance survey would be performed if project activities occur during the breeding season (February 1st through September 30th) (Measure AS-3). With the implementation of Measure AS-3, the Build Alternatives would not result in permanent adverse effects to suitable habitat for the southern California rufous-crowned sparrow.

Burrowing Owl

Although there were no BUOW or BUOW signs observed during the field visit, ground squirrel burrow complexes capable of providing roosting and nesting opportunities as well as other suitable foraging and nesting habitat for the BUOW were observed. Based on the NES-MI, Build Alternative 3 would result in approximately 15.13 acres of permanent impacts and Build Alternative 4 would result in approximately 16.12 acres of permanent impacts to the suitable foraging and nesting habitat for BUOW. In addition, construction-related disturbance may have an adverse impact on this species, especially during the breeding season (generally March 1 through August 31) when individuals may be attempting to incubate eggs or raise young within or adjacent to the BSA. Construction-related noise, vibration, dust, or visual disturbances may disrupt nesting activities or may cause birds to leave the area until construction is completed. In extreme cases nesting efforts may be abandoned, resulting in take of young or eggs. Therefore, implementation of the Build Alternatives has the potential to result in permanent impacts to suitable foraging and nesting habitat preferred by BUOW. To address this, implementing a pre-construction clearance survey shall be conducted no more than 30 days prior to initiating ground disturbance activities to confirm that BUOW remain absent and impacts do not occur to any occupied burrows that may be located on or within the BSA (Measure AS-4).

Although the Build Alternatives would result in impacts to suitable foraging and nesting habitat for BUOW, impacts would be limited relative to the amount of suitable foraging and nesting habitat that would remain available in the BSA and immediate vicinity. Therefore, with implementation of Measures NC-1 and AS-4, the Build Alternatives would not result in permanent adverse effects to BUOW.

California Horned Lark

No California horned larks, nests, or nesting behaviors were observed during the field surveys. However, wild oats and annual brome grassland, disturbed wild oats and annual brome grassland, and disturbed habitat areas within and adjacent to the BSA provide suitable foraging and nesting habitat for California horned lark. Based on the NES-MI, Build Alternative 3 would result in approximately 15.13 acres of permanent impacts and Build Alternative 4 would result in approximately 16.12 acres of permanent impacts to the suitable foraging and nesting habitat for the California horned lark. In addition, construction-related disturbance may have an adverse impact on this species, especially during the nesting bird breeding season (generally February 1 through September 30) when individuals may be attempting to incubate eggs or raise young within or adjacent to the BSA.. Construction-related noise, vibration, dust, or visual disturbances may disrupt nesting activities or may cause birds to leave the area until construction is completed. In extreme cases nesting efforts may be abandoned, resulting in take of young or eggs. Therefore, implementation of the proposed project has the potential to result in permanent impacts to suitable foraging and nesting habitat preferred by California horned lark.

To minimize potential impacts to migratory bird species pursuant to the MBTA and CFGC, implementation of a pre-construction clearance survey would be performed if project activities occur during the breeding season (technically February 1st through September 30th) (Measure AS-3).

California horned lark is a fully covered species under the WR-MSHCP. Although the Build Alternatives would result in impacts to suitable foraging and nesting habitat for this species, impacts would be limited relative to the amount of suitable foraging and nesting habitat that would remain available in the BSA and immediate vicinity. With implementation of Measures NC-1 and AS-3, the Build Alternatives would not result in permanent adverse effects to California horned lark.

Northwestern San Diego Pocket Mouse

Northwestern San Diego pocket mouse was not detected during the field surveys. The scrub oak chaparral, wild oats and annual brome grasslands, and California buckwheat scrub vegetation communities within the BSA provide suitable habitat preferred by this species. Based on the NES-MI, Build Alternative 3 would result in approximately 0.36 acres of permanent impacts and Build Alternative 4 would result in approximately 0.87 acres of permanent impacts to the suitable habitat for the northwestern San Diego pocket mouse. Therefore, implementation of the Build Alternatives has the potential to result in permanent impacts to suitable habitat preferred by northwestern San Diego pocket mouse.

Northwestern San Diego pocket mouse is a fully covered species under the WR-MSHCP. Although the Build Alternatives would result in impacts to suitable habitat for this species, it’s impacts would be limited relative to the amount of suitable habitat that would remain available in the BSA and immediate vicinity. With implementation of Measure NC-1, which would require a qualified biologist to prepare a WEAP prior to the beginning of construction (NC-1), permanent the Build Alternatives would not result in permanent adverse effects to northwestern Sab Diego pocket mouse.

White-tailed Kite

White-tailed kite was not detected during the field surveys and is not expected to nest within the BSA due to the lack of tall coast live oaks and trees with dense canopies. However, all the natural vegetation communities and disturbed areas within the BSA provide suitable foraging habitat preferred by this species. Based on the NES-MI, Build Alternative 3 would result in approximately 16.02 acres of permanent impacts and Build Alternative 4 would result in approximately 16.12 acres of permanent impacts to the suitable foraging habitat for the white-tailed kite. Therefore, implementation of the Build Alternatives has the potential to result in permanent impacts to suitable foraging habitat preferred by white-tailed kite.

White-tailed kite is a fully covered species under the WR-MSHCP. Although the Build Alternatives would result in impacts to suitable foraging habitat for this species, impacts would be limited relative to the amount of suitable habitat that would remain available within the BSA and immediate vicinity. With implementation of Measure NC-1, which would require a qualified biologist to prepare a WEAP prior to the beginning of construction, the Build Alternatives would not result in permanent adverse effects to white-tailed kite.

San Diego Black-tailed Jackrabbit

San Diego black-tailed jackrabbit was not detected during the field surveys. However, scrub oak chaparral, wild oats and annual brome grasslands, and California buckwheat scrub vegetation communities within the BSA provide suitable habitat preferred by this species. Based on the NES-MI, Build Alternative 3 would result in approximately 0.36 acres of permanent impacts and Build Alternative 4 would result in approximately 0.87 acres of permanent impacts to the suitable habitat for the San Diego black-tailed jackrabbit. Therefore, implementation of the Build Alternatives has the potential to result in permanent impacts to suitable foraging habitat preferred by San Diego black-tailed jackrabbit.

San Diego black-tailed jackrabbit is a fully covered species under the WR-MSHCP. Although the Build Alternatives would result in impacts to suitable habitat for this species, impacts would be limited relative to the amount of suitable habitat that would remain available in the BSA and immediate vicinity. With implementation of Measure NC-1, which would require a qualified biologist to prepare a WEAP prior to the beginning of construction, the Build Alternatives would not result in permanent adverse effects to San Diego black-tailed jackrabbit.

Avoidance, Minimization, and/or Mitigation Measures

AS-1: Prior to the commencement of project activities, a bat survey shall be conducted by a qualified bat specialist to identify the presence of bats or potential bat roosting cavities. The bat survey shall be conducted no more than three days prior to initiating project activities. Target areas include the trees along the proposed grading limits, where bats may roost, and in the surrounding open habitats where they may forage. Bats may utilize cavities within the trees, spaces behind loose bark or dense foliage, or cracks or splits in the trees for roosting, and these areas should be examined closely for roosting activity during the day. Bat roosting opportunities inside cracks in the Cherry Valley Boulevard overcrossing over Interstate 10 (I-10) are limited due to the continual disturbance from traffic above and below; however, this area shall be examined for roosting activity during the day. Surveys in any open fields should begin at dusk. Equipment will include an AnaBat Detector or other bat detecting unit for ease. Any bats found to be roosting during the pre-construction survey shall be safely evicted using exclusionary measures under the direction of the qualified bat specialist and California Department of Fish and Wildlife (CDFW).

AS-2: To avoid direct mortality, a qualified biological monitor shall be on-site during ground and habitat disturbance activities associated with implementation of the proposed project to move out of harm's way any San Diegan tiger whiptails that would be injured or killed by grubbing or other project-related grading activities.

AS-3: If project-related activities are to be initiated during the nesting season (February 1 through September 30), a pre-construction nesting bird clearance survey shall be conducted by a qualified biologist no more than three days prior to the start of any vegetation removal or ground disturbing activities. The qualified biologist shall survey all suitable nesting habitat within the project footprint, and areas within a biologically defensible buffer zone (e.g., 500 feet) surrounding the project footprint. Documentation of surveys and findings shall be submitted to the City for review and file. If no active nests are detected during the clearance survey, project activities may begin, and no additional measures would be required.

If an active nest is found, the bird species shall be identified and a "no-disturbance" buffer shall be established around the active nest. The size of the "no-disturbance" buffer shall be increased or decreased based on the judgement of the qualified biologist and level of activity and sensitivity of the species. The qualified biologist shall periodically monitor any active nests to determine if project-related activities occurring outside the "no-disturbance" buffer disturb the birds and if the buffer should be increased. Once the young have fledged and left the nest, or the nest otherwise becomes inactive under natural conditions, project activities within the "no-disturbance" buffer may occur.

AS-4: Prior to initiating any ground disturbance or vegetation removal activities, a qualified biologist shall conduct one pre-construction clearance survey no more than 30 days prior to initiating ground disturbance activities to confirm that burrowing owl (BUOW) remain absent and impacts do not occur to any occupied burrows that may be located on or within the Biological Study

Area (BSA). Documentation of the survey and findings shall be provided to the City for review prior to initiating project activities. If no BUOW or occupied burrows are detected, project-related activities may begin. If BUOW are observed, active burrows shall be avoided in accordance with the Burrowing Owl Survey Instructions for the Western Riverside County Multiple Species Habitat Conservation Plan Area (RCA, 2006). The Regional Conservation Authority (RCA) and California Department of Fish and Wildlife (CDFW) shall be immediately notified of any BUOW observations. A BUOW avoidance and minimization plan would need to be prepared and submitted to the RCA and the CDFW for approval prior to initiating project activities. The plan shall detail specific avoidance measures that shall be implemented during construction, including any passive or active relocation methodology, and monitoring requirements.

2.3.5 Threatened and Endangered Species

Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA) (and the Department, as assigned), 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) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take Statement or a Letter of Concurrence. Section 3 of 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 2080 of the California Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." 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 FESA and CESA requiring a Biological Opinion under Section 7 of FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

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

Affected Environment

This section is based upon the Natural Environment Study (Minimal Impacts) (NES-MI) prepared for the project dated December 2020.

On October 27, 2020, an official USFWS Species List of Proposed, Threatened, and Endangered Species, and Critical Habitats was generated from the IPaC database. According to the IPaC Species List and the CNDDB and CNPS database queries, a total of 19 federally listed threatened or endangered plant or animal species have the potential to occur within the vicinity of the BSA. Based on the NES-MI that was prepared for this project, no federally listed plant or animal species were observed within the BSA during the field survey. All federally listed plant or animal species are not expected to occur within the BSA and would not be directly or indirectly impacted from implementation of the proposed project based on a review of specific habitat preferences, occurrence records, known distributions, and elevation ranges. As such, the proposed project is determined to have no effect on any federally listed species identified by the USFWS IPaC Species List, CNDDB, or CNPS; refer to Tables 2.3.5-1 through 2.3.5-7.

Table 2.3.5-1: Effects Determination for Identified Endangered Species - Crustaceans

Scientific name Common Name	USFWS Status	CDFW Status	General Habitat Requirements	Effects Determination	Reason for Determination
Branchinecta lynchi Vernal Pool Fairy Shrimp	FT	-	Endemic to California and only found in vernal pools. Vernal pool habitats form in depressions above an impervious substrate layer, or claypan/duripan. This species does not occur in riverine, marine, or other permanent bodies of water. When the temporary pools dry, offspring persist in suspended development as desiccation-resistant embryos (commonly called cysts) in the pool substrate until the return of winter rains and appropriate temperatures allow some of the cysts to hatch.	No Effect	There is no suitable vernal pool habitat within or adjacent to the BSA. The mapped soils within the BSA primarily consist of sandy loam textures and terrace escarpments which do not support the formation of vernal pools or ponds. Additionally, Federally-designated Critical Habitat for this species is not present within the BSA and there have been no recorded occurrences of this species within 5 miles of the BSA (CNDDB, 2020). Therefore, it was determined that “No Effect” to vernal pool fairy shrimp would occur.
Streptocephalus woottoni Riverside fairy shrimp	FE		Restricted to deep seasonal vernal pools, vernal pool like ephemeral ponds, and stock ponds and other human modified depressions. Basins that support Riverside fairy shrimp are typically dry a portion of the year, but usually are filled by late fall, winter, or spring rains, and may persist through May. Endemic to western Riverside, Orange, and San Diego Counties in tectonic swales/earth slump basins in grassland and coastal sage scrub. In Riverside County, the species been found in pools formed over the following soils:	No Effect	There are no suitable vernal pool habitat, ephemeral ponds, or stock ponds within or adjacent to the BSA. The mapped soils within the BSA primarily consist of sandy loam textures and terrace escarpments which do not support the formation of vernal pools or ponds. Additionally, Federally-designated Critical Habitat for this species is not present within the BSA and there have been no recorded occurrences of this species within 5 miles of the BSA (CNDDB, 2020). Therefore, it was determined that “No Effect” to Riverside

Scientific name Common Name	USFWS Status	CDFW Status	General Habitat Requirements	Effects Determination	Reason for Determination
			Murrieta stony clay loams, Las Posas series, Wyman clay loam, and Willows soils. All known habitat lies within annual grasslands, which may be interspersed through chaparral or coastal sage scrub vegetation.		fairy shrimp would occur.

Source: Michael Baker International, Natural Environment Study (Minimal Impacts) (December 2020).

Table 2.3.5-2: Effects Determination for Identified Endangered Species - Fish

Scientific name Common Name	USFWS Status	CDFW Status	General Habitat Requirements	Effects Determination	Reason for Determination
Oncorhynchus mykiss irideus pop. 10 steelhead - southern California DPS	FE	-	Steelhead can survive in a wide range of temperature conditions. Species is found where dissolved oxygen concentration is at least 7 parts per million. In streams, deep low-velocity pools are important wintering habitats. Spawning habitat consists of gravel substrates free of excessive silt.	No Effect	This species is not expected to occur within the BSA due to the lack of stream habitat with permeant flows. Additionally, federally designated Critical Habitat for this species is not present within the BSA and there have been no recorded occurrences of this species within 5 miles of the BSA (CNDDB, 2020).

Source: Michael Baker International, Natural Environment Study (Minimal Impacts) (December 2020).

Table 2.3.5-3: Effects Determination for Identified Endangered Species - Insects

Scientific name Common Name	USFWS Status	CDFW Status	General Habitat Requirements	Effects Determination	Reason for Determination
Euphydryas editha quino Quino checkerspot butterfly	FE	-	Occupies a variety of habitat types that support California plantain (Plantago erecta), the species primary larval host plant, including grasslands, coastal sage scrub, chamise chaparral, red shank chaparral, juniper woodland, and semi-desert scrub. Can also be found in desert canyons and washes at the lower edge of chaparral habitats.	No Effect	Although the scrub oak chaparral, wild oats and annual brome grasslands, and California buckwheat scrub vegetation communities provide marginal habitat for this species, California plantain was not observed within the BSA during the field surveys. Additionally, federally designated Critical Habitat for this species is not present within the BSA and there have been no recorded occurrences of this species within 5 miles of the BSA (CNDDB, 2020).

Source: Michael Baker International, Natural Environment Study (Minimal Impacts) (December 2020).

Table 2.3.5-4: Effects Determination for Identified Endangered Species - Birds

Scientific name Common Name	USFWS Status	CDFW Status	General Habitat Requirements	Effects Determination	Reason for Determination
Empidonax trailii extimus Southwestern Willow Flycatcher	FE	SE	Uncommon summer resident in southern California primarily found in lower elevation riparian habitats occurring along streams or in meadows. The structure of suitable breeding habitat typically consists of a dense mid-story and understory and can also include a dense canopy. Nest sites are generally located near surface water or saturated soils. The presence of surface water, swampy conditions, standing or flowing water under	No Effect	Suitable thickets of willows and dense riparian habitat along streams are not present within the BSA. Additionally, this species was not observed during the field surveys and Federally-designated Critical Habitat for this species is not present within the BSA. Therefore, it was determined that “No Effect” to southwestern willow flycatcher would occur.

Scientific name Common Name	USFWS Status	CDFW Status	General Habitat Requirements	Effects Determination	Reason for Determination
			the riparian canopy are preferred.		
Polioptila californica californica Coastal California gnatcatcher	FT	SSC	Yearlong resident of sage scrub habitats that are dominated by California sagebrush. This species generally occurs below 750 feet amsl in coastal regions and below 1,500 feet amsl inland. Ranges from the Ventura County, south to San Diego County and northern Baja California and it is less common in sage scrub with a high percentage of tall shrubs. Prefers habitat with more low-growing vegetation.	No Effect	The BSA is outside of the known elevation range for this species. Additionally, Federally-designated Critical Habitat for this species is not present within the BSA and there have been no recorded occurrences of this species within 5 miles of the BSA (CNDDB, 2020). Therefore, it was determined that "No Effect" to coastal California gnatcatcher would occur.
Vireo bellii pusillus Least Bell's vireo	FE	SE SSC	Summer resident in southern California. Breeding habitat generally consists of dense, low, shrubby vegetation in riparian areas, and mesquite brushlands, often near water in arid regions. Early successional cottonwood-willow riparian groves are preferred for nesting. The most critical structural component of nesting habitat in California is a dense shrub layer that is 2 to 10 feet (0.6 to 3.0 meters) above ground. The presence of water, including ponded surface water or moist soil conditions, may also be a key component for nesting habitat.	No Effect	Suitable breeding and foraging habitat consisting of dense riparian vegetation is not present within the BSA. The mule fat thicket (0.12 acre) that occurs within the northwest portion of the BSA, just south of I-10, is sparsely vegetated and lacks the riparian tree species and dense understory preferred by this species for foraging/nesting. Additionally, Federally-designated Critical Habitat for this species is not present within the BSA. Therefore, it was determined that "No Effect" to least Bell's vireo would occur.

Source: Michael Baker International, Natural Environment Study (Minimal Impacts) (December 2020).

Table 2.3.5-5: Effects Determination for Identified Endangered Species: Flowering Plants

Scientific name Common Name	USFWS Status	CDFW Status	General Habitat Requirements	Effects Determination	Reason for Determination
Ambrosia pumila San Diego ambrosia	FE	--	Perennial rhizomatous herb. Occurs on sandy loam or clay soils (often in disturbed areas) and sometimes alkaline soils. Habitats include chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Grows in elevation ranging from 66 to 1,362 feet amsl. Blooming period is April through October.	No Effect	The BSA is outside of the known elevation range for this species. Therefore, it was determined that "No Effect" to San Diego ambrosia would occur.
Astragalus lentiginosus var. coachellae Coachella Valley milk-vetch	FE	--	Annual / perennial herb. Occurs in dunes and sandy flats along disturbed margins of sandy washes and in sandy soils along roadsides adjacent to existing sand dunes. May also occur in sandy substrates in creosote bush scrub. Found at elevations ranging from 130 through 2,150 feet amsl. Blooming period is February through May.	No Effect	The BSA is outside of the known elevation range for this species.
Atriplex coronata var. notatior San Jacinto Valley crownscale	FE	-	Annual herb. Occurs in alkaline soils within playas, valley and foothill grassland (mesic), and vernal pool habitats. Grows in elevations ranging from 456 through 1,640 feet amsl. Blooming period is April through August.	No Effect	The BSA is outside of the known elevation range for this species. Additionally, the BSA primarily consists of sandy loam textures and terrace escarpments and not the alkaline and mesic soils preferred by this species. Therefore, it was determined that "No Effect" to San Jacinto Valley crownscale would occur.
Brodiaea filifolia thread-leaved brodiaea	FT	SE	Perennial bulbiferous herb. Often found on clay soils within chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grassland, and vernal	No Effect	Although the scrub oak chaparral, wild oats and annual brome grasslands, and California buckwheat scrub vegetation communities provide marginal habitat, the

Scientific name Common Name	USFWS Status	CDFW Status	General Habitat Requirements	Effects Determination	Reason for Determination
			pools. Found at elevations ranging from 82 through 3,675 feet amsl. Blooming period is March through June.		BSA primarily consists of sandy loam textures and terrace escarpments and not the clay soils preferred by this species. Additionally, there have been no recorded occurrences of this species within 5 miles of the BSA (CNDDB, 2020). Therefore, it was determined that “No Effect” to thread-leaved brodiaea would occur.
Dodecahema leptoceras slender-horned spineflower	FT	SE	Perennial herb. Grows in sandy or gravelly soils within chaparral and coastal scrub (alluvial fan) habitats. Found at elevations ranging from 298 through 2,001 feet amsl. Blooming period is April through September.	No Effect	Although the scrub oak chaparral and California buckwheat scrub vegetation communities provide marginal habitat, this species is possibly extirpated from the area (CNDDB, 2016).
Eriastrum densifolium ssp. sanctorum Santa Ana River woollystar	FE	SE	Perennial herb. Grows in sandy or gravelly soils within chaparral and coastal scrub (alluvial fan) habitats. Found at elevations ranging from 298 through 2,001 feet amsl. Blooming period is April through September.	No Effect	The BSA is outside of the known elevation range for this species. Therefore, it was determined that “No Effect” to Santa Ana River woollystar would occur.
Navarretia fossalis spreading navarretia	FE	-	Annual herb. Habitats include chenopod scrub, marshes and swamps (assorted shallow freshwater), playas, and vernal pools. Grows in elevation ranging from 98 through 2,149 feet amsl. Blooming period is April through June.	No Effect	The BSA is outside of the known elevation range for this species. Therefore, it was determined that “No Effect” to spreading navarretia would occur.

Source: Michael Baker International, Natural Environment Study (Minimal Impacts) (December 2020).

Table 2.3.5-6: Effects Determination for Identified Endangered Species: Amphibians

Scientific name Common Name	USFWS Status	CDFW Status	General Habitat Requirements	Effects Determination	Reason for Determination
Rana Draytonii California red-legged frog	FT	SSC	Breeding sites are in a variety of aquatic habitats including streams, deep pools, backwaters within streams and creeks, ponds, marshes, sag ponds, dune ponds, lagoons, and artificial impoundments (i.e., stock ponds). Breeding adults are often associated with deep (greater than 2 feet) still or slow-moving water and dense shrubby riparian or emergent vegetation.	No Effect	Suitable aquatic habitats with permanent flows preferred by this species for breeding are not present within the BSA. Additionally, federally designated Critical Habitat for this species is not present within the BSA and there have been no recorded occurrences of this species within 5 miles of the BSA (CNDDB, 2020).
Rana muscosa southern mountain yellow-legged frog	FE	SE WL	The species inhabits ponds, lakes, and streams at moderate to high elevations. Usually associated with montane riparian habitats in lodgepole pine, ponderosa pine (Pinus ponderosa), sugar pine (Pinus lambertiana), white fir, whitebark pine (Pinusalbicaulis), and wet meadow vegetation types. Occupied alpine lakes usually have margins that are grassy or muddy and inhabit sandy or rocky shores at lower elevations. Streams utilized vary from rocky, high gradient streams with numerous pools, rapids, and small waterfalls to those with marshy edges and sod banks. Species seems to prefer streams of low gradient and slow or moderate flow with very small, shallow streams being less frequently used.	No Effect	Suitable aquatic habitats with permanent flows preferred by this species for breeding are not present within the BSA. Additionally, federally designated Critical Habitat for this species is not present within the BSA and this species is possibly extirpated/ extirpated from the area (CNDDB, 2020).

Source: Michael Baker International, Natural Environment Study (Minimal Impacts) (December 2020).

Table 2.3.5-7: Effects Determination for Identified Endangered Species: Mammals

Scientific name Common Name	USFWS Status	CDFW Status	General Habitat Requirements	Effects Determination	Reason for Determination
Dipodomys merriami parvus San Bernardino kangaroo rat	FE	SSC	Primarily found in Riversidian alluvial fan sage scrub and sandy loam soils, alluvial fans and flood plains, and along washes with nearby sage scrub. May occur at lower densities in Riversidian upland sage scrub, chaparral and grassland in uplands and tributaries in proximity to Riversidian alluvial fan sage scrub habitats. Tend to avoid rocky substrates and prefer sandy loam substrates for digging of shallow burrows.	No Effect	Suitable Riversidian alluvial fan sage scrub habitat is not present within the BSA. Although chaparral and grassland vegetation communities occur within the BSA, they do not occur in proximity to Riversidian alluvial fan sage scrub habitat. Additionally, Federally-designated Critical Habitat for this species is not present within the BSA and there have been no recorded occurrences of this species within 5 miles of the BSA (CNDDB, 2020). Therefore, it was determined that “No Effect” to San Bernardino kangaroo rat would occur.
Dipodomys stephensi Stephens' kangaroo rat	FE	ST	Occur in arid and semi-arid habitats of open grassland or sparse shrublands with less than 50 percent protective cover. Require soft, well-drained substrate for building burrows and are typically found in areas with sandy soil in areas with < 30 percent slope.	No Effect	The wild oats and annual brome grasslands provides marginal habitat for this species. However, this species was not detected during the field surveys and Federally-designated Critical Habitat for this species is not present within the BSA. Therefore, it was determined that “No Effect” to Stephens’ kangaroo rat would occur.
Perognathus longimembris pacificus Pacific pocket mouse	FE	SSC	One of sixteen currently recognized subspecies of little pocket mouse (Perognathus longimembris), which is a widespread species that is distributed throughout arid regions of the western U.S. extending into northern part of Baja California	No Effect	The BSA is outside of the known range of this species and the habitats preferred by this species are not present within the BSA. Additionally, federally designated Critical Habitat for this species is not present within the BSA and there have been no recorded occurrences of this species

Scientific name Common Name	USFWS Status	CDFW Status	General Habitat Requirements	Effects Determination	Reason for Determination
			peninsula and west central Sonora, Mexico. Pacific pocket mouse is associated with fine grain, sandy substrates in coastal strand, coastal dunes, river alluvium and coastal sage scrub habitats within 2.5 miles of the ocean in southern California.		within 5 miles of the BSA (CNDDB, 2020).

Source: Michael Baker International, Natural Environment Study (Minimal Impacts) (December 2020).

Additionally, there has been no communication with the USFWS or with the National Oceanic and Atmospheric Administration's (NOAA) Fisheries regarding the FESA. The project site located outside of NOAA Fisheries jurisdiction; therefore, a NOAA Fisheries species list is not required and no effects to NOAA Fisheries species are anticipated. As discussed in Section 2.3.4 Animal Species, project site is not located within Federally designated Critical Habitat and consultation with USFWS pursuant to the FESA for the loss or adverse modification to Critical Habitat would not be required.

Environmental Consequences

No-Build Alternative

Project improvements would not occur under the No-Build Alternative; therefore, the No-Build Alternative would not impact threatened and endangered species.

Build Alternatives 3 and 4

According to the NES-MI, threatened and endangered species listed within the USFWS Information System were not observed within the BSA during any of the field surveys. As described in Tables 2.3.5-1 through 2.3.5-7, the BSA does not provide suitable habitats for any of the listed species within the BSA. Therefore, implementation of the Build Alternatives would not lead to any direct or indirect impacts to the listed threatened and endangered species. As such, it was determined by Caltrans that the Build Alternatives would have "no effect" on the listed threatened and endangered species.

Avoidance, Minimization, and/or Mitigation Measures

No measures are proposed.

2.3.6 Invasive Species

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 species that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

Affected Environment

This section is based upon the Natural Environment Study (Minimal Impacts) (NES-MI) prepared for the project dated December 2020.

Noxious weed species include species designated as federal noxious weeds by USDA, species listed by the California Department of Food and Agriculture, and other exotic pest plants designated by the California Invasive Plant Council (Cal-IPC). Invasive plant species occur throughout the various natural vegetation communities and land cover types within the BSA. According to the NES-MI, some of the more commonly exotic plants that are occurring within the BSA include tree of heaven, slender oat, wild oat, ripgut brome, foxtail brome, tocalote, yellow star thistle, Bermuda grass, red stemmed filaree, short podded mustard, tree tobacco, black locust, Russian thistle, and puncture vine.

Environmental Consequences

Noxious weeds can have a destructive impact on landscape by displacing native plant species, increasing soil erosion, and decreasing wildlife habitat. Thus, it is important to control or eradicate the invasive species.

Temporary Impact

No-Build Alternative

The No-Build Alternative would not require the construction of any of the project improvements. As a result, the No-Build Alternative would not result in new impacts related to invasive species. Locations within the BSA where invasive species currently occur would not be modified under the No-Build Alternative.

Build Alternatives 3 and 4

Potential impacts from invasive species associated with construction and operation of transportation projects are considered permanent. Refer to the Build Alternatives subsection under the Permanent Impacts for discussion regarding invasive species.

Permanent Impact

No-Build Alternative

Project improvements would not occur under the No-Build Alternative. As such, the No-Build Alternative would not result in impacts related to invasive species.

Build Alternatives 3 and 4

In compliance with the Executive Order on Invasive Species, EO 13112, and guidance from the Federal Highway Administration (FHWA), the landscaping and erosion control included in the Build Alternatives would not use species listed as invasive. None of the species on the California list of invasive species is used by Caltrans for erosion control or landscaping. As noted in Measure NC-2, all equipment and materials would be inspected for the presence of invasive species and cleaned prior to use in the project area. In areas of particular sensitivity, extra precautions would be taken if invasive species are found in or next to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur. Additionally, operation and maintenance of both Build Alternatives 3 and 4 would not increase the threat of invasive species beyond the existing condition associated with vehicle and pedestrian use on I-10 and Cherry Valley Boulevard. With implementation of NC-2, significantly adverse effects would not occur towards suitable habitat for endangered species.

Avoidance, Minimization, and/or Mitigation Measures

Refer to Measure NC-2 in Section 2.3.1, Natural Communities.

2.3.7 Cumulative Impacts

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.

Methodology

Caltrans' Guidance for Preparers of Cumulative Impact Analysis (dated June 2005) was consulted in conjunction with preparation of the cumulative analysis for the I-10/Cherry Valley Boulevard Interchange Improvement Project. The potential for cumulative impacts was evaluated by considering those resources potentially impacted by the project, either directly or indirectly. In accordance with Caltrans' Guidance for Preparers of Cumulative Impact Analysis, if a project would not cause direct or indirect impacts on a resource, it would not contribute to a cumulative impact on that resource and need not be further evaluated. Resource Study Areas (RSAs) for those resources warranting analysis were identified for each respective resource. As discussed at the beginning of Chapter 2, or in the related sections of Chapter 2 of this environmental document, the Build Alternatives would result in minor impacts but would not result in direct or indirect impacts for the topics listed below; therefore, no discussion is provided for the following topics in the evaluation of potential cumulative impacts:

- Coastal Zone
- Wild and Scenic Rivers
- National Marine Fisheries Service
- Timberlands
- Land Use
- Parks and Recreational Facilities
- Farmlands
- Growth
- Community Character and Cohesion
- Relocations and Real Property Acquisition
- Environmental Justice
- Utilities/Emergency Services
- Traffic and Transportation/Pedestrian and Bicycle Facilities
- Visual/Aesthetics
- Cultural Resources

- Hydrology and Floodplain
- Water Quality and Storm Water Runoff
- Geology/Soils/Seismic/Topography
- Air Quality
- Noise
- Energy
- Threatened and Endangered Species
- Invasive Species

Resources Evaluated for Potential Cumulative Analysis

The following resources are evaluated in this section for cumulative impacts:

- Paleontology
- Hazardous Waste/Materials
- Biological Resources (Natural Communities, Wetlands and Other Waters, Plant Species, Animal Species)

The discussion of potential cumulative impacts is presented by the environmental resource area. Due to its location within a City's jurisdiction and in unincorporated areas of Riverside County, Tables 2.4-1, City of Calimesa Reasonably Foreseeable Projects, and 2.4-2, Riverside County Reasonably Foreseeable Projects, include the reasonably foreseeable projects within the project area.

Paleontology

The RSA pertaining to paleontological resources includes a records search area that consisted of the project area and the U.S. Geological Survey 7.5-minute El Casco quadrangle map, as identified in the PIR/PER prepared for the project. The literature, records search, and survey indicate that the project could have the potential to adversely affect important, nonrenewable, highly sensitive paleontological resources.

Based on analysis provided in the PIR/PER, a High Potential paleontological sensitivity ranking was assigned to several portions of the project area where very old alluvial-fan deposits (Qvof3) and old alluvial-fan deposits (Qof2) are mapped at the ground surface as these units are potentially fossiliferous in the finer-grained beds. The PIR/PER also includes within the High Potential subareas portions of the project area near the interchange where the young axial-valley deposits (Qya5) are mapped, as observations from the survey indicate these deposits, at least in this subarea, may shallowly overlie the old alluvial-fan deposits (Qof2). In addition, data within the PIR/PER indicates the presence of deposits consistent with the Live Oak Canyon (Qlo) unit and/or upper San Timoteo Formation at a depth of 29 feet bgs near the center of the interchange.

Unit Qlo also may be present at shallower depths farther to the southwest of the site near Roberts Road. The PIR/PER notes an abundance of fossil localities within three miles of the project area, mostly from the San Timoteo Formation. This formation likely is also present at unknown depths in and around the interchange in the project area, and could be impacted by project-related ground-disturbing activities, which are anticipated to reach 12 to 25 feet bgs.

Table 2.4-1: City of Calimesa Reasonably Foreseeable Projects

Map ID	Project Name	Project Description	Location	Status
1	Majestic Realty	Two pad proposal for one gas station and one drive through restaurant	California Street and County Line Road	No approvals have been granted.
2	Stearns property	82-acre industrial development	9950 Calimesa Boulevard	No formal application has been submitted and no approvals have been granted.
3	The Heights at Calimesa Specific Plan	High density multi-family residential development	East of I-10, south of Rancho Calimesa Mobile Home Park	No formal application has been submitted and no approvals have been granted.
4	Oak Valley Town Center	Industrial/commercial development	West of I-10, south of Singleton Road	A formal application has been submitted but no approvals have been granted.
5	Beaumont Unified School District	K-8 school	Within the Summerwind Ranch Specific Plan area	An addendum to the Summerwind Ranch Specific Plan EIR was approved by school board. Currently under construction.
6	TTM 37802 – Reidman	179-lot single-family Residential subdivision	West of I-10 and Desert Lawn Drive	A formal application has been submitted but no approvals have been granted at this time.
7	Summerwind Trails – Phase 1 Lennar Tract	141-unit single-family Residential subdivision	Within the Summerwind Ranch Specific Plan area	Currently under construction.
8	Summerwind Commons	75,000 sf commercial/retail development	Within the Summerwind Ranch Specific Plan area	No approvals have been granted.

Map ID	Project Name	Project Description	Location	Status
9	San Gorgonio Crossings Project	229-acre high cube warehouse development	East of I-10, north of Cherry Valley Boulevard	EIR re-opened in July 2019 per court order and Board of Supervisors Action.

Source: Community Impact Assessment Memorandum (January 2021).

Table 2.4-2: Riverside County Reasonably Foreseeable Projects

Map ID	Project Name	Project Description	Location	Status
10	PM36564	228-acre subdivision	East of I-10, north of Cherry Valley Boulevard	Approval has been granted.
11	PP25337	230-acre industrial warehouse development	East of I-10, north of Cherry Valley Boulevard	Approval has been granted.
12	CUP03322	Truck and equipment garage and office	East of I-10, south of Cherry Valley Boulevard	Approval has been granted.
13	PP16147	Unmanned telecommunications building	East of I-10, south of Cherry Valley Boulevard	Approval has been granted.

Source: Community Impact Assessment Memorandum (January 2021).

Construction activities in the project area below the present ground surface may uncover vertebrate fossil remains. Therefore, impacts on paleontological resources in these areas may occur during project construction. To minimize these potential impacts, Measure PAL-1 would require preparation of a Worker’s Environmental Awareness Program (WEAP) regarding the types of fossils that could be found in the project area and the procedures to follow shall paleontological resources be encountered. Measure PAL-2 would include preparation of a Paleontological Mitigation Plan (PMP) for the project. The project’s PMP would include measures based on the assigned sensitivity rankings as well as the proposed depths of ground disturbance throughout the project area, as surface and near-surface geologic units are well documented while geologic units at greater depths remain undocumented. Measure PAL-3 would be required and would implement a program for recovery and procurement of fossils encountered during construction.

As mentioned previously, construction activities in the project area below the present ground surface may uncover vertebrate fossil remains. Therefore, other development projects in the RSA could disturb nonrenewable paleontological resources. However, because these projects would be discretionary actions and subject to project-specific environmental review, they would be required to incorporate measures to reduce impacts on unknown, nonrenewable paleontological resources. Therefore, construction activities associated with the Build Alternatives, in conjunction with other projects, would not result in cumulative impacts related to unknown and nonrenewable paleontological resources.

Once the Build Alternatives and other projects are operational, they would not have the potential to affect unknown and nonrenewable paleontological resources. Therefore, operation of the Build Alternatives, in conjunction with other projects, would not substantially contribute to cumulative impacts related to paleontological resources.

Hazardous Waste/Materials

The RSA for hazardous materials/hazards is the area within 0.5-mile of the project site, which includes all cumulative projects listed in Tables 2.4-1 and 2.4-2 except for the Majestic Realty development in the City of Calimesa, located approximately two miles north of the project site. During the short-term construction process, there is a potential for construction workers to be exposed to hazardous waste/materials as a result of on-site conditions and contamination. These potential effects relate to lead-based paints, asbestos-containing materials, treated wood waste, electrical transformers, leaking storage tanks, aerially-deposited lead, and pesticides/herbicides related to agricultural uses. This IS/EA includes Measures HAZ-1 through HAZ-8 to minimize impacts in this regard.

The Build Alternatives would not result in permanent impacts related to hazardous waste/materials, since routine maintenance activities during operation of the Build Alternatives 3 and 4 would be required to follow applicable regulations with respect to the use, storage, handling, transport, and disposal of potentially hazardous materials.

The Build Alternatives are not anticipated to result in an increase in the amount of hazardous materials in the RSA. The other development projects in the RSA could result in similar short-term exposure to hazardous materials during the construction period. However, because these projects would be discretionary actions and subject to project-specific environmental review, they would be required to incorporate measures to reduce impacts related to hazardous waste/materials. Therefore, construction activities associated with the Build Alternatives, in conjunction with other projects, would not substantially contribute to cumulative impacts related to hazardous waste/materials resources.

Biological Resources (Natural Communities, Wetlands and Other Waters, Plant Species, Animal Species)

The RSA associated with the analysis of cumulative impacts for biological resources is the plan area associated with the WR-MSHCP. According to the Western Riverside County RCA’s online WR-MSHCP Interactive Map, the BSA is not located within a Subunit of the WR-MSHCP. The project is considered to be a Covered Activity under Section 7.1 of the WR-MSHCP; pursuant to this section, public and private development, including the construction of buildings, structures, infrastructure and all alterations of the land, that are carried out by Permittees that are outside of Criteria Areas and P/QP Lands are permitted under the WR-MSHCP, subject to consistency with the policies that apply outside the Criteria Area. Since the project is a Covered Activity and located outside designated Conservation Areas, Criteria Cells, P/QP Lands, Cores, or Linkages, the Build Alternatives are considered consistent with the WR-MSHCP.

The BSA is comprised of rural residential and commercial land uses, parcels currently undergoing construction for residential development, I-10 and surrounding roadways, remnant agricultural lands, ranching land, natural vegetation communities, and ornamental vegetation. Within the boundaries of the BSA, parcels located to the north of I-10 are primarily composed of rural residential land uses, ranching land, remnant agricultural land, the Rancho Calimesa Mobile Home Ranch, a commercial trucking business, natural vegetation communities, and ornamental vegetation. Parcels within the BSA located to the south of I-10 are primarily undergoing residential development; however, scattered patches of natural and ornamental vegetation are present throughout. In addition, rural residential land uses and the Plantation on the Lake residential community comprise the southeast portion of the BSA. Vacant land with scattered rural residential and commercial land uses primarily surround the BSA to the north, east, and west. Residential housing is located to the south of the BSA.

Based on the NES-MI, impacts related to natural communities could result as a result of the Build Alternatives. An ornamentally planted oak tree grove consisting of California live oak is located within the central portion of the BSA, and the Build Alternatives could result in indirect impacts to Cuyamaca cypress stands. In addition to the implementation of Caltrans Standard Specifications, Measures NC-1 through NC-3 have been included to minimize impacts to natural communities.

The Build Alternatives could result in impacts to jurisdictional waters. Based on the NES-MI, jurisdictional waters subject to regulation by the RWQCB and CDFW exist within the project site. Thus, Measures WET-1 and WET-2 would be required to minimize impacts to jurisdictional waters.

Based on the NES-MI, impacts related to plant species would occur as a result of the Build Alternatives. Cuyamaca cypress and southern California black walnut were the only special-status plant species observed, within the western portion of the BSA. As noted above, the Build Alternatives would include the implementation of Caltrans Standard Specifications in addition to Measures NC-1 through NC-3. Adherence to these specifications/measures would minimize impacts related to plant species.

The NES-MI indicates that the Build Alternative could result in impacts to a range of various animal species. These animal species include bats, San Diegan tiger whiptail, Cooper's hawk, Southern California rufous-crowned sparrow, burrowing owl, California horned lark, northwestern San Diego pocket mouse, white-tailed kite, and San Diego black-tailed jackrabbit. Thus, Measures NC-1 and AS-1 through AS-4 have been included in this IS/EA in order to minimize impacts to sensitive animal species.

As noted above, with implementation of Caltrans Standard Specifications and Measures NC-1, NC-2, NC-3, WET-1, WET-2, AS-1, AS-2, AS-3, and AS-4, the Build Alternatives would not result in adverse effects related to biological resources. The Build Alternatives are not anticipated to result in cumulative impacts; although other development projects in the RSA could result in similar effects related to sensitive biological resources, these projects would be discretionary actions and subject to project-specific environmental review, they would be required to incorporate measures to reduce impacts related to biological resources. In addition, as noted previously, the project is considered to be a Covered Activity under Section 7.1 of the WR-MSHCP, which is a planning level document focused on the conservation of species and habitats on a regional basis, including the RSA for this analysis. Since the project is a Covered Activity and located outside designated Conservation Areas, Criteria Cells, P/QP Lands, Cores, or Linkages, the Build Alternatives are considered consistent with the WR-MSHCP. Therefore, the Build Alternatives, in conjunction with other projects, would not substantially contribute to cumulative impacts related to biological resources.

Chapter 3 CEQA Evaluation

3.1 Determining Significance Under CEQA

The proposed project is a joint project by the California Department of Transportation (Department) 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 actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 United States Code Section 327 (23 USC 327) and the Memorandum of Understanding dated December 23, 2016, and executed by FHWA and Caltrans. The Department 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 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 the Department to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an 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 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.

3.2 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects will indicate that there are no impacts to a particular resource. A NO IMPACT answer in the last column reflects this determination. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

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

3.2.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

The potential for Build Alternatives 3 and 4 to result in visual impacts was assessed in the Visual Impact Assessment for the Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (July 2021) and Section 2.1.10, above. The following discussion is based on those analyses.

a) and b) <u>No Impact</u>

As discussed in Section 2.1.10, there are no officially designated or eligible State scenic highways in the vicinity of the project site. Additionally, the project site does not afford local/county-designated scenic corridors, views, or vistas that are identified in the Calimesa General Plan or the Riverside County General Plan. As such, no impact would occur in this regard.

c) <u>Less than Significant</u>

Temporary Construction Impacts

As discussed in Section 2.1.10, community residents, recreational users, and motorists traveling along the project corridor would be exposed to construction vehicles, staging areas, debris, and other common construction activities. However, these impacts would be short-term and would cease upon project completion (construction is anticipated to be completed in approximately 24 months). As such, impact in this regard would be less than significant.

The proposed project could require nighttime construction activities which would potentially result in light impacts to nearby residents and motorists traveling on roadways through and adjacent to the project site. However, the project area contains existing sources of nighttime lighting (i.e., vehicle headlights, streetlights, residential lights, etc.) and therefore the new light source may not be perceived as obtrusive by viewers. Additionally, Avoidance and Minimization Measure VIS-1 is recommended to minimize temporary project-related light and glare effects by directing construction lighting away from off-site land uses, containing and directing lighting toward the specific area of construction. Thus, temporary impacts are anticipated to be less than significant in this regard.

Operational Impacts

Although both Build Alternatives would result in the reconstruction of a new overcrossing structure at the I-10/Cherry Valley Boulevard interchange, they would not substantially degrade the visual character of the project site or its surroundings. Under both Build alternatives, the proposed overcrossing structure and soundwalls would be similar in form, line, color, and texture to existing transportation uses in the project area. The proposed project would be designed in conformance with the applicable zoning regulations outlined in the City of Calimesa Municipal Code, as well as the policies identified in the Calimesa and Riverside County General Plans, and the County of Riverside Corridor Master Plan, to maintain visual character/quality. Implementation of Avoidance and Minimization Measures VIS-2 and VIS-4 would further maintain consistency with the existing visual character of the project site by implementing landscape and/or architectural treatments and by installing compatible landscaping along the freeway. Impacts would be less than significant in this regard.

d) <u>Less than Significant</u>

As discussed in Section 2.1.10, nighttime construction of both Build Alternatives would introduce new sources of light to the project area and result in light impacts to nearby residents and motorists traveling along the project site. The existing project site contains existing sources of light (i.e., vehicle headlights, streetlights, residential lights, etc.). Therefore, potential visual impacts regarding light and glare during construction would not be significantly adverse. Implementation of Avoidance and Minimization Measure VIS-1 would require the construction contractor to minimize project-related light and glare by directing construction lighting away from land uses located off-site and contain and direct lighting toward the specific area of construction.

Under Build Alternatives 3 and 4, new roadway lighting would be installed throughout the interchange, and a new traffic signal would be installed at the intersection of Cherry Valley Boulevard and Calimesa Boulevard and at the I-10 eastbound and westbound off- and on-ramps at Cherry Valley Boulevard.

However, the lighting and traffic signal would be similar in character to existing lighting/signal facilities within the project area. As such, impacts would be less than significant in this regard.

3.2.2 Agriculture and Forest Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:	**Significant and Unavoidable Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

The potential for Build Alternatives 3 and 4 to result in impacts to agriculture and forest resources was assessed in the Community Impact Assessment Memorandum (January 2021) and Section 2.1.3, above. The following discussion is based on those analyses.

a) <u>Less Than Significant Impact</u>

The project would impact land that has been designated by the California Department of Conservation as "Farmland of Local Importance," "Prime Farmland," and "Farmland of Statewide Importance." There are no properties designated as Unique Farmland on-site. Build Alternative 3 would directly convert 11.02 acres and indirectly convert 0.22 acres of farmland-designated land. Build Alternative 4 would directly convert 9.22 acres and indirectly convert 0.22 acres of farmland-designated land. These farmland-designated parcels represent less than one percent of all farmlands County-wide; therefore, impacts would be nominal. Additionally, the affected parcels are not currently used for the purposes of agricultural production. A less than significant impact would occur in this regard.

b) <u>No Impact</u>

The project site is not located in an area that has been designated or zoned by the City or County for agricultural use in the Calimesa General Plan or Riverside County General Plan. There are no Williamson Act contracts for the properties that would be impacted by the project. As such, no impact would occur in this regard.

c) and d) <u>No Impact</u>

There are no forest lands or timberlands located within or adjacent to the project site. Therefore, the project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production, nor would the project result in the loss of forest land or conversion of forest land to non-forest use. No impact would occur in this regard.

e) <u>No Impact</u>

The project's impacts on agricultural lands have been described above. There are no changes as a result of the project that would have the potential to affect farmland or forest land. No impacts would occur in this regard.

3.2.3 Air Quality

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

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) 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?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

The potential for Build Alternatives 3 and 4 to result in impacts related to air quality was assessed in the Air Quality Report (December 2020) and Section 2.2.6, above. The following discussion is based on those analyses.

a) and b) <u>Less Than Significant Impact</u>

The proposed project is located in the South Coast Air Basin (SCAB) and is within the jurisdiction of the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB). As discussed in the Air Quality section of Chapter 2, the Basin is an attainment area for CO, NO_2, and SO_2 and nonattainment for O_3, $PM_{2.5}$, and PM_{10} for State standards. The Basin is an attainment area for NO_2 and SO_2, is a maintenance area for CO, PM_{10}, and is a nonattainment area for O_3 and $PM_{2.5}$ under federal standards.

The proposed project would construct a new I-10/Cherry Valley Boulevard interchange and will also include realignment of Calimesa Boulevard. With adherence to local, State, and federal rules and regulations, including Caltrans Standard Specifications for Construction (Sections 14-11.04 [Dust Control]) and 14-9.02 [Air Pollution Control]), the project would not violate any air quality standards during construction. No temporary impacts would occur in this regard and no measures are required.

Based on Section 2.2.6, Air Quality, the Build Alternatives under opening-year (2025) and design-year (2045) conditions would increase PM_{10}, and $PM_{2.5}$ emissions compared to existing conditions and decrease ROG, NO_X, and CO emissions. However, the increase in PM is partly due to background growth in vehicle miles traveled (VMT) from 2019 to 2045, because PM fugitive dust emissions are a function of VMT. In addition, although PM exhaust emission factors decrease over time, fugitive dust PM emission factors increase over time due to the increase in truck percentages as a fraction of overall VMT within the study area. Accordingly, the total PM emissions increase over time. The decreases in other pollutants are due to expected improvements in vehicle engine technology, fuel efficiency, and turnover in older, more heavily polluting vehicles, which reduces exhaust emissions. Another reason the implementation of the Build Alternatives would result in an increase in PM_{10} and $PM_{2.5}$ criteria pollutant emissions compared to no-build conditions is because the project would increase regional capacity, although there would be no increase in trip generation. Although AM and PM peak vehicle hours of delay through the I-10/Cherry Valley Boulevard interchange would decrease as a result of the proposed project, PM_{10} and $PM_{2.5}$ criteria pollutant emissions would increase due to the increase in overall daily VMT in the transportation study area.

The proposed project is included in the SCAG 2020-2045 financially constrained Regional Transportation Plan Sustainable Communities Strategy (RTP/SCS) and 2021 Federal Transportation Improvement Program (FTIP), both of which were found to be conforming (see Section 2.2.6, Air Quality, of this IS/EA). Therefore, the proposed project would not conflict with the AQMP, violate any air quality standard, result in a net increase of any criteria pollutant. Thus, a less than significant impact would occur in this regard and no measures are required.

c) <u>Less than Significant Impact</u>

Temporary Construction Impacts

The closest sensitive receptors to the proposed project include two nearby parks (Trevino Park and Palmer Park), an existing residential use, and a planned residential area under the Summerwind Specific Plan. Temporary impacts to sensitive receptors regarding fugitive dust resulting from construction activities would occur during demolition, grading/trenching, new pavement construction, and the restriping phase. However, adherence to local, State, and federal rules and regulations, including Caltrans Standard Specifications for Construction (Sections 14-11.04 [Dust Control]) and 14-9.02 [Air Pollution Control]) would minimize temporary air quality impacts to sensitive receptors, and sensitive receptors would not be exposed to substantial pollutant concentrations. As such, a less than significant impact would occur in this regard and no measures are required.

Operational Impacts

As discussed in Section 2.2.6, Air Quality, the CO screening analysis concluded that project implementation would reduce congestion and overall travel time due to overall improvements in LOS and vehicle hours traveled (VHT) during build conditions. Additionally, the proposed project does not involve parking lots, and therefore would not increase the number of vehicles operating in cold start mode. Accordingly, impacts would be less than significant, and no measures are required.

d) <u>Less Than Significant Impact</u>

As stated, the closest sensitive receptors to the proposed project include two nearby parks (Trevino Park and Palmer Park), an existing residential use, and a planned residential area under the Summerwind Specific Plan. Accordingly, the proposed project would not create objectionable odors affecting a substantial number of people; however, minor sources of odors would be present during construction. The predominant source of power for construction equipment is diesel engines and emissions associated with asphalt paving. Because odors would be temporary and would disperse rapidly with distance from the source, construction-generated odors would not be expected to result in the frequent exposure of receptors to objectionable odorous emissions. Impacts would be less than significant, and no measures are required.

3.2.4 Biological Resources

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA Fisheries?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
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?	☐	☐	☐	☒

The potential for Build Alternatives 3 and 4 to result in impacts to biological resources was assessed in the Natural Environment Study (Minimal Impacts) (NES-MI), (December 2020) and the following sections in Chapter 2: Wetlands and Other Waters; Plant Species; Animal Species; Threatened and Endangered Species, and Invasive Species. The following discussions are based on those analyses.

a) Less than Significant

Plant Species: As discussed in Section 2.3.1, Natural Communities, Cuyamaca cypress (*Hesperocyparis stephensonii*) is a natural community of special concern that was observed within the Biological Study Area (BSA) during the site investigation for this project. As discussed in Section 2.3.3, Plant Species, a total of 63 special status plant species were identified as potentially occurring on the BSA. The southern California black walnut (*Juglans californica*), a special-status plant species, was observed within the BSA during the site investigation. All remaining special-status plant species have a low potential to occur or are not expected to occur within the BSA. Construction activities associated with the development of the project has the potential to result in indirect impacts related to fugitive dust or spread of non-native seeds, to this vegetation community. Adherence to Caltrans Standard Specifications Section 14-10.01, General (Solid Waste Disposal and Recycling), would ensure project materials are not cast from the project site into nearby habitats and project related debris, spoils, and trash are contained and removed to a proper disposal facility. Caltrans Standard Specifications Section 18-1.03A, General (Dust Palliatives), would ensure dust control during project construction. Additionally, workers will receive environmental awareness training prior to the initiation of work (Avoidance and Minimization Measure NC-1) and construction equipment shall be inspected and cleaned prior to use in the project area to minimize the importation of non-native plant material (Avoidance and Minimization Measure NC-2). With adherence to existing standards and Avoidance and Minimization Measures NC-1 and NC-2, potential impacts to these species of special concern would be reduced to less than significant levels.

Bat Species: Certain bat species (i.e., Yuma myotis [*Myotis yumanensis*], Mexican free-tailed bat [*Tadarida brasiliensis*], and big brown bat [*Eptesicus fuscus*]) may forage through most of the open natural vegetation communities located in the BSA. The Cherry Boulevard bridge, ornamental palm trees, and eucalyptus trees within the BSA have the potential to provide suitable roosting habitat for bats. However, there were no bats detected around the Cherry Valley Boulevard bridge, palm trees, or eucalyptus trees were detected during the field surveys. Prior to the commencement of project activities, a bat survey will be conducted to identify the presence of bats or potential bat roosting cavities (AS-1). With adherence to this avoidance and minimization measure, potential impacts to bat species would be reduced to less than significant levels.

Animal Species: As discussed in Section 2.3.4, Animal Species, a total of 84 special-status animal species were identified as potentially occurring within the BSA. Two special status-animal species were observed within the BSA during the site investigation: San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*) and double-crested cormorant (*Phalacrocorax auritus*). The BSA has a high potential to support the Cooper's hawk (*Accipiter cooperii*), the southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), and the Burrowing Owl (BUOW). All other special status animal species either have moderate, low potential, or are not expected to occur within the BSA. Construction activities associated with the project could directly impact San Diegan tiger whiptail and indirectly impact suitable scrub oak chaparral habitat (Build Alternative 4 only). Implementation of Avoidance and Minimization Measure AS-2 would require a qualified biological monitor be present on-site during ground and habitat disturbance activities, to determine whether or not construction activities would disturb potential habitat of the San Diegan tiger whiptail. The double-crested cormorant individual that was observed on-site was most likely passing through and used the artificial Plantation on the Lake pond as a quick place to rest. Due to a lack of suitable nesting habitat within the BSA, no temporary direct or indirect impacts to nesting double-crested cormorants are anticipated to occur as a result of the proposed project. Additionally, implementation of the proposed project has the potential to result in temporary direct and indirect impacts to suitable foraging habitat and/or nesting habitat preferred by Cooper's Hawk (*Accipiter cooperii*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)(Build Alternative 4 only); Burrowing Owl (*Athene cunicularia*)(BUOW), California horned lark (*Eremophila alpestris actia*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) (Build Alternative 4 only), White-tailed kite (*Elanus leucurus*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) (Build Alternative 4 only). However, impacts would be limited relative to the amount of suitable foraging and nesting habitat that would remain available in the BSA and immediate vicinity. All special-status species discussed above are fully covered species under the WR-MSHCP. Additionally, implementation of Avoidance and Minimization Measure NC-1 would require environmental awareness training be provided to all construction workers prior to the initiation of construction work associated with the project. Avoidance and Minimization Measure AS-3 would require pre-construction nesting bird surveys prior to construction during the nesting season. Avoidance and Minimization Measure AS-4 would require a pre-construction clearance survey be conducted more than 30 days prior to initiating ground disturbance activities to confirm that BUOW remain absent and impacts do not occur to any occupied burrows that may be located on or within the BSA. With implementation of Avoidance and Minimization Measures NC-1 and AS-2 through AS-4 identified above, impacts to special-status animal species would be less than significant.

b) <u>Less than Significant Impact With Mitigation Incorporated</u>

As discussed in Section 2.3.1, Natural Communities, 10 natural communities were observed within the BSA: scrub oak chaparral (*Quercus berberidifolia* Shrubland Alliance), California buckwheat scrub (*Eriogonum fasciculatum* Shrubland Alliance), disturbed California buckwheat scrub (*Eriogonum fasciculatum* Shrubland Alliance), Cuyamaca cypress stands (*Hesperocyparis stephensonii Woodland* Special Stands), mule fat thickets (*Baccharis* *salicifolia* Shrubland Alliance), disturbed California sagebrush – (purple sage) scrub (*Artemisia californica – [Salvia leucophylla]* Shrubland Alliance), wild oats and annual brome grasslands (*Avena spp. - Bromus* spp. Herbaceous Semi-Natural Alliance), disturbed wild oats and annual brome grasslands (*Avena spp. - Bromus spp.* Herbaceous Semi-Natural Alliance), planted oak tree grove (*Quercus agrifolia* Forest and Woodland Alliance), and eucalyptus – tree of heaven – black locust groves (*Eucalyptus spp. - Ailanthus altissima - Robinia pseudoacacia* Woodland Semi-Natural Alliance). Build Alternative 3 would result in 0.22 acres of temporary impacts and 1.16 acres of permanent impacts to sensitive natural vegetation communities. Build Alterative 4 would result in 1.52 acres of temporary impacts and 2.59 acres of permanent impacts to sensitive natural vegetation communities. Adherence to Caltrans Standard Specifications Section 14-10.01, General (Solid Waste Disposal and Recycling), would ensure project materials are not cast from the project site into nearby habitats and project related debris, spoils, and trash are contained and removed to a proper disposal facility. Caltrans Standard Specifications Section 18-1.03A, General (Dust Palliatives), would ensure dust control during project construction. Additionally, workers will receive environmental awareness training prior to the initiation of work (Avoidance and Minimization Measure NC-1) and construction equipment shall be inspected and cleaned prior to use in the project area to minimize the importation of non-native plant material (Avoidance and Minimization Measure NC-2). Avoidance and Minimization Measure NC-3 would require a permit be obtained from the Community Development Director for the removal, encroachment, or relocation of a protected oak tree(s). Implementation of Caltrans Standard Specifications and Avoidance and Minimization Measures NC-1, NC-2, and NC-3 would reduce impacts to sensitive natural communities to less than significant levels.

According to Section 2.3.2, multiple unnamed drainage features (Drainages 1, 3, and 4) were found on-site to qualify as waters of the U.S. and Corps/Regional Board jurisdiction and totals approximately 0.68 acre (2,738 linear feet) of non-wetland waters of the State. Additionally, all on-site drainages (Drainage 1, 3, and 4) exhibit a clear bed and bank and CDFW jurisdiction totaled 1.45 acres (approximately 0.40 acre of CDFW jurisdictional vegetated streambed, 0.87 acre of CDFW jurisdictional non-vegetated streambed, and 0.18 acre of associated riparian vegetation). Build Alternative 3 would impact approximately 0.02 acre (63 linear feet) of Regional Board jurisdiction (non-wetland waters of the State) and 0.03 acre (63 linear feet) of CDFW jurisdiction. Build Alternative 4 would permanently impact approximately 0.06 acre (221 linear feet) of Regional Board jurisdiction (non-wetland waters of the State) and approximately 0.16 acre (221 linear feet) of CDFW jurisdiction. A Nationwide Permit from USACE, RWQCB CWA Section 401 Water Quality Certification (WQC), and a CDFW Section 1602 Streambed Alteration Agreement (SAA) will be obtained prior to construction (Mitigation Measure WET-1), and limits of construction will be clearly defined beforehand (Avoidance and Minimization Measure WET-2). With the implementation of these measures, impacts to riparian habitat would be reduced to less than significant levels.

c) <u>No Impact</u>

As discussed in Section 2.3.2, Wetlands and other Waters, there are no jurisdictional wetland features that within the BSA. Soil pits were dug within the drainage features (Drainage 1), where dominant hydrophytic vegetation and hydrologic indicators were observed. Soil pit one (SP1) only met two (hydrophytic vegetation; hydrology) of the three (hydrophytic vegetation, hydric soils, and hydrology) required wetland parameters and thus did not qualify as a wetland. Therefore, implementation of the proposed project would not impact federally protected wetlands as defined by Section 404 of the Clean Water Act. As such, no impacts would occur in this regard and no measures are required.

d) <u>Less Than Significant Impact</u>

As discussed in Section 2.3.1, Natural Communities, there are no known designated WR-MSHCP Criteria Cells, habitat linkages, or designated conservation areas within the BSA. Potential wildlife movement within and adjacent to the BSA would occur within the ephemeral drainage features that connect to the surrounding interior areas, foothills, and mountain ranges. Project activities under Build Alternatives 3 and 4 are not expected to impede wildlife movement within these features and through the BSA, specifically through the north, east, and western portions. The BSA would continue to provide opportunities for local wildlife movement and function as a corridor for highly mobile wildlife species. As such, less than significant impacts would occur in this regard and no measures are required.

Construction-related disturbance may have an adverse impact on migratory bird species, including southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) and California horned lark (*Eremophila alpestris actia*), especially during the breeding season (generally February 1 through August 31) when individuals may be attempting to incubate eggs or raise young within or adjacent to the BSA. Construction-related noise, vibration, dust, or visual disturbances may disrupt nesting activities or may cause birds to leave the area until construction is completed. In extreme cases nesting efforts may be abandoned, resulting in take of young or eggs. To minimize potential impacts to migratory bird species on-site and within the project vicinity, implementation of a pre-construction clearance survey would be performed if project activities occur during the breeding season (February 1st through September 30th) (Avoidance and Minimization Measure AS-3). With the implementation of Avoidance and Minimization Measure AS-3, a less than significant impact to migratory birds would occur.

e) <u>Less than Significant Impact</u>

As discussed in Section 2.3.1, an ornamentally planted oak tree grove consisting of California live oak is located within the central portion of the BSA, to the south of Calimesa Boulevard. If project implementation should require tree removal/pruning of California live oak and it is determined that the project is not exempt from the oak tree permit requirements per Section 18.80.030 of the City of Calimesa Municipal Code, an application for oak tree removal/encroachment permit shall be obtained prior to the initiation of project activities (Avoidance and Minimization Measure NC-3) With the implementation of Avoidance and Minimization Measure NC-3, impacts would be reduced to less than significant level in this regard.

f) <u>No Impact</u>

The project site is located within the boundaries of the WR-MSHCP. The proposed project is considered to be Covered Activity under Section 7.1 of the WR-MSHCP. Pursuant to this section, public and private development that occurs outside of Criteria Areas and Public/Quasi-Public (P/QP) Lands is permitted under the WR-MSHCP. As noted in the analysis above, the project would not result in significant impacts to biological resources, and would not result in any conflicts with the WR-MSHCP. As such, no impacts would occur in this regard.

3.2.5 Cultural Resources

Would the project:	**Significant and Unavoidable Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

a) and b) <u>Less Than Significant Impact</u>

As discussed in Section 2.1.11, based on the literature and records review performed as part of the HPSR, two historic resources were identified within the APE. A historic-period refuse scatter (CA-RIV-7924H/(33-014869) and a historic-period structural remnants site (CA-RIV-7925H/33-014870) were previously documented, evaluated and determined ineligible for inclusion in the NRHP/CRHR.

As a result of the survey conducted for the HPSR, two newly identified historic resources were documented within the APE: 1) a historic-period structural remnants site (Æ-3997-01H); and 2) a historic-period built-environment farm complex site (APN 413-270-014). These resources were documented and evaluated according to NRHP and CRHR criteria, and both resources were determined to be ineligible for inclusion in the NRHP/CRHR. There were no other historical resources identified as part of the analysis for the proposed project.

While no historical or archaeological resources eligible for inclusion in the NRHP/CRHR were determined to be present on-site, the possibility exists that previous unknown buried resources could be discovered during construction. In accordance with Caltrans standards, if cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find. Additionally, the project would be subject to compliance with California Health and Safety Code (H&SC) Section 7050.5 in the event human remains are discovered. Thus, impacts in this regard would be less than significant, and no measures are required.

c) <u>Less Than Significant Impact</u>

As noted above, there were no archaeological resources determined to be present on-site as part of preparation of the HPSR. It is not anticipated that human remains would be discovered as part of the construction process. However, if human remains are discovered, California H&SC 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. If the remains are thought by the coroner to be Native American, the coroner will notify the Native NAHC, who, pursuant to PRC Section 5097.98, will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact Andrew Walters, the District Environmental Branch Chief ([909] 383-2647) or Gary Jones, District Native American Coordinator ([909] 383-7505), Principal Investigator for the NAHC, 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. Thus, impacts in this regard would be less than significant, and no measures are required.

3.2.6 Energy

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☐	☒
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

a) <u>No Impact</u>

Direct Energy (Construction)

During construction of the proposed project, direct energy use from construction sources is the energy that is consumed during construction activities by vehicles and equipment. Project construction would consume primarily diesel fuel through the operation of heavy-duty equipment as well as commercial trucks for material deliveries and debris hauling; gasoline would be consumed during workers' vehicle trips to and from the construction site. Project construction would also involve the use of on-road gasoline vehicles by construction workers. As shown in Table 2.2.8-56, construction activities associated with implementation of Build Alternative 3 would consume approximately 249,785 gallons of diesel fuel and 16,224 gallons of gasoline, with energy consumption totaling approximately 33,619 million BTUs over the two-year period. As shown in Table 2.2.8-67, construction activities associated with implementation of Build Alternative 4 would result in the consumption of approximately 243,793 gallons of diesel fuel and 16,224 gallons of gasoline, with energy consumption totaling approximately 32,855 million BTUs over the two-year period. These energy consumption levels represent a nominal demand on local and regional fuel supplies and would be accommodated. Although construction would result in a short-term increase in energy use, construction design features would help conserve energy. For example, recycled materials, including removed asphalt concrete pavement and cement concrete pavement, would be used where feasible. Recycled products typically have lower energy costs for manufacturing and transportation because recycled products do not require raw materials, which must be mined and transported to a processing facility. If new materials must be used, a fly ash mix may be considered to lower the heat island effect, depending on what is allowable under Caltrans specifications. Additionally, project construction would include the use of reclaimed water and energy-efficient lighting, such as light emitting diode (LED) traffic signals. The energy conservation features would be consistent with State and local policies to reduce energy consumption. Therefore, project would not result in the wasteful, inefficient, or unnecessary consumption of energy and no impacts would occur in this regard and no measures are required.

Direct Energy (Operational Mobile Sources)

Energy calculations for transportation projects are dependent on VMT and vehicle fuel consumption. As shown in Tables 2.2.8-2, 2.2.8-9, and 2.2.8-10 the annual energy consumption between Existing Year 2019 and Design Year 2045 would increase by 1,669 million BTUs (23 percent) and VMT is projected to increase by 27 percent. This slight disparity is attributed to fleet turnover, as older, less fuel-efficient vehicles are replaced by later-model, more fuel-efficient vehicles over time. These later-model replacement vehicles would also include hybrid and all-electric vehicles. For the project, only a slight change in energy consumption would occur because of the following reasons: 1) no change in project-vicinity VMT, and 2) the relatively small magnitude of this single interchange capacity enhancement considering the larger region. Therefore, energy consumption under the proposed project would be negligible compared with the No-Build Alternative. No impacts would occur in this regard.

Federal and State regulations and policies (e.g., Surface Transportation Act, Energy Policy Act, California's Transportation Plan) are intended to achieve goals that include reducing congestion, improving air quality, and increasing vehicle fuel efficiency. Build Alternatives 3 and 4 would not conflict with these regulations or policies. The regional and local policies (e.g., SCAG 2020-2045 RTP, City of Calimesa General Plan, and Riverside County General Plan) include goals that involve reducing congestion, reducing traffic on arterial roads, promoting mass transit, reducing VMT, and increasing vehicle occupancy rates. Build Alternatives 3 and 4 would be consistent with these policies because the project would enhance operations by improving reliability and travel times within the I-10 corridor and improve traffic flow by reducing congestion and offering motorists a faster and more reliable commute. Lastly, operations under Build Alternatives 3 and 4 would include implementation of intelligent transportation systems to help manage the efficiency of the existing highway system. Intelligent transportation systems are commonly referred to as electronics, communications, or information processing, used singly or in combination, to improve the efficiency or safety of a surface transportation system. Furthermore, based on the Energy Analysis Report, no substantial alterations to the existing energy infrastructure would be required and the project would have minimal impacts on operational energy consumption. No impacts would occur in this regard, and no measures are required.

Indirect Energy

Based on Section 2.2.8, the analysis of indirect energy consumption shows that the project would result in an increase in indirect energy use in the project study area under Opening Year 2025 (totaling approximately 0.02 percent) and Design Year 2045 conditions (totaling approximately 0.001 percent for Build Alternative 3 and 0.002 percent for Build Alternative 4) compared with the No-Build Alternative. Tables 2.2.8-147 and 2.2.8-158 show that both Build Alternatives 3 and 4 would result in negligible changes in indirect energy use in the region in Opening Year 2025 and Design Year 2045 conditions compared with the No-Build Alternative. Both Build Alternatives 3 and 4 would not substantially contribute to indirect energy use at the regional level and would not be expected to result in permanent adverse indirect energy impacts. The project would be consistent with federal, regional, and local plans and policies. Therefore, project implementation would not result in an inefficient, wasteful, or unnecessary consumption of energy, and no impacts would occur in this regard. No measures are required.

b) No Impact

As noted in Section 2.2.8, Federal and State regulations and policies (e.g., Surface Transportation Act, Energy Policy Act, California's Transportation Plan) are intended to achieve goals that include reducing congestion, improving air quality, and increasing vehicle fuel efficiency. The project would not conflict with these regulations or policies. The regional and local policies (e.g., SCAG 2020-2045 RTP, City of Calimesa General Plan, and Riverside County General Plan) include goals that involve reducing congestion, reducing traffic on arterial roads, promoting mass transit, reducing VMT, and increasing vehicle occupancy rates. The project would be consistent with these policies because the project would enhance operations by improving reliability and travel times within the I-10 corridor and improve traffic flow by reducing congestion and offering motorists a faster and more reliable commute. Lastly, operations under the project would include implementation of intelligent transportation systems to help manage the efficiency of the existing highway system. Intelligent transportation systems are commonly referred to as electronics, communications, or information processing, used singly or in combination, to improve the efficiency or safety of a surface transportation system. Furthermore, based on the Energy Analysis Report, no substantial alterations to the existing energy infrastructure would be required and the project would not impact operational energy consumption. Thus, no impacts would occur in this regard and no measures are required.

3.2.7 Geology and Soils

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	---	---	---	---
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect 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?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

The potential for the Build Alternatives to result in impacts to geology and soils was assessed in the Preliminary Geotechnical Design Report (PGDR) (June 2020), and the Geology/Soils/Seismic/Topography and Paleontology sections in Chapter 2. The following discussions are based on those analyses.

a) i) <u>No Impact</u>

The project area is not in an Alquist-Priolo Earthquake Fault Zone[9], and there are no known active or potentially active faults mapped as crossing or in the immediate vicinity of the project site; refer to Figure 2.2.3-1, Regional Fault Map. No impacts would occur in this regard, and no measures are required.

a) ii) <u>Less than Significant Impact</u>

The project site is located within the seismically active region of southern California. During the life of the project, seismic activity is likely to generate moderate to strong seismic shaking at the site during earthquakes. Build Alternatives 3 and 4 would comply with the most current Caltrans' procedures and design criteria regarding seismic design to minimize any adverse effects related to seismic ground shaking. Earthwork would be performed in accordance with Caltrans Standard Specifications, Section 19, which require standardized measures related to compacted fill, over-excavation and recompaction, and retaining walls, among other requirements. Additionally, Caltrans Highway Design Manual (HDM) Topic 113, Geotechnical Design Report, would require that a site-specific, geotechnical field investigation is performed for the project during the Plans, Specifications, and Estimates (PS&E) phase. Impacts in this regard would be less than significant, and no measures are required.

a) iii) and iv) <u>Less Than Significant Impact</u>

Preliminary liquefaction analysis within the PGDR determined that, due to the absence of shallow groundwater within the project site, the potential for adverse effects related to liquefaction would be low. However, the PGDR recommends that liquefaction potential is further examined during the PS&E phase of the project to confirm the conclusions of the PGDR. Topography of the project site is determined to be relatively flat; therefore, landslide potential is considered low. As such, a less than significant impact would occur in this regard.

b) <u>Less than Significant Impact</u>

Temporary Construction Impacts

Grading and earthwork associated with proposed construction activities would result in exposed soils subject to erosion. As noted in Section 2.2.2, Best Management Practices (BMPs), including construction site BMPs (e.g., storm drain inlet protection, temporary fiber rolls, gravel bed berms, etc.) and job management BMPs (i.e., wind erosion control, spill prevention and control, etc.) would minimize potential erosion impacts to downstream waterbodies.

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[9] California Department of Conservation, Earthquake Zones of Required Investigation, https://maps.conservation.ca.gov/cgs/EQZApp/app/, accessed on December 15, 2020.

The project would be required to adhere to existing temporary construction related National Pollutant Discharge Elimination System (NPDES) requirements, which would minimize impacts in this regard. Compliance with the Construction General Permit would require preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP would specify BMPs to be used during construction of the project to minimize or avoid water pollution, including erosion. With adherence to these requirements, impacts in this regard would be less than significant.

Operational Impacts

Native soils within the project limits are anticipated to bed fine- to coarse-grained silty sands, and therefore are subject to moderate to severe erosion. The majority of slopes proposed as part of the Build Alternatives would be sloped at 4H:1V or flatter; based on the PGDR, fill slopes of up to 2H:1V are feasible from a geotechnical standpoint. These areas would be maintained with erosion protection and drainage control in accordance with Section 21 of Caltrans Standard Specifications (2015). Additionally, the project will adhere to the earthwork recommendations provided in the PGDR. As such, operational impacts would be less than significant. No measures are required.

c) No Impact

As discussed in Response a) (iii), due to the absence of shallow groundwater, the project site is not subject to liquefaction hazards. Additionally, the potential for landslide, lateral spreading, subsidence, or collapse is not anticipated to be a design concern. Nonetheless, these conclusions would be confirmed during the PS&E phase. No impact would occur in this regard, and no measures are required.

d) Less than Significant Impact

As discussed in Section 2.2.3, the soils associated with the project site are primarily fine-grained soils (silts and clays) which are not expected to be expansive. The expansion potential for silty and clayey soils range from very minimal to high. The project would adhere to the earthwork recommendations provided in the PGDR, and soil expansion would be further evaluated during the PS&E phase. As such, less than significant impacts would occur, and no measures are required.

e) No Impact

The Build Alternatives would not use septic tanks or alternative methods for disposal of wastewater into subsurface soils and would not connect to existing public wastewater infrastructure. No measures are required.

f) <u>Less than Significant With Mitigation Incorporated</u>

Based on Section 2.2.4, no paleontological resources are known to occur on-site or within a mile radius of the site. However, the project area consists of surficial and subsurface geologic units ranked as low to high in potential for buried fossils. As a result, ground-disturbing activities associated with the construction of the project could result in the disturbance or loss of previously undiscovered paleontological resources. Implementation of Avoidance and Minimization Measure PAL-1 would require worker's environmental awareness training. Mitigation Measure PAL-2 would additionally require retainment of a qualified Principal Paleontologist, and the implementation of a Paleontological Mitigation Plan (PMP) for the project. If paleontological resources are discovered during ground-disturbing activities, fossil preparation, curation, and reporting would occur in accordance with Avoidance and Minimization Measure PAL-3. With the implementation of these measures, impacts to potential paleontological resources would be less than significant.

3.2.8 Greenhouse Gas Emissions

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☒	☐	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☒	☐	☐

The potential for Build Alternatives 3 and 4 to result in impacts to greenhouse gas emissions was assessed in the Air Quality Report (December 2020) and Section 3.4, below. The following discussion is based on those analyses.

a) <u>Less than Significant With Mitigation Incorporated</u>

Temporary Construction Impacts

Construction greenhouse gas (GHG) emissions would result from material processing, on-site construction equipment, and traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase. Based on Section 3.4, Build Alternative 3 would emit 2,728 metric tons per year of CO_2 equivalent (CO_{2e}) from construction activities, refer to Table 3.4-3, Summary of Construction Emissions under Build Alternative 3, in Section 3.4 below. Under Build Alternative 4, the project would emit a similar level of construction emissions of 2,664 metric tons of CO_{2e}; refer to Table 3.4-5, Summary of Construction Emissions under Build Alternative 4. Under both Build Alternatives, the project would emit about one metric ton of CH_4 and less than one metric ton of N_2O per year. These emissions would occur over a 24-month long period.

Under Build Alternatives 3 and 4, construction activities would comply with all State laws and regulations regarding GHG emissions reductions. The project would comply with Section 7-104A, Air Pollution Control, of the Caltrans Standard *Construction Manual*, which requires compliance with the Clean Air Act. Build Alternatives 3 and 4 would comply with Caltrans Standard Specifications Section 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 CARB emission reduction regulations. A TMP Transportation Management Plan (TMP) would be prepared during the final design phase to minimize emissions by reducing the number of traffic delays and idling during construction (Greenhouse Gas Reduction Strategy CC-2). The construction contractor would comply with CARB's anti-idling rule (Section 2489 of the California Code of Regulations) (Greenhouse Gas Reduction Strategy GHG-1). The construction contractor would minimize the amount of GHG-emitting construction materials (Greenhouse Gas Reduction Strategy GHG-8). Rather, the project would utilize energy- and fuel-efficient vehicles and equipment (Greenhouse Gas Reduction Strategy GHG-8) that would be maintained in proper condition and would comply with Best Available Control Technology requirements (Greenhouse Gas Reduction Strategy GHG-3). Build Alternatives 3 and 4 would comply with State laws and regulations, and construction activities would not emit substantial GHG emissions that would surpass the local inventory of transportation emissions. As such, temporary impacts would be less than significant in this regard and no measures are required.

Operational Impacts

Based on Section 3.4, below, implementation of the project would result in an increase in GHG emissions relative to existing conditions. However, it is important to note that this increase in GHG emissions relative to existing conditions is not due to the proposed project, but rather is associated with new residential and nonresidential developments that would occur within the project vicinity between the existing year (2019) and project open to traffic year (2025). This increase in development would cause growth in background traffic volumes and related GHG emissions.

As discussed in Chapter 2 of this IS/EA and indicated above, project implementation would improve mobility and interstate highway access, reduce congestion, and enhance traffic operations. Rather than induce additional growth, the project would accommodate future planned growth in the area. Implementation of sidewalks and turn lane bicycle buffers along Cherry Valley Boulevard would increase opportunities for nonmotorized transportation and provide connectivity between Cherry Valley Boulevard and residential and commercial units within the project area. These features support GHG-related policies of the Riverside County and City of Calimesa Climate Action plans, and the City of Calimesa General Plan. Implementation of the project, along with other projects included in the regional 2020–2045 RTP, should further improve traffic flow and decrease congestion within the region. Under Build Alternatives 3 and 4, the project would incorporate the use of energy-efficient lighting, such as LED traffic signals, to help reduce the project's CO2 emissions (Greenhouse Gas Reduction Strategy GHG-2). As a method of offsetting CO^2 emissions, the project would implement landscaping during final design in coordination with the County of Riverside (Greenhouse Gas Reduction Strategy GHG-4). As such, impacts in this regard would be less than significant with mitigation incorporated.

b) <u>Less Than Significant Impact With Mitigation Incorporated</u>

Implementation of the project may conflict with AB-32 goals to reduce GHG emissions as the project would result in construction/operational emissions. Accordingly, Measures CC-1 through CC-8 and GHG-1 through GHG-8 would be required to ensure construction emissions are mitigated during the construction phase of the project and that conflicts with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases do not occur. Impacts would be less than significant with mitigation incorporated.

3.2.9 Hazards and Hazardous Materials

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

The potential for the Build Alternatives to result in impacts regarding hazards and hazardous materials was assessed in the Phase I Initial Site Assessment I-10/Cherry Valley Boulevard Interchange Improvement Project (Phase I ISA) (December 2020), and the Hazardous Waste/Materials section in Chapter 2. The following discussions are based on those analyses.

a) <u>Less than Significant Impact</u>

The project is not anticipated to create a substantial hazard to the public or the environment through any reasonably foreseeable hazard to the public through the routine transport, use, or disposal of hazardous materials. During operations, it is anticipated that any use of hazardous materials on-site would consist of routine hazardous materials such as paint, solvents, and fuel for maintenance activities and landscaping. All such materials would be used, handled, stored, and disposed of in accordance with applicable local, State, and federal regulations. The routine transport, use, and disposal of hazardous materials under the project would be similar to what occurs under existing conditions. Potential hazardous material impacts in this regard are considered less than significant, and no measures are required.

b) <u>Less than Significant Impact</u>

As detailed in Section 2.2.5, Hazardous Waste/Materials, the records search conducted as part of the Phase I ISA reported one spill site within the boundaries of the subject site. This spill was reported in 1988, and the type of contaminant, amount, and containment status were not reported. This past spill is anticipated to be associated with a petroleum spill that may have occurred during an automobile accident. Thus, the incident is anticipated to have been minor in nature and occurred more than 25 years ago. Therefore, based on the Phase I ISA this spill is de minimis in nature and has not resulted in a recognized environmental condition (REC). The Phase I ISA also included eight off-site regulatory properties that were identified as part of the records search.

Based on the Phase I ISA, there are a number of on-site conditions that could result in risk of upset in regards to hazardous materials. These conditions relate to traffic striping, asbestos-containing materials (ACMs), lead based paint (LBP), treated wood waste, relocation of transformers, storage tanks, aerially deposited lead (ADL), and pesticides/herbicides resulting from historical agricultural uses. As noted within Section 2.2.5, Hazardous Waste/Materials, the project would implement Avoidance and Minimization Measures HAZ-1 through HAZ-8 to minimize impacts in this regard. Upon implementation of these measures, impacts would be less than significant.

c) <u>No Impact</u>

The nearest existing high school to the project site is Beaumont High School (located at 39139 Cherry Valley Blvd, Beaumont, CA 92223), approximately 2.9 miles east of the project site. No impact would occur in this regard and no measures are required.

d) <u>Less Than Significant Impact</u>

Based on Section 2.2.5, one residential property located at Plantation on the Lake (10961 Desert Lawn Drive) is on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5: the Cortese regulatory database. The property reported a liquid mercury spill in 2013. However, the off-site release (reported on concrete) has not resulted in a release on the project site and no impact would occur. Impacts would be less than significant in this regard, and no measures are required.

e) <u>No Impact</u>

The nearest airport to the project site is the Banning Municipal Airport, which is approximately 9.9 miles southeast of the project site (200 S Hathaway St, Banning, CA 92220). No impacts would occur in this regard and no measures are required.

f) <u>No Impact</u>

The City of Calimesa has an Operations Emergency Plan and a Local Hazard Mitigation Plan. Additionally, the City of Calimesa is a participant in the County of Riverside Operational Area Emergency Operations Plan and the County of Riverside Multi-Jurisdictional Local Hazard Mitigation Plan.

The project is anticipated to result in beneficial impacts in relation to vehicular movement, connectivity, and mobility in the area. This would result in associated benefits related to emergency response and evacuation over the long-term. Temporary disruption of traffic would occur during the short-term construction process. Temporary closures and/or detours may occur during periods of the construction phase. However, implementation of the Transportation Management Plan (TMP) identified in Section 2.1.9, Traffic and Transportation/Pedestrian Bicycle Facilities, will implement alternate route strategies to minimize impacts to roadways and reduce potential congestion. These strategies would help improve circulation during the construction phase of the project, to maintain adequate access for emergency responders or evacuation purposes. As such, less than significant impacts would occur in this regard.

g) <u>Less than Significant Impact</u>

Based on the California Department of Forestry and Fire Protection (CalFire) Very High Fire Hazard Severity Zones in Locally Responsibility Area (LRA) (dated December 4, 2009 for West Riverside County and incorporated areas), a very small portion of the project site fall within a “Very High Fire Hazard Severity Zone” in a “Local Responsibility Area.”

The likelihood of a wildfire resulting from demolition and construction activities is low. Additionally, the project would be subject to adherence to Chapter 33 of the California Fire Code, Fire Safety During Construction and Demolition, which includes safety provisions and precautions to minimize the potential for fires. Upon adherence to this existing standard, impacts would be less than significant in this regard.

The project is not anticipated to result in permanent impacts related to exacerbation of fire hazards in a “Very High Fire Hazard Severity Zone.” The project would improve an existing interchange, and would not include the extension of new roadways or other infrastructure through an area that is subject to high fire risk.

Additional detail and analysis are provided below under the Wildfire subsection.

3.2.10 Hydrology and Water Quality

Would the project:	**Significant and Unavoidable Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	---	---	---	---
(i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
(iii) 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; or	☐	☐	☒	☐
(iv) impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

The potential for project to result in impacts regarding hydrology and water quality was assessed in the Location Hydraulic Study/Summary Floodplain Encroachment Report (August 2020) (LHS/SFER), the Preliminary Drainage Report (PDR) (dated August 2020), the Scoping Questionnaire for Water Quality Issues (August 2020) (SQWQI), and the Hydrology and Floodplain and Water Quality sections in Chapter 2. The following discussions are based on those analyses.

a) <u>Less than Significant Impact</u>

As discussed in the Section 2.2.2, Water Quality, construction of the project would not violate any water quality standards or waste discharge requirements. The project would not result in substantial water quality impacts to downstream receiving bodies, the El Casco Creek and San Timoteo Creek Reach 3 during operations. As noted in Section 2.2.2, the San Timoteo Creek Reach 3 is listed as impaired for Indicator Bacteria, specifically E. coli. Pursuant to Caltrans MS4 Permit requirements, the project would be required to implement a range of design pollution prevention and treatment and maintenance BMPs. These BMPs would meet the objective of maximizing vegetated surfaces, preventing downstream erosion, and stabilizing soil areas. The project would also include Detention Pollution Prevention (DPP) strategies to minimize runoff, maximize infiltration and reduce erosion. Upon adherence to the Caltrans MS4 Permit, impacts to water quality would be less than significant and no measures are required.

b) <u>No Impact</u>

According to the SQWQI, there are five groundwater wells within a one-mile of the existing interchange that that contained groundwater measurements with groundwater depth between 92 feet and 264 feet below ground surface (bgs). The historical high groundwater and current depth to standing groundwater at the project site are anticipated to be deeper than 50 feet bgs.

The project would not result in any direct injection or extraction of groundwater. However, the project would result in an increase in impervious surfaces (an increase of 9.48 acres under Build Alternative 3, and 11.84 acres under Build Alternative 4). However, as noted in Section 2.2.2, Water Quality and Storm Water Runoff, the project would be required to include DPP strategies to minimize runoff, maximize infiltration and reduce erosion. DPP strategies include implementing slope/surface protection systems, implementing concentrated flow conveyance systems, and preserving existing vegetation. These strategies, in addition to the proposed treatment BMPs, would aim to treat at a minimum 100% of the Water Quality Flow (WQF) generated from the proposed increase in impervious surface. Thus, the project would not deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. No impacts would occur in this regard and no measures are required.

c) i) ii) and iii) <u>Less than Significant</u>

As discussed in the Hydrology and Floodplain and Water Quality and Storm Water Runoff sections in Chapter 2, the project would add impervious surface to the project site. Impervious surface would increase by 9.48 acers for a total impervious area of 10.83 acres under Build Alternative 3, and by 11.84 acres for a total impervious area of 12.85 acres under Build Alternative 4. This increase would result in a permanent increase in impervious surfaces that would induce an increase in the volume of stormwater runoff. Based on Section 2.2.1, the project would result in minor increases in off-site stormwater runoff tributary to El Casco Creek. To provide additional capacity and freeboard to the El Casco Creek, the project would increase the depth of the existing channel by extending the tops of the channel side slopes in kind while maintaining the invert of the channel. The proposed increase in channel depth would not result in an increase to the existing water surface elevations, as the increase in channel depth will maintain the existing channel invert and side slope dimensions, while extending the tops of the channel side slopes in kind. These channel improvements would require minimal proposed grading as the existing and proposed elevations of Calimesa Boulevard and the I-10 westbound on-ramp are considerably higher than the concrete channel. As discussed in Response a), the project would implement Treatment BMPs and DPP strategies to minimize runoff, maximize infiltration and reduce erosion from the project. As such, less than significant impacts would occur in this regard and no measures are required.

c) iv) <u>No Impact</u>

The project area is located in a Federal Emergency Management Agency (FEMA) Zone X designated area; a zone designated as outside the 0.2 percent annual chance of flood, and is located outside the of 100-year floodplain. The project would not introduce significant risk, nor would it result in a localized rise in the water surface elevation at El Casco Creek; the 100-year storm event flow would be contained within the channel. There are no floodplains and no surrounding inundation areas within the project limits. As such, no impacts would occur in this regard and no measures are required.

d) <u>No Impact</u>

The project site is not located in a flood hazard zone. The project site is located outside the of 100-year floodplain in a FEMA Zone X designated area. Additionally, the project site is located approximately 50 miles east of the Pacific Ocean, and there is no anticipated risk of inundation from a tsunami under the Build Alternatives. No impact would occur in this regard and no measures are required.

A seiche is a tsunami-like condition that would occur in an enclosed body of water like a lake or reservoir. The nearest enclosed body of water to the project site is the El Casco Lake, located approximately 4.2 miles to the northwest. Based on the distance of the project site to the northwest and intervening topography, there is no anticipated risk of inundation from a seiche under the Build Alternatives. No impact would occur in this regard and no measures are required.

e) No Impact

According to the SQWQI, the project site is located within the jurisdiction of the Riverside County Watershed Action Plan (WAP), addresses) “watershed scale water quality impacts of urbanization in the Permit Area associated with Urban Total Maximum Daily Load (TMDL) Waste Load Allocations (WLAs), stream system vulnerability to hydromodification from Urban Runoff, cumulative impacts of development on vulnerable streams, preservation of Beneficial Uses of waterbodies in the SAR, and protection of water resources, including groundwater recharge areas” (Riverside County Flood Control and Water Conservation District, 2017). The project is located within the San Timoteo Watershed, which is not listed as impaired for any established TMDLs.

Pursuant to Caltrans NPDES permit requirements, the project would implement a range of DPP, treatment, and maintenance BMPs. Implementation of BMPs would meet the objective of maximizing vegetated surfaces, preventing downstream erosion, and stabilizing soil areas. The selection of BMPs will be determined during final design. As such, no conflicts with a water quality control plan or groundwater management plan would occur in this regard and no measures are required.

3.2.11 Land Use and Planning

Would the project:	**Significant and Unavoidable Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

The potential for the project to result in impacts regarding land use and planning was assessed in the Community Impact Assessment (CIA) Memorandum (January 2021) and the Land Use section in Chapter 2. The following discussion is based on those analyses.

a) <u>No Impact</u>

The project involves the reconstruction of the I-10/Cherry Valley Boulevard interchange, as well as realignment of Calimesa Boulevard; both of which are existing linear infrastructure facilities. The project improvements would not have the potential to create a new barrier between developed uses. Rather, the project would result in a beneficial impact since it would improve traffic operations, connectivity, and mobility at the I-10/Cherry Valley Boulevard interchange and within the project limits. Therefore, the improvements would not have the potential to divide an established community. No impacts would occur, and no measures are required.

b) <u>No Impact</u>

The project would construct a new I-10/Cherry Valley Boulevard Interchange, which would accommodate traffic for existing and planned development in the area. As discussed in Section 2.1.1, Land Use, the project would be consistent with applicable State, regional, and local plans and programs. Thus, no impacts would occur, and no measures are required.

3.2.12 Mineral Resources

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

a) and b) <u>No Impact</u>

Based on Figure 4.12.1 in the Riverside County Integrated Project General Plan Final Program EIR, the project site is located with MRZ-3, areas where the available geologic information indicates that mineral deposits (are likely to) exist, however, the significance of the deposit is undetermined. The project includes the improvement of an existing freeway interchange, and there are no known mineral resources associated with the project site. No mineral recovery activities occur on site or in the project area. Therefore, the project would not result in the loss of availability of any known mineral resources, or loss of availability of a mineral resource recovery site. No impacts would occur, and no measures are required.

3.2.13 Noise

Would the project result in:	**Significant and Unavoidable Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 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 potential for the project to result in transportation/traffic impacts was assessed in the Noise Study Report (NSR) (April 2021), the I-10/Cherry Valley Boulevard Interchange Project Noise Abatement Decision Report (NADR) (August 2021), and the Noise section in Chapter 2. The following discussion is based on those analyses.

a) and b) <u>Less than Significant Impact</u>

Land uses in the project area have been grouped into a series of lettered analysis areas that are identified in Figures 2.2.7-2 to 2.2.7-11. Land uses within the project area include several single-family residences and mobile homes identified as Areas A, B, C, F, I, J, and K. Additionally, there are commercial properties and undeveloped/unpermitted lands.

Temporary Construction Impacts

Temporary construction noise would occur and may intermittently dominate the noise environment for land uses within in the immediate area of construction. As stated in Section 2.2.7, construction activities associated with Build Alternatives 3 and 4 could expose these uses to temporary noise levels of up to approximately 89 dBA. However, construction noise and vibration would be short term, intermittent, and overshadowed by local traffic noise. Additionally, construction would comply with the Caltrans Standard Specification Section 14-8.02, which would require noise levels from construction activities to not exceed 86 dBA L_{max} at 50 feet from 9 PM. to 6 AM. Caltrans Standard Specification Section 14-8.02 would also combustion engines would be equipped with appropriate muffler. By adhering to the

Caltrans Standard Specifications, temporary impacts related to noise and vibration would be less than significant.

Operational Impacts

Operational noise levels under Build Alternatives 3 and 4 would exceed the noise abatement criteria (NAC) of 67 dBA $L_{eq(h)}$ in sensitive land use areas (Areas A, B, J and K). As such, soundwalls are proposed as the solitary form of noise abatement for these areas. Feasible and reasonable soundwalls are identified in the NADR and Section 2.2.7 at various heights and costs. These would include soundwalls S401 and S452 with a height of 14 feet; refer to Figures 2.2.7-2 and 2.2.7-5 for locations of each soundwall. With the implementation of both soundwalls noise abatement, impacts would be reduced to less than significant and no measures are required.

c) No Impact

The project site is not located within the vicinity of a private airstrip or within two miles of a public airport or public use airport. Additionally, the project site and area are not within the Riverside County Airport Land Use Compatibility Plan area of influence for the Banning Municipal Airport. As such, no impacts would occur in this regard.

3.2.14 Population and Housing

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

The potential for the project to result in impacts related to population and housing was assessed in the Growth section in Chapter 2. The following discussion is based on that analysis.

a) <u>Less Than Significant Impact</u>

Project implementation would not accelerate or otherwise influence growth beyond what is already planned in the project area. Project improvements generally include the reconstruction of the I-10/Cherry Valley Boulevard interchange and realignment of Calimesa Boulevard. While traffic operations at the interchange would be improved with implementation of the project, it would not substantially change accessibility to adjacent and nearby properties. As discussed in Section 2.1.4 of this IS/EA, the project is not anticipated to result in substantial changes in accessibility or growth. The proposed project would not influence growth because the project would not directly result in substantial changes to land use or directly encourage changes in population density. Development within the project area is governed by the Calimesa General Plan and Riverside County General Plan. Although the project would provide operational improvements to local access, it is not expected that the project would affect growth at the local or regional level. As such, impacts in this regard are less than significant. No measures are required.

b) <u>Less than Significant Impact</u>

As discussed in Section 2.1.6 prepared for this IS/EA, two residential relocations on APN 413-270-014 would occur under Build Alternative 4, which would result in the displacement of people and housing. However, as noted in Section 2.1.6, adequate housing stock is available in proximity to the project area to meet the decent, safe, and sanitary standards to relocate the displaced residents from the impacted area. With the implementation of Avoidance and Minimization Measure ROW-1, which will ensure impacted property owners receive just compensation, project implementation would not displace a substantial number of existing people or housing. Less than significant impacts would occur in this regard.

3.2.15 Public Services

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	**Significant and Unavoidable Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
(i) Fire protection?	☐	☐	☒	☐
(ii) Police protection?	☐	☐	☒	☐
(iii) Schools?	☐	☐	☐	☒
(iv) Parks?	☐	☐	☐	☒
(v) Other public facilities?	☐	☐	☐	☒

The potential for the Build Alternatives to result in impacts related to public services was assessed in the Utilities and Emergency Services section in Chapter 2. The following discussion is based on that analysis.

a) i) and ii) <u>Less than Significant</u>

Fire protection services in the City of Calimesa are provided by the City of Calimesa Fire Department. Police protection services are provided through a contract with Riverside County Sheriff's Department. The project would improve an existing freeway interchange, and would not result in the development of any new land uses. Thus, the project would not result in the need for new or physically altered fire or police protection facilities. However, access to developed areas in proximity to the project may potentially be constrained intermittently during construction. A TMP has been included as a project feature to minimize potential traffic-related impacts during construction of the project. Travel through the project area would be maintained for emergency service vehicles during project construction. The Caltrans TMP Guidelines require consideration and notification of emergency service providers to provide for adequate emergency access during the temporary construction process. With preparation of the TMP during the PS&E phase, temporary impacts related to temporary construction activities and effects on the provision of emergency services would be reduced to a less than significant level. No measures are required.

a) iii) and v) <u>No impact</u>

As discussed in Section 2.1.3, Growth, project improvements would not induce growth. As such, the project would not result in the generation of new residents or populations capable of requiring additional services for schools or other public facilities. Thus, no impacts would occur in this regard.

iv) <u>No Impact</u>

As discussed in section 2.1.2, Parks and Recreation, Trevino Park occurs within a 0.5-mile distance from the project site at 11286 Tukwet Canyon Parkway, in the City of Beaumont. Build Alternatives 3 and 4 would not directly or indirectly impact Trevino Park through permanent acquisition, or by temporarily impacting access, visual resources, water quality, air quality, noise, or biological resources within the project vicinity. Project improvements would not induce growth. As such, the project would not result in the generation of new residents or populations capable of requiring additional park services. Thus, no impacts would occur in this regard.

3.2.16 Recreation

---	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

a) and b) No Impact

The project involves interchange transportation improvements and would not include any new land uses that would increase the use of existing neighborhood and regional parks or other recreational facilities. The project does not include any new recreational facilities or the expansion of recreational facilities that could have an adverse physical effect on the environment. Thus, no impacts would occur in this regard, and no measures are required.

3.2.17 Transportation

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	☒
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☒	☐

The potential for the project to result in transportation/traffic impacts was assessed in the I-10 Cherry Valley Boulevard Interchange Project Approval and Environmental Document Traffic Operations Analysis Report (TOAR) dated November 2020, and the Traffic and Transportation/ Pedestrian and Bicycle Facilities section in Chapter 2. The following discussion is based on those analyses.

On September 27, 2013, Governor Jerry Brown signed Senate Bill (SB) 743 into law, which initiated a process to change transportation impact analyses completed in support of California Environmental Quality Act (CEQA) documentation. SB 743 eliminates level of service (LOS) as a basis for determining significant transportation impacts under the CEQA and provides a new performance metric, vehicle miles travelled (VMT). SB 743 went into effect on July 1, 2020.

Pursuant to SB 743, Caltrans has developed guidelines and significance thresholds for VMT assessment for transportation projects. However, Caltrans has determined that certain projects initiated prior to December 28, 2018 that have begun the environmental documentation milestone prior to September 15, 2020 can be screened from preparing a VMT assessment. The proposed project meets these requirements, and Caltrans has determined the project would not likely lead to a substantial increase in VMT. Thus, an analysis of VMT is not required, and the use of LOS is used as the metric for this project.

a) and c) <u>No Impact</u>

The project would not conflict with a program, plan, ordinance, or policy addressing the circulation system. As noted in Section 2.1.1 of the IS/EA, the project would be consistent with the 2020-2045 Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the SCAG 2021 Federal Transportation Improvement Program (FTIP). The project was also determined consistent with the goals and policies of the Riverside County General Plan and City of Calimesa General Plan. The project would result in beneficial impacts related to traffic congestion, connectivity, and mobility in the project area, and would provide new pedestrian and bicyclist facilities where limited facilities currently exist. The project would also be subject to Caltrans review for consistency with safety standards (such as the Highway Design Manual) to ensure that no hazardous design features would occur. As such, no impacts would occur in this regard.

b) <u>No Impact</u>

As noted below in Table 3.4-2, when comparing both build alternatives to no-build conditions, the build alternatives would result in a reduction in CO2e and also a reduction in VMT. The project in itself would not generate traffic. Therefore, no significant impact related to greenhouse gas emissions would occur. Operational mobile source emissions associated with the project are not expected to increase emissions from mobile sources. The project itself would not generate new vehicle trips and therefore would not have a significant impact on air quality in the air basin. Implementation of the project, along with other projects included in the regional 2020-2040 RTP, should further improve traffic flow and decrease congestion within the region. No impact would occur in this regard, and no measures are required.

d) <u>Less than Significant Impact</u>

Freeway, ramp, and lane closures are anticipated for the construction phase of the project. As discussed in Section 2.1.9, Traffic and Transportation/Pedestrian Bicycle Facilities, temporary lane closures are anticipated throughout the 24 months of construction for the project. The project would implement a TMP during the PS&E phase. The TMP will implement alternate route strategies to minimize impacts to roadways and reduce potential congestion. As discussed in Section 2.1.6, Utilities/Emergency Services, as part of the TMP, the project would provide for adequate emergency access during the temporary construction process.

3.2.18 Tribal Cultural Resources

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

a) and b) No Impact.

In compliance with AB 52, Caltrans distributed letters to applicable Native American tribes informing them of the project on April 25, 2019. Three responses were received from the tribes. Refer to Chapter 4.0, Comments and Coordination, of this IS/EA, as well as Section 3, Consulting Parties/Public Participation, of the HPSR, for information regarding efforts undertaken by Caltrans to consult pertinent Native American tribes to identify tribal cultural resources in the APE.

As detailed in Section 2.1.11, Cultural Resources, of the IS/EA, the project would result in a finding of No Historic Properties Affected. Additionally, Caltrans has notified the California State Historic Preservation Officer (SHPO) of its determination that no properties within the area of potential effect (APE) are eligible for inclusion in the National Register of Historic Places (NRHP), and concurrence in its determination of Finding of No Historic Properties Affected was provided on June 16, 2021. Ground disturbance activities associated with construction of the Build Alternatives could result in the inadvertent discovery of cultural resources. If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area be diverted until a qualified archaeologist can assess the nature and significance of the find. Therefore, the project would not impact a historical resource, as defined in PRC Section 5020.1(k). There are no significant resources for a California Native American tribe identified near or within the project study area; thus, project implementation would result in no impacts to a listed or eligible resource under the California Register of Historical Resources or a local register as defined under Public Resources Code section 5020.1(k). No measures are required.

3.2.19 Utilities and Service Systems

Would the project:	**Significant and Unavoidable Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

The potential for Build Alternatives 3 and 4 to result in impacts related to utilities and service systems was assessed in the Utilities/Emergency Services section in Chapter 2. The following discussion is based on those analyses.

a) <u>Less than Significant Impact</u>

The project proposes the relocation of existing sewer, potable water, electrical, communication cable lines, and natural gas lines; refer to Section 2.1.8 for detail regarding utility locations. Implementation of the project would not include new or expanded utilities. Prior to the final design phase, affected utility providers would be contacted to verify that the project would not disrupt services within the community. Based on the Hydrology and Water Quality section of this chapter, the Build Alternatives would not result in any substantial impacts related to stormwater drainage. As such, impacts would be less than significant in this regard. No measures are required.

b) and c) <u>No Impact</u>

The use of water during project construction would be limited to water trucked to the site for dust control. The amount of water used during construction would be minimal. Landscaping associated with the proposed project would be drought tolerant, and would be consistent with the existing desert environment in the project area. If landscape irrigation is required, it is not anticipated that the irrigation would result in a substantial increase in the water supply required for the project site. As a result, the project would not require new or expanded entitlements to meet the need for water during construction and operation of the project. No impact would occur and no measures are required.

As a roadway infrastructure improvement, the project would not generate wastewater. Thus, the project would not exceed wastewater treatment requirements, require or result in the construction of new wastewater treatment facilities, or result in the need for a determination by a wastewater treatment provider that it has adequate capacity to serve the project. No impact would occur, and no measures are required.

d) <u>No Impact</u>

Solid waste would be generated during the construction phase of the project. The waste generated during construction would be limited and would occur for a limited duration, and then properly disposed of at an existing landfill. That amount of waste would be a very small amount of the total waste disposed of at area landfills, on both a daily and annual basis. Therefore, it is anticipated that any waste generated would be accommodated by existing landfill facilities in Riverside County, and the project would not generate solid waste in excess of State or local standards. No impacts would occur in this regard.

e) <u>No impact</u>

Any solid waste generated during construction of the Build Alternatives or collected during normal waste collection activities would be collected, handled, transported, and disposed of consistent with applicable federal, State, regional, and local regulations. No impact would occur, and no measures are required.

3.2.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	**Significant and Unavoidable Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

The potential for Build Alternatives 3 and 4 to result in impacts related to wildfire was assessed in Section 3.3, Wildfire. The following discussion is based on that analysis.

a) <u>Less than Significant Impact</u>

The project would improve an existing freeway interchange, and would not result in the development of any new land uses. However, access to developed areas in proximity to the project may potentially be constrained intermittently during construction. A TMP has been included as a project feature to minimize potential traffic-related impacts during construction of the project. Travel through the project area would be maintained for emergency service vehicles during project construction. The Caltrans TMP Guidelines require consideration and notification of emergency service providers to provide for adequate emergency access during the temporary construction process. With preparation of the TMP during the PS&E phase, temporary impacts related to temporary construction activities and effects related to emergency response and evacuation would not be significant.

The project would result in beneficial impacts related to emergency response and evacuation over the long term. Since the project would reduce traffic congestion and improve connectivity in the project area, emergency access and circulation would be improved. Impacts would be less than significant in this regard.

b), c) and d) <u>Less than Significant Impact</u>

Based on the California Department of Forestry and Fire Protection (CalFire) Very High Fire Hazard Severity Zones in Locally Responsibility Area (LRA) (dated December 4, 2009 for West Riverside County and incorporated areas), a very small portion of the project site fall within a “Very High Fire Hazard Severity Zone” in a “Local Responsibility Area.”

- Southwest: Three parcels (APNs 413-270-19, 413-270-20, and 413-270-21) located in the southwestern quadrant of the I-10/Cherry Valley Boulevard interchange (between I-10 Eastbound and Roberts Road) are designated as a “Very High Fire Hazard Severity Zone.” Small portions of these designated areas encroach into project boundaries.
- Northwest: A “Very High Fire Hazard Severity Zone” is located northwest of the project site.

The project would require construction and partial/full right-of-way (ROW) acquisition for the three parcels that are located in the “Very High Fire Hazard Severity Zone”. The realignment and the reconstruction of the eastbound off-ramp to I-10 would occur at this location. The parcels impacted by the project located within a “Very High Fire Hazard Severity Zone” make up a small area of vegetated open space that and is surrounded by urban development and graded land that has been prepared for new development. As such, the likelihood of a wildfire resulting from demolition and construction activities is low. Additionally, the project would be subject to adherence to Chapter 33 of the California Fire Code, Fire Safety During Construction and Demolition, which includes safety provisions and precautions to minimize the potential for fires. Upon adherence to this existing standard, impacts would be less than significant in this regard.

The project is not anticipated to result in permanent impacts related to exacerbation of fire hazards in a “Very High Fire Hazard Severity Zone.” The project would improve an existing interchange, and would not include the extension of new roadways or other infrastructure through an area that is subject to high fire risk.

In addition, the project would not result increased risks related to stormwater runoff or drainage changes. As noted in Section 2.2.1, Hydrology and Floodplain, the project would include drainage improvements within and surrounding El Casco Creek that would maintain adequate capacity during a 100-year storm event, and the project would not cause an increase in existing water surface elevations. Impacts in this regard would be less than significant.

3.2.21 Mandatory Findings of Significance

---	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

a) <u>Less Than Significant with Mitigation Incorporated</u>

The potential for the project to result in significant impacts to cultural resources, paleontological resources, biological resources, or greenhouse gas emissions is discussed in Sections 2.1.11, 2.2.4, 2.3, and 3.4 respectively.

The analysis of cultural resources determined that no historical or archaeological resources eligible for inclusion in the NRHP/CRHR were determined to be present on-site. However, the possibility exists that previous unknown buried resources could be discovered during construction. In accordance with Caltrans standards, if cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find. Additionally, the project would be subject to compliance with California H&SC Section 7050.5 in the event human remains are discovered. Thus, impacts in this regard would be less than significant, and no measures are required.

Portions along the project site have been identified as areas of High Potential for paleontological resources, meaning that based on the surficial and subsurface geologic units found at the ground surface, the area in question would be high in potential for buried paleontological resources at unknown depths. Ground-disturbing activities associated with the construction of the project could result in long-term disturbance or loss of previously undiscovered paleontological resources. Avoidance and Minimization Measure PAL-1 would require worker's environmental awareness training for awareness of paleontological resources. Mitigation Measure PAL-2 would additionally require retainment of a qualified Principal Paleontologist, and the implementation of a Paleontological Mitigation Plan (PMP) for the project. If paleontological resources are discovered during ground-disturbing activities, fossil preparation, curation, and reporting would occur in accordance with Avoidance and Minimization Measure PAL-3. With the implementation of Measures PAL-1 through PAL-3, impacts would be less than significant in this regard.

Based on information provided in Section 2.3, the project would have the potential to result in impacts to sensitive natural communities, jurisdictional waters, plant communities, and animal species. However, upon implementation of Avoidance and Minimization Measures NC-1 through NC-3, Mitigation Measure WET-1 and Avoidance and Minimization Measure WET-2, and Avoidance and Minimization Measures AS-1 through AS-4, impacts to biological resources would be less than significant.

As discussed in Section 3.4, project implementation would result in an increase in GHG emissions compared to existing conditions due to planned growth in the project vicinity. However, implementation of project-level GHG reduction strategies (Measures CC-1 through CC-8 and GHG-1 through GHG-8) would reduce GHG emissions to a less than significant level. Additionally, the project would comply with regional and local GHG reduction policies and strategies presented in Table 3.4-1. As such, impacts to GHG emissions would be less than significant.

b) <u>Less Than Significant Impact</u>

As discussed in Section 2.4, Cumulative Impacts, several planned projects may be under construction and/or operation at the same time as the proposed project. Cumulative impacts were analyzed for the following resources: paleontology, hazardous waste/materials, and biological resources (natural communities, wetlands and other waters, plant species, and animal species). Based on the analysis provided in Section 2.4, it was determined that the project would not have the capacity to substantially contribute to cumulative impacts, in combination with other planned projects and developments. All future development projects within the project vicinity would be subject to independent environmental review on a case-by-case basis and would be required to implement project-specific design features and/or measures to reduce any identified impacts to these resources. Accordingly, the Build Alternatives, in combination with other planned projects, would not result in cumulative considerable impacts. Impacts would be less than significant, and no measures are required.

c) <u>Less Than Significant Impact</u>

As discussed in Section 2.1.6, Relocations and Real Estate Property, Build Alternative 4 would result in the relocation of one commercial/multiple single-family residency (3607 Cherry Valley Blvd). Implementation of Avoidance and Minimization Measure ROW-1 would reduce potential relocation impacts. Therefore, the potential impacts to human beings would be reduced to a less than significant impact.

3.3 Wildfire

Regulatory Setting

Senate Bill 1241 required the Office of Planning and Research, the Natural Resources Agency, and the California Department of Forestry and Fire Protection to develop amendments to the “CEQA Checklist” for the inclusion of questions related to fire hazard impacts for projects located on lands classified as very high fire hazard severity zones. The 2018 updates to the CEQA Guidelines expanded this to include projects “near” these very high fire hazard severity zones.

Affected Environment

The project area is located in a narrow alluvial valley between the foothills of the San Gorgonio Mountains and San Jacinto Mountains. As discussed in the PGDR prepared for this project, while the project site is surrounded by mountain ranges and hillsides, the project site itself ranges from approximately 2,364 feet above mean sea level (amsl) to 2,350 feet amsl. High winds, such as the Santa Ana winds, are prevalent within the project site and surrounding area.

Vegetation communities were observed to exist within the project study area as well as the project alignment, As discussed in Section 2.3.1, Natural Communities, vegetation surrounding the project alignment include scrub oak chaparral (*Quercus berberidifolia* Shrubland Alliance), California buckwheat scrub (*Eriogonum fasciculatum* Shrubland Alliance), disturbed California buckwheat scrub (Eriogonum fasciculatum Shrubland Alliance), Cuyamaca cypress stands (*Hesperocyparis stephensonii Woodland* Special Stands), mule fat thickets (*Baccharis salicifolia* Shrubland Alliance), disturbed California sagebrush – (purple sage) scrub (*Artemisia californica – [Salvia leucophylla]* Shrubland Alliance), wild oats and annual brome grasslands (*Avena spp. - Bromus* spp. Herbaceous Semi-Natural Alliance), disturbed wild oats and annual brome grasslands (*Avena spp. - Bromus spp.* Herbaceous Semi-Natural Alliance), planted oak tree grove (*Quercus agrifolia* Forest and Woodland Alliance), and eucalyptus – tree of heaven – black locust groves (*Eucalyptus spp. - Ailanthus altissima - Robinia pseudoacacia* Woodland Semi-Natural Alliance).

Fire Hazard Severity Zone

Based on the California Department of Forestry and Fire Protection (CalFire) Very High Fire Hazard Severity Zones in Locally Responsibility Area (LRA) (dated December 4, 2009 for West Riverside County and incorporated areas), a very small portion of the project site fall within a “Very High Fire Hazard Severity Zone” in a “Local Responsibility Area;” refer to Figure 3.3-1, Fire Severity.

- Southwest: Three parcels (APNs 413-270-19, 413-270-20, and 413-270-21) located in the southwestern quadrant of the I-10/Cherry Valley Boulevard interchange (between I-10 Eastbound and Roberts Road) are designated as a "Very High Fire Hazard Severity Zone." Small portions of these designated areas encroach into project boundaries.

- Northwest: A "Very High Fire Hazard Severity Zone" is located northwest of the project site.

Emergency Response Plan or Emergency Evacuation Plan

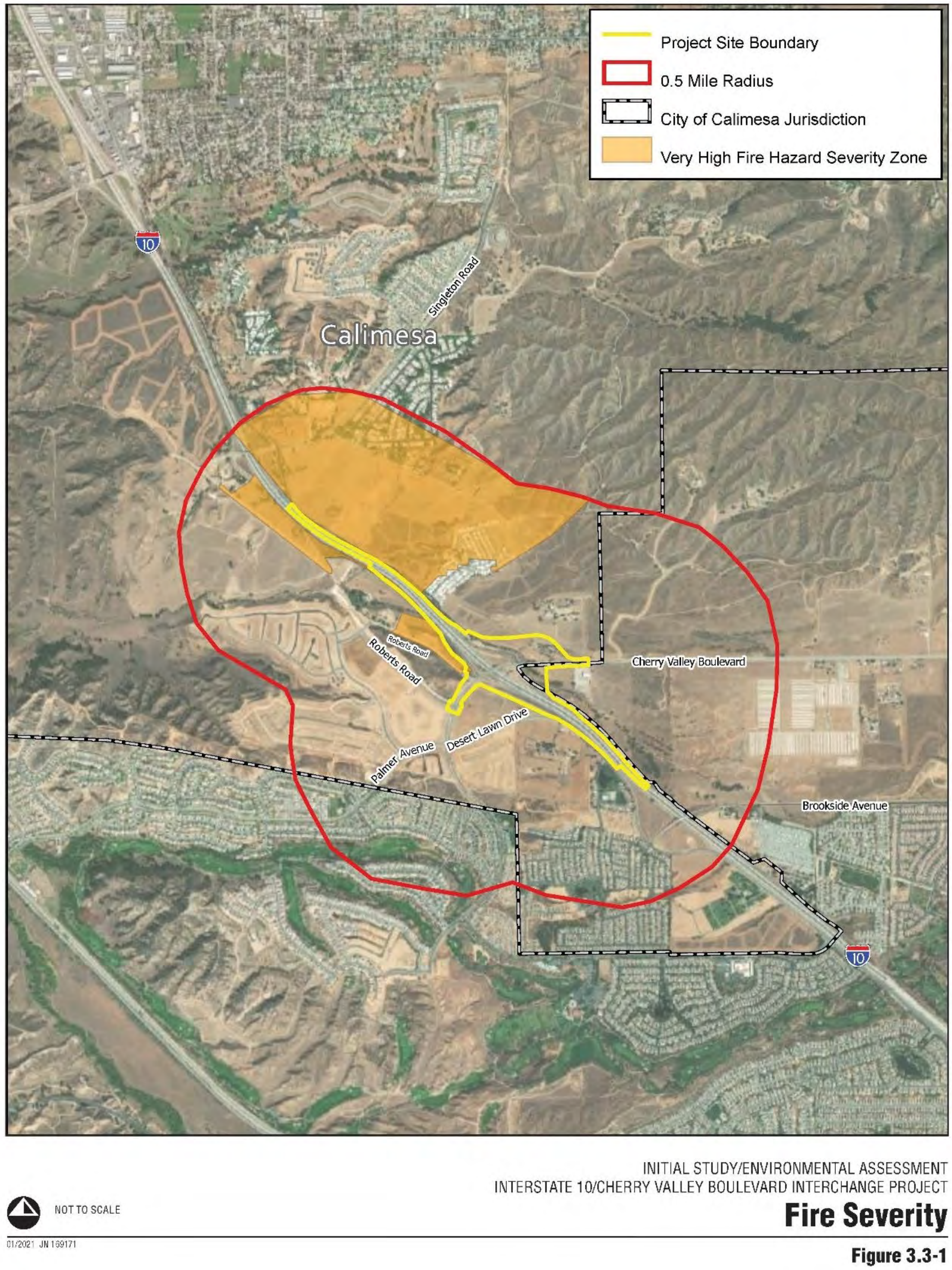
The City of Calimesa has implemented an Operations Emergency Plan and a Local Hazard Mitigation Plan to prepare for natural and man-made disasters. Additionally, the County of Riverside implemented a multi-jurisdictional hazard mitigation and an emergency operation plan at the county level and for unincorporated areas and communities. Table 3.3-1, below, summarizes the purpose of each plan.

Table 3.3-1: Emergency Response Plan Summary

Emergency Response Plan	Purpose
City of Calimesa Operations Emergency Plan	The purpose of this plan is to incorporate and coordinate all the facilities and personnel of the City into an efficient organization capable of responding effectively to any emergency.
City of Calimesa Local Hazard Mitigation Plan	The purpose of this local hazard mitigation plan is to identify hazards, review and assess past disaster occurrences, estimate the probability of future occurrences, and set goals to mitigate potential risks to reduce or eliminate long-term risk to people and property from natural and man-made hazards. The plan identifies vulnerabilities, provides recommendations for prioritized mitigation actions, evaluates resources and identifies mitigation shortcomings, and provides future mitigation planning and maintenance of existing plan.
County of Riverside Operational Area Emergency Operations Plan	The purpose of this plan is to incorporate and coordinate all the facilities and personnel of the County and Operational Area member jurisdictions into an efficient organization capable of responding effectively to any emergency. The County's Operational Area Emergency Operations Plan does not identify the City of Calimesa or the Unincorporated Community of Cherry Valley as a city/special district most vulnerable to wildland fires.
County of Riverside Multi-Jurisdictional Local Hazard Mitigation Plan	The purpose of this plan is to identify the County's hazards, review and assess past disaster occurrences, estimate the probability of future occurrences, and set goals to mitigate potential risks to reduce or eliminate long-term risk to people and property from natural and man-made hazards.

Source: City of Calimesa, City of Calimesa General Plan, 2014.
City of Calimesa, City of Calimesa Local Hazard Mitigation Plan,2012.

Figure 3.3-1: Fire Severity



Environmental Consequences

Fire Hazard Severity Zone

The project would require construction and partial/full right-of-way (ROW) acquisition for the three parcels that are located in the “Very High Fire Hazard Severity Zone” for Local Responsibility Area; refer to Section 2.1.6, Relocations and Real Property Acquisition. The realignment and the reconstruction of the eastbound off-ramp to I-10 would occur at this location. The parcels impacted by the project located within a “Very High Fire Hazard Severity Zone” make up a small area of vegetated open space that and is surrounded by urban development and graded land that has been prepared for new development. As such, the likelihood of a wildfire resulting from demolition and construction activities is low. Additionally, the project would be subject to adherence to Chapter 33 of the California Fire Code, Fire Safety During Construction and Demolition, which includes safety provisions and precautions to minimize the potential for fires. Upon adherence to this existing standard, impacts would be less than significant in this regard.

The project is not anticipated to result in permanent impacts related to exacerbation of fire hazards in a “Very High Fire Hazard Severity Zone.” The project would improve an existing interchange, and would not include the extension of new roadways or other infrastructure through an area that is subject to high fire risk. The project would comply Caltrans Standard Specifications (dated 2018), Section 20-2.0B(3), which would require the project to install backflow preventers that are fire resistant. The project would also comply with Section Spec 82-2.02F of the Caltrans Standard Specifications, which would require the project to install fiberglass-reinforced plastic where needed that would contain additives designed to suppress fire ignition and flame propagation.

In addition, the project would not result increased risks related to stormwater runoff or drainage changes. As noted in Section 2.2.1, Hydrology and Floodplain, the project would include drainage improvements within and surrounding El Casco Creek that would maintain adequate capacity during a 100-year storm event, and the project would not cause an increase in existing water surface elevations. Impacts in this regard would be less than significant.

Emergency Response Plan or Emergency Evacuation Plan

The project involves demolition and reconstruction of the I-10/Cherry Valley Boulevard interchange. Construction activities for the project may temporarily impact the vehicular flow of traffic within the project limits, which could impact emergency routes and response times. With implementation of the TMP identified in Chapter 1, travel through the project area would be maintained for emergency service vehicles during project construction. The Caltrans TMP Guidelines require consideration and notification of emergency service providers to provide for adequate emergency access during the temporary construction process. With preparation of the TMP during the PS&E phase, temporary impacts related to temporary construction activities and effects on the provision of emergency services would be reduced to a less than significant level. No measures are required. The project is anticipated to result in beneficial impacts over the long term, since the project would reduce traffic congestion, connectivity, and mobility within the project area.

Avoidance, Minimization, and/or Mitigation Measures
No measures are required.

3.4 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 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 (CO2), methane (CH4), nitrous oxide (N2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF6), and various hydrofluorocarbons (HFCs). CO2 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 CO2.

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.

3.4.1 Regulatory Setting

This section outlines federal and state efforts to comprehensively 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). 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.). 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 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 based on 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 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. Fuel efficiency standards directly influence GHG emissions.

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.

Assembly Bill (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 (CARB) 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 CARB 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. CARB 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.

Senate Bill (SB) 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires CARB 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 CARB, 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 CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent ($MMTCO_2e$).[10] 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.

SB 743, Chapter 386 (September 2013): This bill changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on vehicle miles traveled, to promote the state's goals of reducing greenhouse gas emissions and traffic related air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.

SB 150, Chapter 150, 2017, Regional Transportation Plans: This bill requires CARB to prepare a report that assesses progress made by each metropolitan planning organization in meeting their established regional greenhouse gas emission reduction targets.

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[10] GHGs differ in how much heat each trap in the atmosphere (global warming potential, or GWP). CO2 is the most important GHG, so amounts of other gases are expressed relative to CO2, using a metric called "carbon dioxide equivalent" (CO2e). The global warming potential of CO2 is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO2.

EO 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.

EO N-19-19 (September 2019) advances California's climate goals in part by directing the California State Transportation Agency to leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce GHG emissions from the transportation sector. It orders a focus on transportation investments near housing, managing congestion, and encouraging alternatives to driving. This EO also directs CARB to encourage automakers to produce more clean vehicles, formulate ways to help Californians purchase them, and propose strategies to increase demand for zero-emission vehicles.

EO N-79-20 (September 2020) establishes goals for 100 percent of in-state sales of new passenger cars and trucks to be zero-emissions vehicles by 2035, that the state transition to 100 percent zero-emission off-road vehicles and equipment by 2035 where feasible, and that 100 percent of medium- and heavy-duty vehicles in the state be zero-emissions by 2045 where feasible.

3.4.2 Environmental Setting

The project site is located within the City of Calimesa and unincorporated Riverside County at I-10 and Cherry Valley Boulevard. The I-10/Cherry Valley Boulevard Interchange's existing land uses are predominately undeveloped open space and residential, with existing residences characterized by older structures in a rural environment. Uses within project site boundaries can be characterized as primarily transportation facilities (I-10, Cherry Valley Boulevard, Calimesa Boulevard), and undeveloped open space. Refer to Figure 1-1, Regional Vicinity, and Figure 1-2, Site Vicinity, for a depiction of project location and on-site conditions.

Based on Section 2.1.9 of this IS/EA, traffic conditions along the freeway and intersections within the project area are anticipated to degrade at several locations, due to planned growth and development in the project area.

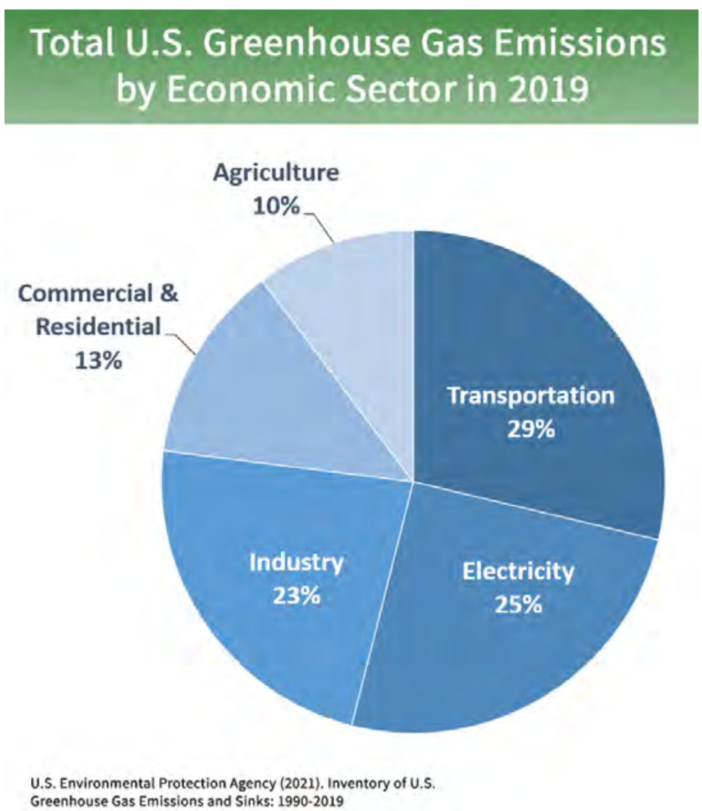
SCAG's 2020-2045 RTP guides transportation development in the project area.

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 CARB does so for the state, as required by H&SC Section 39607.4.

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 2019 inventory found that overall GHG emissions were 6,558 million metric tons (MMT) in 2019, down 1.7 percent from 2018 but up 1.8% from 1990 levels. Of these, 80 percent were CO_2, 10 percent were CH_4, and 7 percent were N_2O; the balance consisted of fluorinated gases. CO_2 emissions in 2019 were 2.2 percent less than in 2018, but 2.8 percent more than in 1990. As shown on Figure 3.4-1, the transportation sector accounted for 29 percent of U.S. GHG emissions in 2019 (U.S. EPA 2021a).

Figure 3.4-1: U.S. 2019 Greenhouse Gas Emissions (Source: U.S. EPA 2021c)



State Greenhouse Gas Inventory

CARB 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 2020 edition of the GHG emissions inventory reported emissions trends from 2000 to 2018. It found total California emissions were 425.3 $MMTCO_2e$ in 2018, 0.8 $MMTCO_2e$ higher than 2017 but 6 MMTCO2e lower than the statewide 2020 limit of 431 $MMTCO_2e$. The transportation sector was responsible for 41 percent of total GHGs. Transportation emissions decreased in 2018 compared to the previous year, which is the first year over year decrease since 2013. Overall statewide GHG emissions declined from 2000 to 2018 despite growth in population and state economic output CARB 2020).

Figure 3.4-2: California 2018 Greenhouse Gas Emissions by Sector

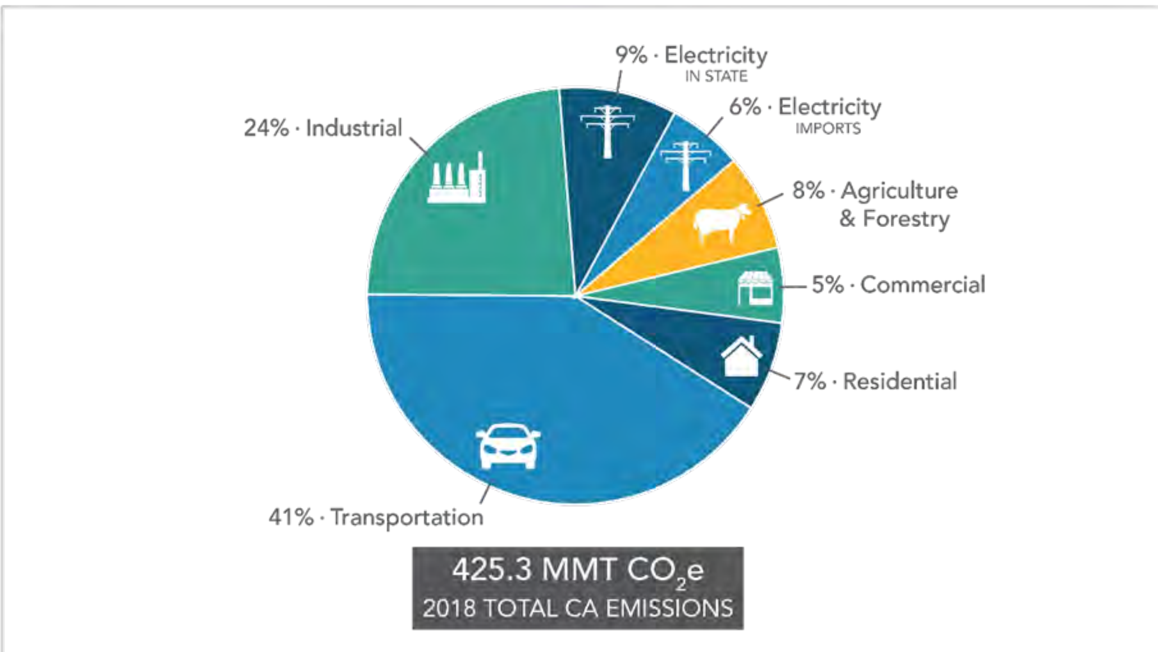
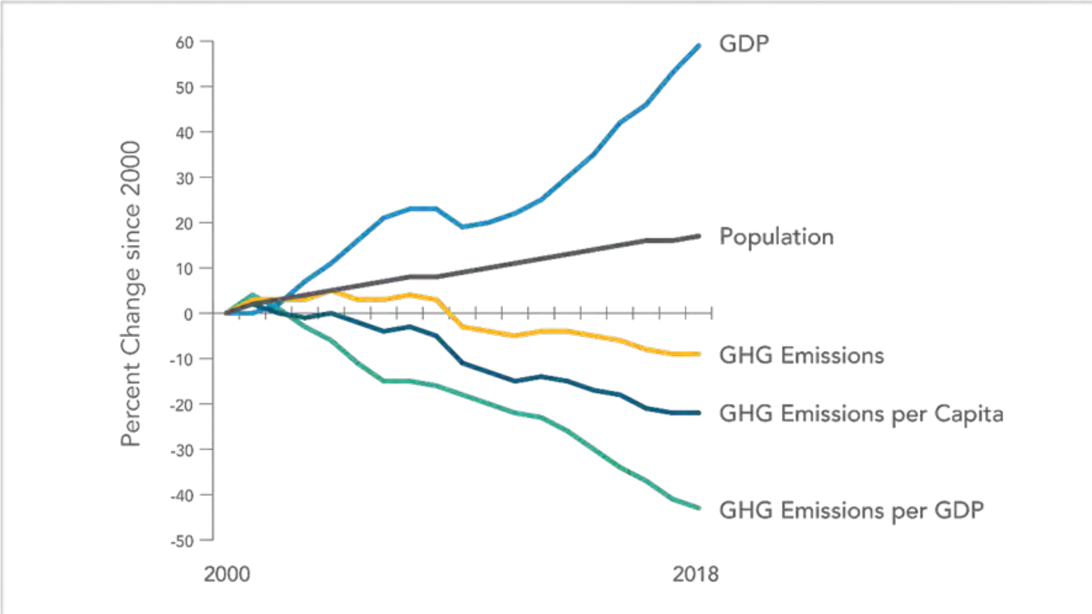


Figure 3.4-3: Change in California GDP, Population, and GHG Emissions Since 2000



AB 32 required CARB 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. CARB adopted the first scoping plan in 2008. The second updated plan, California's 2017 Climate Change Scoping Plan, adopted on December 14, 2017, reflects the 2030 target established in 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.

Regional Plans

CARB sets regional targets for California's 18 MPOs to use in their Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) 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 project is included in SCAG's 2020-2045 RTP/SCS (SCAG 2020 as RTP ID RIV060116), as discussed in Section 2.1.1, Land Use. CARB's regional reduction target for SCAG as of October 2018 is 8 percent by 2020 and 19 percent by 2035 (CARB 2019c). It should be noted that the SCAG planning region comprises Imperial, Orange, San Bernardino, and Ventura Counties in addition to Riverside County, and that targets apply to the region as a whole and to all GHG emission sources, not individual counties or transportation alone. The RTP/SCS concluded that implementing the plan would result in an 8 percent per capita GHG reduction by 2020, and a 19 percent reduction by 2035.

The Riverside County General Plan Air Quality Element addresses GHGs in the project area. Riverside County adopted a Climate Action Plan (CAP) in December 2015 (amended in 2018) to facilitate streamlining project-level CEQA review by tiering from the CAP. Consistent with CARB's Scoping Plan reduction targets, Riverside County's CAP sets a target to reduce countywide GHG by 15 percent from 2008 levels. The Riverside County Climate Action Plan (CAP) serves as a tool to implement the goals and policies of the various elements of the Riverside County General Plan related to GHG emissions. It provides a list of specific actions that will reduce countywide GHG emissions consistent with the reduction targets of AB 32.

The City of Calimesa also has a CAP dated September 2014. Similar to the Riverside County CAP, the Calimesa CAP integrates local planning efforts to reduce GHG emissions, implement the City's General Plan goals and policies for greenhouse gas emissions, and improve the quality of life in the community.

Calimesa is also one of twelve communities that participated in the Western Riverside Council of Governments' (WRCOG) Subregional CAP, published in 2014. The WRCOG CAP conducted community emissions inventories, established a subregional greenhouse gas emissions reduction target and reduction measures, and adopted a sustainability framework. WRCOG's subregional emissions reduction targets are 15% below 2010 levels by 2020, and 49% below 2010 levels by 2035. Strategies include reducing single-occupancy vehicle travel, increasing nonmotorized travel, improving public transit access, increasing motor vehicle efficiency, and promoting sustainable growth patterns (WRCOG 2014).

Table 3.4-1: Regional and Local Greenhouse Gas Reduction Plan

Title	GHG Reduction Policies or Strategies
Southern California Association of Governments 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy	• Focus growth near destinations and mobility options. • Promote diverse housing choices. • Leverage technology innovations. • Support implementation of sustainability policies. • Promote a green region.
Riverside County General Plan (July 2018)	**Circulation Element** • Policy C1.2: Support development of a variety of transportation options for major employment and activity centers including direct access to transit routes, primary arterial highways, bikeways, park-n-ride facilities, and pedestrian facilities. • Policy C1.7: Encourage and support the development of projects that facilitate and enhance the use of alternative modes of transportation, including pedestrian-oriented retail and activity centers, dedicated bicycle lanes and paths, and mixed-use community centers.

Title	GHG Reduction Policies or Strategies
	• Policy C 5.2: Encourage the use of drought-tolerant native plants and the use of recycled water for roadway landscaping. • Policy C 20.14 (Previously C 20.12): Encourage the use of alternative non-motorized transportation and the use of non-polluting vehicles. **Healthy Communities Element** • Policy HC 6.1: Coordinate with transportation service providers and transportation planning entities to improve access to multi-modal transportation options throughout the County of Riverside, including public transit. **Land Use Element** • Policy LU 2.1k(f): f. Site development to capitalize upon multi-modal transportation opportunities and promote compatible land use arrangements that reduce reliance on the automobile. • Policy LU 11.4: Provide options to the automobile in communities, such as transit, bicycle and pedestrian trails, to help improve air quality. • Policy LU 13.4: Incorporate safe and direct multi-modal linkages in the design and development of projects, as appropriate.
Riverside County General Plan Amendments (Adopted July 17, 2018)	**Air Quality Element** • Policy AQ 20.1: Reduce VMT by requiring expanded multi-modal facilities and services that provide transportation alternatives, such as transit, bicycle and pedestrian modes. Improve connectivity of the multimodal facilities by providing linkages between various uses in the developments. • Policy AQ 20.3: Reduce VMT and GHG emissions by improving circulation network efficiency. **Circulation Element (Amendment No. 960 – Public Review Draft, February 2015)** • Policy C 1.8: Ensure that all development applications comply with the California Complete Streets Act of 2008 as set forth in California Government Code Sections 65040.2 and 65302.
Riverside County Climate Action Plan (November 2019)	• R1-T3: Executive Order S-1-07 (Low Carbon Fuel Standard) • R2-T1: Alternative Transportation Options • R2-L2: Light Reflecting Surfaces for Energy Saving •
Calimesa General Plan (August 2014)	**Goal AQ-5: Reduce greenhouse gas emissions and adapt to the anticipated effects of climate change**. • Policy AQ-18: Support local, regional, and statewide efforts to reduce greenhouse gas emissions. • Action Item AQ-18.1: Establish a goal and strategies to reduce community-wide greenhouse gas emissions by 2020 and 2035.

Title	GHG Reduction Policies or Strategies
	• Action Item AQ-18.2: Adopt and implement Calimesa-specific actions identified in the Western Riverside Council of Governments (WRCOG) Regional Climate Action Plan. • Action Item AQ-18.3: Continue to participate in WRCOG regional climate change, renewable energy, and energy-efficiency programs that benefit Calimesa residents and businesses. • Action Item AQ-18.4: Update Calimesa's greenhouse gas emissions inventory every three to five years. Policy AQ-19: The City will work to evaluate the potential effects of climate change on Calimesa's human and natural systems and prepare strategies that allow the City to appropriately respond. • Action Item AQ-19.1: Consult with state resource and emergency management agencies regarding updates to climate change science and development of adaptation priorities. • Action Item AQ-19.2: As needed, amend this General Plan and the City's Zoning Code and other codes to incorporate strategies to adapt to climate change. **Goal TM-2: Public transit services, trails, paths, and pedestrian amenities that promote the mobility of Calimesa residents and provide a reasonable alternative to the personal automobile.** • Policy TM-4: Maintain and rehabilitate roadways to preserve and improve the quality of City streets and thoroughfares that promote access and mobility between residential neighborhoods, employment centers, shopping, and health services. • Action Item TM-4.1: Following the principles of "complete streets," maximize visibility and access for pedestrians and encourage the removal of barriers (walls, easements, and fences) for safe and convenient movement of pedestrians. Ensure that the entire travel way is included in the design from building façade to building facade. • Policy TM-5: Design each roadway with sufficient width to accommodate projected traffic at acceptable service levels, based on the intensity or density of planned land uses. • Policy TM-10: Support the development of the Short- and Long-Range Transit Plans. • Action Item TM-10.2: Implement freeway ramp/arterial roadway interchange improvements that promote the safe and efficient movement of vehicles, pedestrians, and cyclists.

Title	GHG Reduction Policies or Strategies

	• Action Item TM-10.3: Coordinate the planning for Calimesa's transportation needs with adjacent jurisdictions, the County of Riverside, Caltrans, and public transit providers.
	• Policy TM-11: Reduce vehicle trips through design and changes in operations.
	    • Action Item TM-11.1: Develop measures that will reduce the number of vehicle trips during peak travel periods.
	    • Action Item TM-11.2: Coordinate with Caltrans, the Riverside County Transportation Commission (RCTC), the Western Riverside Council of Governments (WRCOG), transit agencies, and other responsible agencies to identify the need for additional park-and-ride facilities along major commuter travel corridors and at major activity centers.
	• Policy LU 11.5: Ensure that all new developments reduce Greenhouse Gas emissions as prescribed in the Air Quality Element and Climate Action Plan.

Calimesa Climate Action Plan (September 2014)	**Transportation**
	• Measure T-1: Support community investment in full scale electric vehicles (EVs) and neighborhood electric vehicles (NEVs).
	    • Action T 1.1: Designate a network of slower-speed streets as NEV-accessible, including signage and designated lanes for NEVs as appropriate.
	    • Action T 1.2: Encourage new nonresidential and multifamily development to include designated parking spaces with charging stations for EVs and NEVs.
	    • Action T 1.3: Work with developers to pre-wire new buildings for electric vehicle charging stations.
	    • Action T 1.4: Install electric vehicle charging stations in public parking lots.
	• Measure T 2: Promote ridesharing as a commute option for Calimesa residents.
	    • Action T 2.1: Work with companies and communities who employ large numbers of Calimesa residents to establish a safe and easy-to-use ridesharing network for morning and evening commutes.
	    • Action T 2.2: Distribute information about formal and casual ridesharing systems to Calimesa residents at public events and through local media.

3.4.3 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 CO2, CH4, N2O, and HFCs. CO2 emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of CH4 and N2O 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).

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

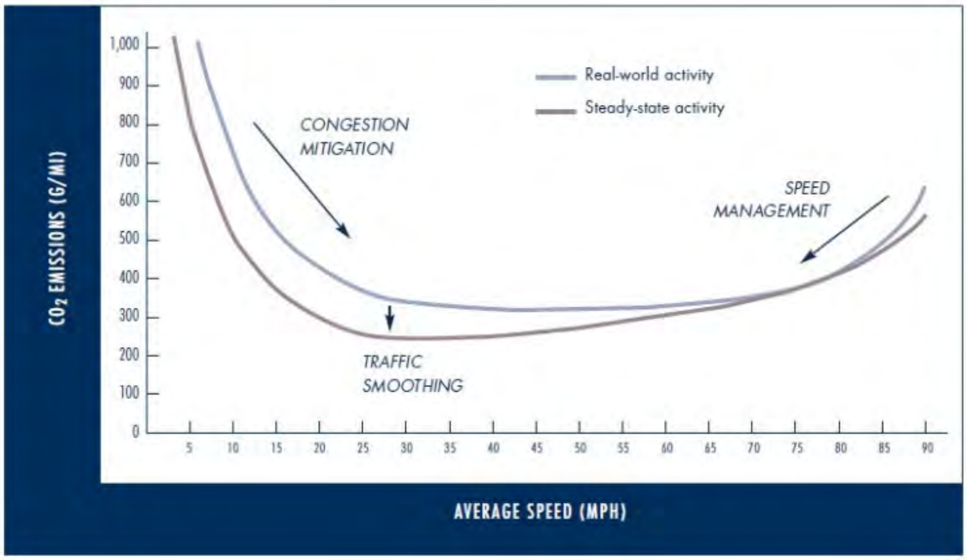
Operational Emissions

Nearly 29 percent of U.S. GHG emissions in 2019 came from the transportation sector. CO_2 emissions from fossil fuel combustion accounted for 74.1 percent of all GHG emissions, and transportation activities accounted for about 37.5 percent of CO_2 emissions from fossil fuel combustion in 2019. Most transportation-related GHG emissions are from passenger cars (40.5 percent), freight trucks (23.6 percent), and light-duty trucks (17.2 percent). The remainder of GHG emissions comes from other modes of transportation, including aircraft, ships, boats, and trains, as well as pipelines and lubricants (U.S. EPA 2021a, 2021b). 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 3.4-4). 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.

Figure 3.4-4: Possible Use of Traffic Operation Strategies in Reducing On-road CO2 Emissions



(Source: Barth and Boriboonsomsin 2010)

The purpose of this project is to improve traffic flow within the interchange by upgrading infrastructure and reconfiguring Cherry Valley Boulevard at the I-10 interchange. The City identified Cherry Valley Boulevard as a major arterial roadway that provides access to I-10. To address anticipated growth and development in and around the interchange, the City initiated a Project Study Report–Project Development Study (PSR-PDS) and received Caltrans concurrence in June 2018. The City, with support from the Riverside County Transportation Department, recognizes the need to improve the I-10/Cherry Valley Boulevard interchange and proposes to reconstruct the interchange to improve traffic flow, multimodal connectivity, and operational performance of the interchange.

The approved PSR-PDS recommended a no-build alternative and three build alternatives for study in the Project Approval/Environmental Document (PA/ED) phase: Build Alternative 2, Roundabouts; Build Alternative 3, Diverging Diamond; and Build Alternative 4, Partial Cloverleaf. Alternative 2 was removed from further consideration during the March 11, 2020 Project Development Team (PDT) meeting due to its projected insufficient traffic operations, particularly at the westbound I-10 ramps intersection.

Transit and multi-modal features are included in both Build Alternatives, including sidewalks on the I-10/Cherry Valley Boulevard eastbound structure right turn pockets, and crosswalks. The overall transportation framework in the project area is automobile driven; however, the I-10/Cherry Valley Boulevard Interchange project, as stated above, includes multi-modal components and is consistent with existing transit facilities. This includes the Yucaipa Dial-A-Ride, which provides on-call transit services in portions of the City. The improvements would enhance north-south connection across I-10 for all users.

The project is included in SCAG's 2020-2045 RTP/SCS under the listing of State Highway Projects as RTP ID RIV060116.

2020 RTP Project Description: I-10/CHERRY VALLEY BOULEVARD IC: REPLACEMENT OF EXISTING CURVED OVERCROSSING EXTENDING 1800 LINEAR FEET FROM ROBERTS ROAD (SOUTH) TO APPROXIMATELY 500 FT E/O CALIMESA BLVD. ASSOCIATED PROJECT IMPROVEMENTS INCLUDE REALIGNMENT OF CALIMESA BLVD AND RAMP REALIGNMENT FOR ALL FOUR RAMPS WITH MINOR RAMP WIDENING ADD WB AUX LANE (CHERRY VALLEY IC TO SINGLETON IC) (CMAQ PM 2.5 BENEFITS PROJECT).

The proposed project would result in beneficial impacts on congestion that would result from existing and planned development anticipated to occur in the project area. The proposed improvements would generally result in improvements related to freeway segment and intersection operations; refer to Section 2.1.9 for a detailed analysis of traffic operations under the Build Alternatives for Opening Year 2025 and Design Year 2045 conditions. On a system-wide basis, the TOAR prepared for the project identifies substantial improvements in average delay per vehicle, total delay, total travel time, and average speed.

Quantitative Analysis

Operational emissions were modeled using the CT-EMFAC2017 model. Annual VMT values derived from daily VMT values were multiplied by 347, per CARB methodology (CARB 2008). Model defaults were used for the VMT fraction for trucks and non-trucks, while project-specific VMT distribution by speed was used. The results of the analysis are shown in Table 3.4-2.

Table 3.4-2: Summary of Operational GHG Emissions-Opening Year 2025

Alternative	CO_2e Emissions (metric tons/year)	Annual Vehicle Miles Traveled
Existing Year (2019)	254,693	652,991,540
Opening Year (2025) No-Build Alternative	269,627	829,217,628
Opening Year (2025) Build Alternative 3	269,614	829,178,378
Opening Year (2025) Build Alternative 4	269,614	829,178,378
Design Year (2045) No-Build Alternative	326,338	1,307,545,581
Design Year (2045) Alternative 3	326,302	1,307,399,796
Design Year (2045) Alternative 4	326,302	1,307,399,796

Note: Modeled using CT-EMFA2017. CO_2e = carbon dioxide equivalent.
1. Annual VMT values derived from daily VMT values multiplied by 347, per CARB methodology (CARB 2008).
Source: Air Quality Report Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, December 2020.

As identified in Table 3.4-2, project GHG emissions would increase relative to existing conditions under the Build Alternatives and No-Build Alternative. However, it is important to note that this increase in GHG emissions relative to existing conditions is not due to the proposed project, but rather is associated with new residential and nonresidential developments that would occur in the project vicinity between the existing year (2019) and the project's open to traffic year (2025). This increase in development would cause growth in background traffic volumes and related GHG emissions.

Despite the increase in VMT, both Build Alternatives would improve traffic operations and reduce total travel time (VHT) thereby reducing GHG emissions in comparison to the No-Build Alternative. Project implementation would improve mobility and interstate highway access, reduce congestion, and enhance traffic operations. Rather than induce additional growth, the project would accommodate future planned growth in the area. Implementation of sidewalks and turn-lane bicycle buffers along Cherry Valley Boulevard would increase opportunities for nonmotorized transportation and provide connectivity between Cherry Valley Boulevard and residential and commercial units within the project area. These features support GHG-related policies of the Riverside County and City of Calimesa Climate Action plans, and the City of Calimesa General Plan. Implementation of the project, along with other projects included in the regional 2020–2045 RTP, should further improve traffic flow and decrease congestion within the region.

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[11]. 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.

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.

The *Road Construction Emissions Model* (RCEM) (version 9.0) from the Sacramento Metropolitan Air Quality Management District was used to estimate GHG emissions from project construction. Construction of either alternative is expected to take approximately 24 months. Tables 3.4-3 through 3.4-4 show that constructing Build Alternative 3 would emit approximately 2,728 metric tons per year of CO_2 equivalent (CO_2e) and constructing Build Alternative 4 would emit 2,664 of metric tons of CO_2e per year. Under both Build Alternatives, the project would emit approximately one metric ton of CH_4 and less than one metric ton of N_2O per year. GHG emissions for Alternative 3 would be slightly more than Alternative 4 because the Diverging Diamond configuration would require larger bridge structures for traffic to cross to opposite sides between signalized crossover intersections.

[11] The U.S. National Highway Traffic Safety Administration and Environmental Protection Agency SAFE (Safer Affordable Fuel-Efficient) Vehicles Rule Part One, revoking California's authority to set its own greenhouse gas emissions standards, was published on September 27, 2019 and effective November 26, 2019. The SAFE Vehicles Rule Part Two became effective June 30, 2020. It amended existing Corporate Average Fuel Economy (CAFE) and tailpipe carbon dioxide emissions standards for passenger cars and light trucks and established new standards covering model years 2021 through 2026. The rule retains the model year 2020 standards for both programs through model year 2026. CARB has provided adjustment factors for greenhouse gas emissions based on the SAFE Rule, and modeling these estimates with EMFAC2017 or CT-EMFAC2017 remains the most precise means of estimating future greenhouse gas emissions.

Table 3.4-3: Summary of Construction Emissions under Build Alternative 3

Year	CO_2	CH_4	N_2O	CO_{2e}
Year 1	1,622	<1	<1	1,643
Year 2	1,071	<1	<1	1,085
Total	**2,693**	**1**	**<1**	**2,728**

Note: CH_4 = methane; CO_2 = carbon dioxide; CO_2e = CO_2 equivalent; N_2O = nitrous oxide.

Table 3.4-4: Summary of Construction Emissions under Build Alternative 4

Year	CO_2	CH_4	N_2O	CO_{2e}
Year 1	1,557	<1	<1	1,575
Year 2	1,075	<1	<1	1,089
Total	**2,632**	**1**	**<1**	**2,664**

Note: CH_4 = methane; CO_2 = carbon dioxide; CO_2e = CO_2 equivalent; N_2O = nitrous oxide.

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 CARB 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 restrictions, that reduce short-term construction vehicle emissions also help reduce GHG emissions.

CEQA Conclusion

The proposed project is identified in SCAG's 2020–2045 RTP/SCS, and the Build Alternatives directly support the 2020–2045 RTP/SCS mobility and accessibility performance outcome by reducing vehicle delay and congestion. This strategy contributes to overall GHG reduction efforts for mobile sources within the SCAG region.

Pedestrian facilities, associated mobility, and connectivity within the project area are limited. Sidewalks are located at the I-10/Cherry Boulevard overcrossing, and along Roberts Road. There are currently no designated bicycle lanes or facilities within the study area. Project implementation would improve pedestrian and bicycle movement within the area by replacing existing facilities and includes additional pedestrian and bicycle facilities to enhance mobility. Under Build Alternative 3, sidewalks would be provided on each side of Cherry Valley Boulevard, excluding the overcrossing structures. An eight-foot sidewalk would be provided on the eastbound structure to serve both directions of pedestrian travel. Crosswalks would be provided and would connect to the eastbound structure's sidewalk to the sidewalk on both sides of Cherry Valley Boulevard. Right turn pockets would be provided approaching the westbound on-ramp and eastbound on-ramp. These right turn pockets would include a four-foot bicycle buffer and bypass the Cherry Valley Boulevard crossovers. Under Build Alternative 4, Cherry Valley Boulevard would be widened to two lanes in each direction with sidewalk in the eastbound direction. The I-10/Cherry Valley Boulevard overcrossing would be reconstructed to include a ten-foot sidewalk. A six-foot bicycle buffer would be provided on all proposed right turn pockets within the project limits. The Build Alternatives would result in permanent beneficial impacts to bicycle and pedestrian movement within the study area, as it would provide non-motorized facilities in areas where limited facilities exist.

As discussed in Chapter 2.2.8, Energy, the project would not result in the inefficient, wasteful, or unnecessary consumption of energy during construction or operations. Construction design features would help conserve energy and minimize GHG emissions. For example, recycled materials, including removed asphalt concrete pavement and cement concrete pavement, would be used where feasible. If new materials must be used, a fly ash mix may be considered to lower the heat island effect,[12] depending on what is allowable under Caltrans specifications. Operational energy consumption would be consistent with federal, regional, and local plans and policies and would not substantially contribute to direct or indirect energy use within the region.

Although operations at the interchange and adjacent roadways would improve, GHG emissions would increase compared to existing conditions due to planned growth in the project vicinity. Although the project would not reduce GHG emissions compared to existing conditions, the regional and local GHG reduction policies and strategies presented in Table 3.4-1 and project-level GHG reduction strategies provided below (CC-1 through CC-8 and GHG-1 through GHG-8) would reduce GHG emissions to a less than significant level. Moreover, vehicular emission rates, including GHGs, are anticipated to lessen in future years because of continuing improvements in engine technology and the retirement of older, higher-emitting vehicles. Accordingly, the impact would be less than significant with mitigation incorporated.

Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following section.

3.4.4 Greenhouse Gas Reduction Strategies

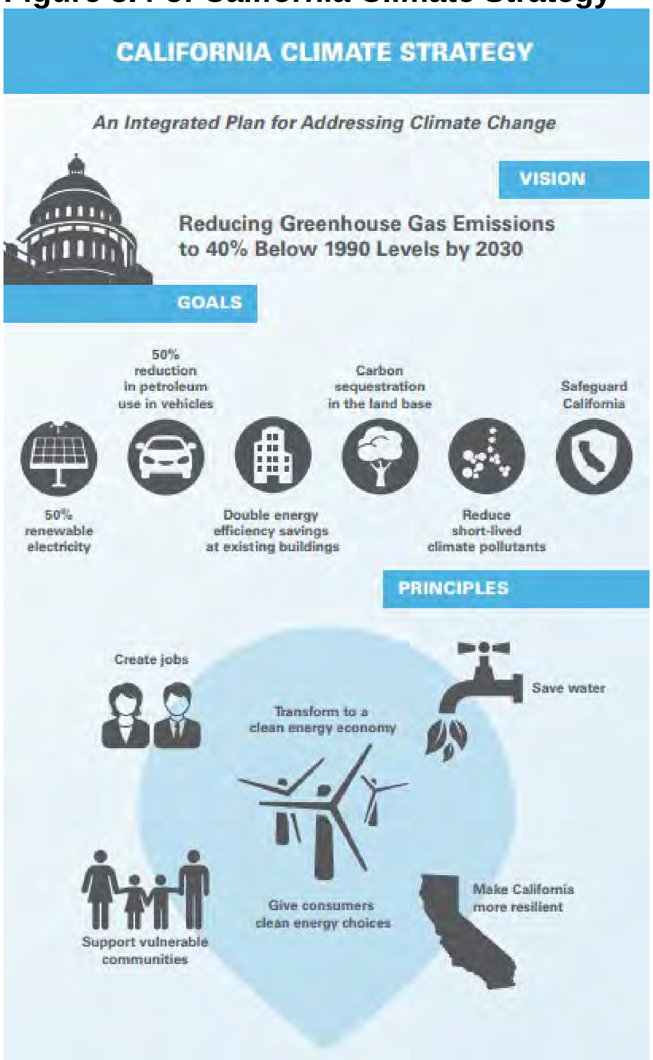
Statewide Efforts

Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 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 from one-third to 50 percent our electricity derived from renewable

[12] The heat island effect occurs when the sun heats dry, exposed urban surfaces, such as roofs and pavement, to temperatures 50 to 90 degrees Fahrenheit (°F) hotter than the air.

sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farms and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, Safeguarding California.

Figure 3.4-5: 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 40 percent by 2030 (California Environmental Protection Agency 2015).

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.

Subsequently, Governor Gavin Newsom issued Executive Order N-82-20 to combat the crises in climate change and biodiversity. It includes instruction to state agencies to use existing authorities and resources to identify and implement near- and long-term actions to accelerate natural removal of carbon and build climate resilience in our forests, wetlands, urban greenspaces, agricultural soils, and land conservation activities in ways that serve all communities and in particular low-income, disadvantaged and vulnerable communities. Each agency is to develop a Natural and Working Lands Climate Smart Strategy that serves as a framework to advance the State's carbon neutrality goal and build climate resilience.

Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the CARB 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 an 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

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. It serves as an umbrella document for all the other statewide transportation planning documents. The CTP 2050 presents a vision of a safe, resilient, and universally accessible transportation system that supports vibrant communities, advances racial and economic justice, and improves public and environmental health. The plan's climate goal is to achieve statewide GHG emissions reduction targets and increase resilience to climate change. It demonstrates how GHG emissions from the transportation sector can be reduced through advancements in clean fuel technologies; continued shifts toward active travel, transit, and shared mobility; more efficient land use and development practices; and continued shifts to telework (Caltrans 2021).

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 Caltrans Strategic Management Plan 2020–24 includes goals of stewardship, climate action, and equity. Climate action strategies include developing and implementing a Caltrans Climate Action Plan; a robust program of climate action education, training, and outreach; partnership and collaboration; a VMT monitoring and reduction program; and engaging with the most vulnerable communities in developing and implementing Caltrans climate action activities.

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) established a Department policy to 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 Greenhouse Gas Reduction Strategies

The following measures will also be implemented in the project to reduce GHG emissions and potential climate change impacts from the project.

CC-1 The project will incorporate facilities to promote mobility for pedestrians and bicyclists, including sidewalks, crosswalks, and bicycle buffers.

CC-2 A Transportation Management Plan (TMP) will be prepared during the final design phase to minimize traffic delays and idling during construction.

CC-3 The project will incorporate the use of energy-efficient lighting, such as LED traffic signals, to help reduce the project's CO_2 emissions.

CC-4 The project will incorporate complete streets components, specifically pedestrian sidewalks and turn-lane bicycle buffers along Cherry Valley Boulevard.

CC-5 The project will implement landscaping as determined during final design in coordination with the Calimesa and the Caltrans District Landscape Architect. This landscaping will include energy- and water-efficient irrigation systems and native plants as appropriate, to conserve energy and help offset any potential CO2 emissions increase.

CC-6 The project will recycle construction debris as practicable.

CC-7 Tree removals required for project implementation will be subject to tree removal permit(s) associated requirements for replacement consistent with the City of Calimesa Zoning Code, Chapters 18.70 and 18.80.

CC-8 Idling is limited to five minutes for delivery and dump trucks and other diesel-powered equipment (with some exceptions).

GHG-1 According to the Caltrans' Standard Specifications, the contractor must comply with all local Air Pollution Control District's (APCD) rules, ordinances, and regulations for air quality restrictions. This includes CARB's anti-idling rule (Section 2489 of the California Code of Regulations) and South Coast Air Quality Management District's (SCAQMD) Rule 2449 (In-Use Mobile Source Emission Reduction Programs).

GHG-2 According to the Caltrans Standard Specifications, idling time for lane closure during construction will be limited to 10 minutes in each direction. In addition, the contractor will comply with all SCAQMD rules, ordinances, and regulations regarding air quality restrictions.

GHG-3 The project will maintain equipment in proper tune and working condition. Construction equipment fleets will be in compliance with Best Available Control Technology requirements.

GHG-4 Bids will be solicited that include use of energy and fuel-efficient fleets in accordance with current practices.

GHG-5 The project will use cement blended with the maximum feasible amount of fly ash or other materials that reduce GHG emissions from cement production.

GHG-6 The project will incorporate design measures to reduce GHG emissions from solid waste management through solid waste reduction, recycling, and reuse.

GHG-7 The project will utilize energy- and fuel-efficient vehicles and equipment that meet and exceed U.S. EPA/NHTSA/CARB standards relating to fuel efficiency and emission reduction.

GHG-8 The project will use the minimum feasible amount of GHG-emitting construction materials.

3.4.5 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).

The 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).

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 transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels (FHWA 2019).

State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. California's Fourth Climate Change Assessment (2018) is the state's effort to "translate the state of climate science into useful information for action" in a variety of sectors at both statewide and local scales. It adopts the following key terms used widely in climate change analysis and policy documents:

- Adaptation to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
- Adaptive capacity is the "combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities."
- Exposure is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.
- Resilience is the "capacity of any entity – an individual, a community, an organization, or a natural system – to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience". Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.
- Sensitivity is the level to which a species, natural system, or community, government, etc., 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 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

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 and Precipitation

The project site is located in a FEMA-designated Zone X area. Zone X areas are determined to be outside the 0.2 percent annual chance floodplain. As described in Section 2.2.1, Hydrology and Floodplain, El Casco Creek is the primary drainage feature within the project area, consisting of an unlined natural waterway upstream of Cherry Valley Boulevard. It traverses Cherry Valley Boulevard east of the I-10/Cherry Valley Boulevard overcrossing via an existing 10-foot by 9-foot reinforced concrete box (RCB). This RCB then outlets to an existing concrete lined trapezoidal channel, where El Casco Creek continues to flow northwesterly between the I-10 westbound on-ramp and Calimesa Boulevard. It ultimately reaches a confluence with San Timoteo Creek approximately 3 miles west of the project site. The LHS determined that the implementation of Build Alternatives 3 and 4 would not result in a localized rise in the water surface elevation at El Casco Creek. However, the Build Alternatives would result in minor increases in off-site stormwater runoff tributary to El Casco Creek. The LHS found that the existing tributary to El

Casco Creek (a concrete trapezoidal channel) would be insufficient to convey the 100-year peak runoff upon implementation of Build Alternatives 3 and 4. The existing channel has a depth of 4 feet, while the calculated maximum flow depth is approximately 6 feet (particularly at the confluence with the double 8-foot by 5-foot RCB crossing Calimesa Boulevard). In order to provide additional capacity and freeboard, the Build Alternatives would increase the depth of the existing channel by from 1 to 3.5 feet by extending the tops of the channel side slopes in kind while maintaining the invert of the channel (see Section 2.2.1 for details). Water surface elevation would remain the same because the invert would not change.

The Caltrans Climate Change Vulnerability Assessment for District 8 (Caltrans 2019) assesses and maps changes in the 100-year storm precipitation depth in the district. At the project location, 100-year storm depth is anticipated to increase by less than 5% through 2085 under the RCP 8.5 (business as usual) climate change scenario. The project is not located in a 100-year floodplain or an inundation area. Because the sides of the concrete-lined channels would be raised if either project alternative is implemented, the channel would be adequate to convey current and potentially greater future 100-year storm runoff. Accordingly, the project would be adapted and resilient to future increases in 100-year storm precipitation.

Wildfire

According to California Department of Forestry and Fire Protection (2009) a small portion of the project site falls within a very high fire hazard severity zone in a Local Responsibility Area. The Caltrans District 8 Climate Change Vulnerability Assessment digital mapping tool shows that the project limits would be considered exposed roadway in an area of moderate wildfire concern through 2055, increasing to high wildfire concern by 2085 under the RCP 8.5 (business as usual) climate change scenario. This is consistent with a projected increase in maximum 7-day average temperature of as much as 10.3 degrees Fahrenheit (F) under the same scenario. Increasing temperature and changing precipitation patterns result in changes to land cover that make it more prone to ignition. Human infrastructure introduces elements such as electrical infrastructure that further increase fire potential (Caltrans 2019).

The project is proposed to address planned development in the area, which would introduce new human factors that could cause fire. However, it would improve the existing interchange without introducing new roadways or other structures vulnerable to fire. Construction will adhere to Chapter 33 of the California Fire Code, Fire Safety During Construction and Demolition, which includes safety provisions and precautions to minimize the potential for fires. All construction contracts include Caltrans 2018 revised Standard Specification 7-1.02M(2) mandating fire prevention procedures, including a fire prevention plan, to avoid accidental fire starts during construction.

During project operation, local fire protection services will serve the project site, and firefighting capacity is likely to increase as the area develops.[13] Pavement design includes a temperature assessment in determining materials, and pavement is generally replaced after about 20 years. Maximum 7-day average temperatures are projected to increase up to 6.4 degrees F by 2055; pavement materials will be selected appropriately. Drainage features would include new or reconstructed culverts that would meet Caltrans Specifications 61-6.02. Landscaping would involve installment of fire-tolerant plant species within the roadway right-of-way and would share similar (or lesser) water requirements. Landscaping concepts and plant palette would be developed in coordination with and approved by the Caltrans District Landscape Architect. Accordingly, the proposed project would not exacerbate wildfire risk, and the project would not be more vulnerable to wildfire and extreme heat than it is under existing conditions.

[13] Southern California Association of Governments. *Connect SoCal Program Environmental Impact Report.* May 2020.

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Chapter 4 Comments and Coordination

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

Consultation and Coordination

Meetings and/or consultations with the resource agencies and interested parties listed below have occurred in conjunction with development of the project.

Native American Coordination

As part of the cultural investigation, a record search was conducted with the Eastern Information Center (EIC) of the California Historical Resources Information System (CHRIS) located at University of California, Riverside. Additional specialized listings for cultural resources were also consulted. The Native American Heritage Commission (NAHC) was contacted on March 6, 2019 and letters were sent to Native American tribes consistent with Assembly Bill 52 (AB52) on April 25, 2019. Two tribal responses were received by Caltrans. The consultation with the NAHC and Native American representatives is summarized in Table 4.1-1, Summary of Native American Consultation.

Table 4.1-1 Summary of Native American Consultation

Agency	Date of First Contact (Formal Letter)	Date of Reply	Point of Contact(s)	Consultation Topic
Native American Heritage Commission	March 6, 2019	March 13, 2019	Mr. Steven Quinn, Associate Governmental Program Analyst	**March 6, 2019:** A sacred land files and Native American Contacts List Request was requested by Applied Earthworks. **March 13, 2019:** The Native American Heritage Commission responded that there are no sacred lands within the Area of Potential Effects (APE). However, the area

Agency	Date of First Contact (Formal Letter)	Date of Reply	Point of Contact(s)	Consultation Topic
				is sensitive for cultural resources. A list of Native American Contacts was provided.
San Manuel Band of Mission Indians	April 25, 2019	May 30, 2019	Ms. Lee Clauss, Director of Cultural Resources	**April 25, 2019:** A letter was sent via certified mail to the listed contact for the San Manuel Band of Mission Indians that provided a preliminary project description and location and discussed upcoming cultural resources studies of the project area. **May 30,2019:** An email from Ms. Lee Clauss responded to the April 25 letter, noting the project exists within Serrano ancestral territory. As such, the project is of interest to San Manuel Band of Mission Indians. Ms. Lee Clauss requested a copy of the Phase I archaeological investigation report, as well as the nature and exact location of where the construction activities would occur. **March 15, 2021:** A copy of the combined Historic Property Survey Report (HPSR), Archaeological Survey Report (ASR), and Historical Resources Evaluation Report (HRER) was transmitted to the Tribe. **March 17, 2021:** An email from the Tribe confirmed receipt of the cultural report and stated that the Tribe does not have any concerns with project implementation, as planned, at this time. However, the Tribe requested inclusion of provisions for unanticipated discoveries. The Tribe's request is covered within the Environmental Commitments Record (Appendix E)
Morongo Band of Mission Indians	April 25, 2019	May 2, 2019	Mr. Travis Armstrong, Tribal Historic Preservation Officer (former) Ms. Ann Brierty, Tribal Historic Preservation Officer (current)	**April 25,2019:** A letter was sent via certified mail to the listed contact for the Morongo Band of Mission Indians that provided a preliminary project description and location and discussed upcoming cultural resources studies of the project area. **May 2, 2019:** An email from Travis Armstrong of the Morongo Band of Mission Indians stated the following: preliminary review provided by a representative of the Morongo Band of Mission Indians did not find tribal cultural resources in the project

Agency	Date of First Contact (Formal Letter)	Date of Reply	Point of Contact(s)	Consultation Topic
				footprint. However, the tribal representative noted that the general area is of concern. **March 15, 2021:** A copy of the combined HPSR, ASR, and HRER was transmitted to the Tribe. **March 26, 2021**: An email from Ann Brierty of the Morongo Band of Mission Indians confirmed receipt of the cultural report and stated that the Tribe would review the HPSR packet and provide comments. No comments have been received to date.
Soboba Band of Luiseno Indians	April 25, 2019	N/A	Mr. Joseph Ontiveros, Tribal Historic Preservation Officer	**April 25, 2019:** A letter was sent via certified mail to the listed contact for the Soboba Band of Luiseno Indians that provided a preliminary project description and location and discussed upcoming cultural resources studies of the project area. **July 22, 2019:** An email from Joseph Ontiveros of the Soboba Band of Luiseno Indians stated the Tribe has specific information regarding the project area. The Tribe requested a copy of the record search, the radius map of previously identified resources and studies, and archaeological records. **March 15, 2021:** A copy of the combined HPSR, ASR, and HRER was transmitted to the Tribe. **April 2, 2021:** Follow up communication was sent via email. No response has been received to date.

Caltrans consulted with the California Office of Historic Preservation (OHP) and State Historic Preservation Officer (SHPO) for concurrence regarding the Historic Property Survey Report (HPSR) prepared for the proposed project. On May 5, 2021, the HPSR was provided to SHPO for review and on June 16, 2021, SHPO provided concurrence. See correspondence letters, below.

Local Historical Society/Historic Preservation Group

On June 11, 2020, the San Gorgonio Pass Historical Society and the Yucaipa Valley Historical Society were mailed a letter, prepared by Applied Earthworks, regarding the Historical Resource Evaluation Report (HRER) for the project. The letter requested identification of potentially significant historic resources within the project vicinity and known historical sources of a sensitive nature within the project area be provided. A follow-up letter was sent to each historical society on July 1, 2020. Neither historical society responded with knowledge of any known historical resources within the project vicinity. Refer to correspondence letter, below.

U.S. Fish and Wildlife Service

On October 27,2020, an official U.S Fish and Wildlife Service (USFWS) List of Proposed, Threatened and Endangered Species, and Critical Habitats was obtained through the USFWS Information System. Refer to the species list, below.

Air Quality

Pursuant to the interagency consultation requirement of 40 Code of Federal Regulations 93.105 (c)(1)(i), a particulate matter (PM) hot-spot conformity analysis for the project (Project ID RIV060116) was presented to the Southern California Association of Governments (SCAG) Transportation Conformity Working Group (TCWG) for consideration at its meeting on April 28, 2020. The TCWG determined that the project is not a project of air quality concern (POAQC). Refer to the TCWG determination, below.

Agricultural Resources

As part of the analysis for potential impacts related to agricultural resources and per the Farmland Protection Policy Act (FPPA), a Farmland Conversion Impact Rating Form (Form AD-1006) was prepared and submitted to Peter Fahnestock of the U.S Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) for review on December 16, 2020. NRCS responded with the finalized AD-1006 on December 22, 2020 and provided farmland soil units on January 28, 2021. Refer to Appendix G, Farmland Conversion Impact Rating Form.

Parks and Recreational Facilities

As part of the analysis for potential impacts related to Section 4(f) resources, the City of Calimesa was contacted via email on July 19, 2019 to confirm existing and planned recreational facilities within a 0.5-mile radius of the project site. The City of Calimesa responded via email on August 7, 2019. Refer to Appendix A, Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination for further information regarding Section 4(f) resources.

City of Calimesa - Identification of Locally Preferred Alternative

A regular meeting of the City Council of the City of Calimesa was held in the Council Chamber at 6:00 PM on September 8, 2020. Under Item No. 11 of the City Council agenda, a recommendation to select a locally preferred alternative (Build Alternative 3 or Build Alternative 4) was considered and Build Alternative 4 was selected as the locally preferred alternative by the City Council. Refer to the September 8, 2020, City Council meeting minutes, below.

Agency Coordination Documentation

Correspondence obtained from agencies in response to the Department's request for information and input/concurrence related to the proposed I-10/Cherry Valley Boulevard Interchange Project is included on the pages that follow.

Native American Heritage Commission Correspondence

Ashimine, Alan

From: Tribal Historic Preservation Office <thpo@morongo-nsn.gov>
Sent: Thursday, May 2, 2019 4:03 PM
To: Jones, Gary A@DOT
Subject: Section 106 - EA OG170

Hello Gary,

Thank you for your April 25, 20190 letter regarding the I-10/Cherry Valley Blvd. Interchange Project.

A preliminary review of our materials did not immediately find tribal cultural resources in the project footprint, although that general area is of concern. We would ask to receive copies of any cultural resources reports prepared for this project and continue consultation once those reports are available.

Sincerely,

Travis Armstrong
Tribal Historic Preservation Officer
Morongo Band of Mission Indians
951-755-5259
Email: thpo@morongo-nsn.gov

1

From: Tribal Historic Preservation Office
To: Jones, Gary A@DOT
Subject: Section 106 - EA 0G170
Date: Thursday, May 2, 2019 4:02:59 PM
Attachments: image001.jpg

Hello Gary,

Thank you for your April 25, 20190 letter regarding the I-10/Cherry Valley Blvd. Interchange Project.

A preliminary review of our materials did not immediately find tribal cultural resources in the project footprint, although that general area is of concern. We would ask to receive copies of any cultural resources reports prepared for this project and continue consultation once those reports are available.

Sincerely,

Travis Armstrong
Tribal Historic Preservation Officer
Morongo Band of Mission Indians
951-755-5259
Email: thpo@morongo-nsn.gov

Morongo

CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN C. NEWSOM, Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
ENVIRONMENTAL PLANNING (MS 825)
464 W. FOURTH STREET, 6TH FLOOR
SAN BERNARDINO, CA 92401-1400
PHONE (909) 383-4042
FAX (909) 383-6494
TTY (909) 383-6300

Make Conservation a California Way of Life!

April 25, 2019

Lee Clauss
Director of Cultural Resources
San Manuel Band of Mission Indians
26569 Community Center Drive
Highland, CA 92346

Interstate-10/Cherry Valley
Boulevard Interchange
Improvement Project

EA 0G170

Dear Ms. Clauss,

Subject: Initial Section 106 and AB52 Native American Consultation for the I-10 / Cherry Valley Boulevard Interchange Improvement Project

The California Department of Transportation (Caltrans) as assigned by the Federal Highway Administration (FHWA) and in cooperation with City of Calimesa (City), and the County of Riverside (County), proposes to upgrade and reconfigure Cherry Valley Boulevard at Interstate-10 (I-10) in an effort to improve traffic flow. The I-10/Cherry Valley Boulevard Interchange Improvement Project (Project) limits and immediately surrounding area is depicted on the attached portions of the U.S. Geological Survey 7.5-minute topographic maps El Casco, California Quad (T2S, R1W and 2W, Section 30 and Tract between the San Jacinto and San Gorgonio Land Grant).

Please consider this letter and preliminary project information as the initiation of Section 106 consultation pursuant to the National Historic Preservation Act and formal notification of a proposed project as required under the California Environmental Quality Act, specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (i.e. AB 52). Please respond within 30 days, pursuant to PRC 21080.3.1(d) if you would like to consult on this Project. Please provide a designated lead contact person if you have not provided that information to us already.

Caltrans requested that a Sacred Lands File (SLF) Search be performed by the Native American Heritage Commission (NAHC). The results of the SLF search were negative for the immediate Project vicinity.

Additional studies for the Project shall include cultural resource investigations and consultation with interested parties. On behalf of the City and County, Caltrans is interested in receiving input from your community regarding any concerns related to the proposed Project. If you know of any cultural resources that may be of religious or cultural significance to your community, or if you would like more information, please contact me at (909) 383-7505, or the above address, or my email at gary.jones@dot.ca.gov. In return correspondence, please refer to this Project by the EA number, EA 0G170.

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

April 25, 2019
Page 2

Your time and involvement in this process is appreciated.

Respectfully,

Gary Jones

GARY JONES
Associate Environmental Planner, Archaeologist
District 8 Native American Coordinator
Environmental Support/Cultural Studies

Enclosure

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

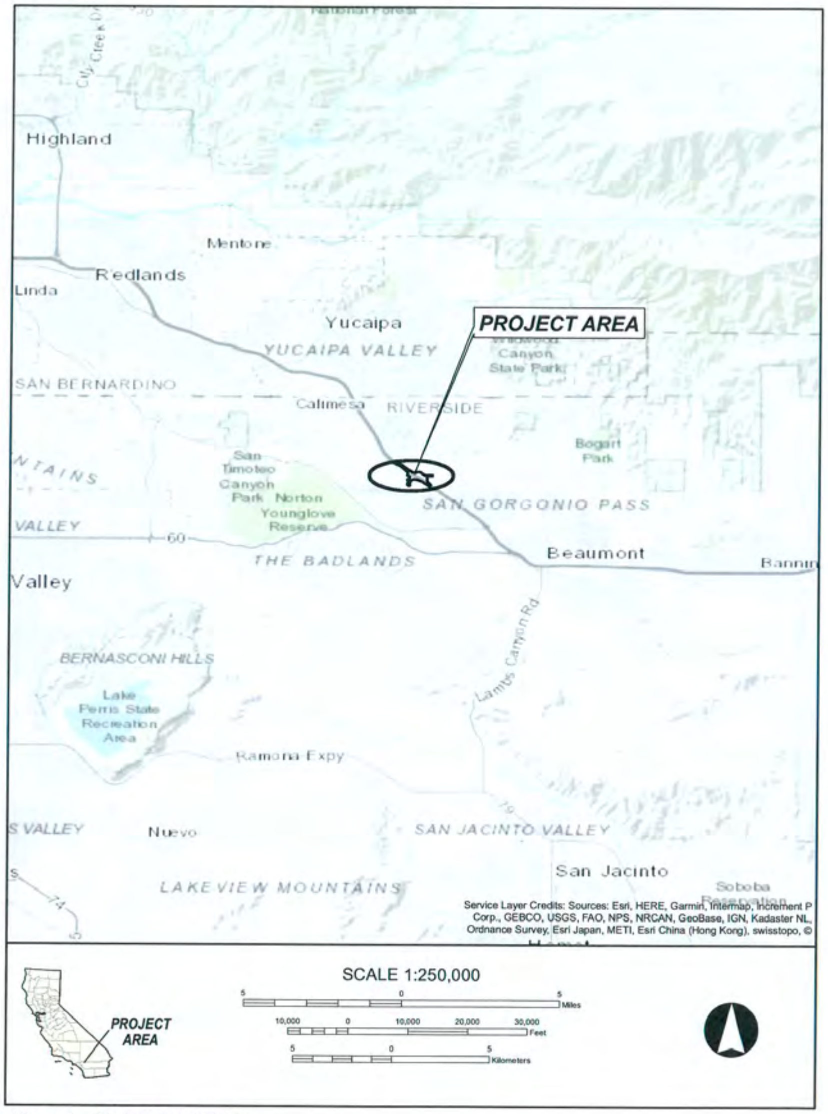

Figure 1 Project vicinity map.

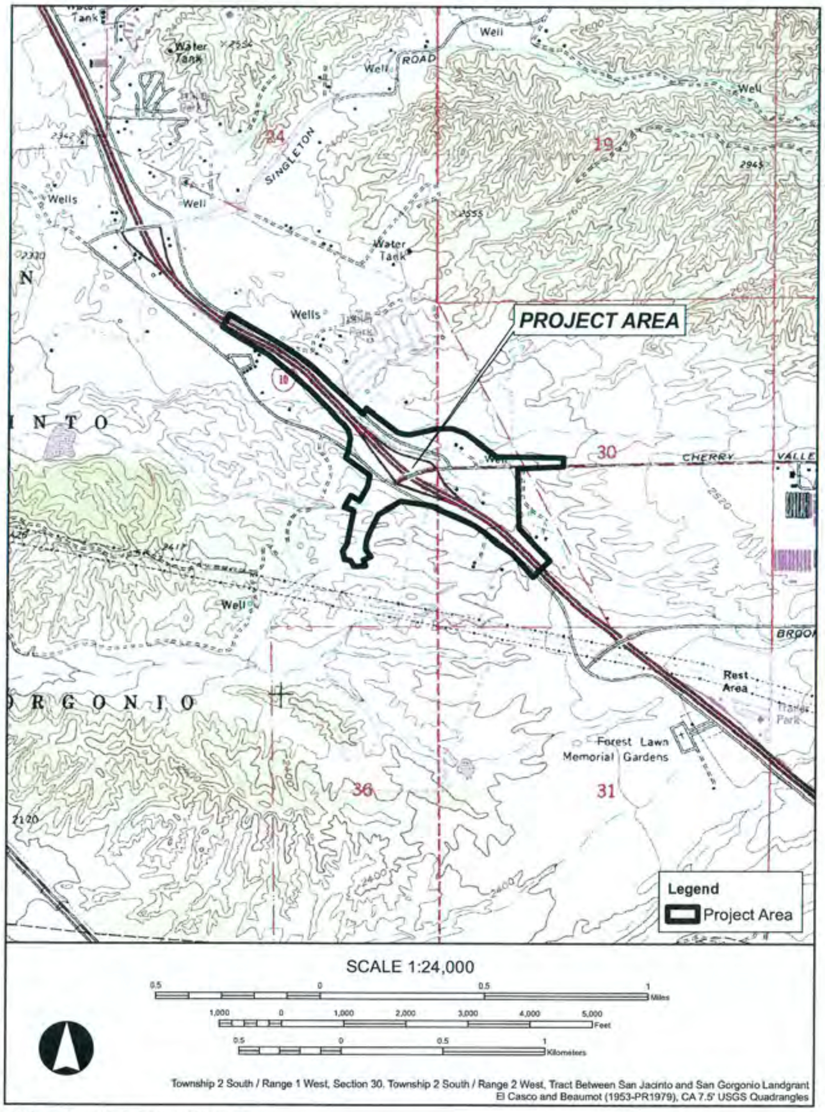

Figure 2 Project location map.

CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN C. NEWSOM, Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
ENVIRONMENTAL PLANNING (MS 825)
464 W. FOURTH STREET, 6TH FLOOR
SAN BERNARDINO, CA 92401-1400
PHONE (909) 383-4042
FAX (909) 383-6494
TTY (909) 383-6300

Make Conservation a California Way of Life

April 25, 2019

Joseph Ontiveros
Tribal Historic Preservation Officer
Soboba Band of Luiseno Indians
P.O. Box 487
San Jacinto, CA 92583

Interstate-10/Cherry Valley
Boulevard Interchange
Improvement Project

EA 0G170

Dear Mr. Ontiveros,

Subject: Initial Section 106 and AB52 Native American Consultation for the I-10 / Cherry Valley Boulevard Interchange Improvement Project

The California Department of Transportation (Caltrans) as assigned by the Federal Highway Administration (FHWA) and in cooperation with City of Calimesa (City), and the County of Riverside (County), proposes to upgrade and reconfigure Cherry Valley Boulevard at Interstate-10 (I-10) in an effort to improve traffic flow. The I-10/Cherry Valley Boulevard Interchange Improvement Project (Project) limits and immediately surrounding area is depicted on the attached portions of the U.S. Geological Survey 7.5-minute topographic maps El Casco, California Quad (T2S, R1W and 2W, Section 30 and Tract between the San Jacinto and San Gorgonio Land Grant).

Please consider this letter and preliminary project information as the initiation of Section 106 consultation pursuant to the National Historic Preservation Act and formal notification of a proposed project as required under the California Environmental Quality Act, specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (i.e. AB 52). Please respond within 30 days, pursuant to PRC 21080.3.1(d) if you would like to consult on this Project. Please provide a designated lead contact person if you have not provided that information to us already.

Caltrans requested that a Sacred Lands File (SLF) Search be performed by the Native American Heritage Commission (NAHC). The results of the SLF search were negative for the immediate Project vicinity.

Additional studies for the Project shall include cultural resource investigations and consultation with interested parties. On behalf of the City and County, Caltrans is interested in receiving input from your community regarding any concerns related to the proposed Project. If you know of any cultural resources that may be of religious or cultural significance to your community, or if you would like more information, please contact me at (909) 383-7505, or the above address, or my email at gary.jones@dot.ca.gov. In return correspondence, please refer to this Project by the EA number, EA 0G170.

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

April 25, 2019
Page 2

Your time and involvement in this process is appreciated.

Respectfully,

Gary Jones

GARY JONES
Associate Environmental Planner, Archaeologist
District 8 Native American Coordinator
Environmental Support/Cultural Studies

Enclosure

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

CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN C. NEWSOM, Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
ENVIRONMENTAL PLANNING (MS 825)
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SAN BERNARDINO, CA 92401-1400
PHONE (909) 383-4042
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TTY (909) 383-6300

Make Conservation a California Way of Life

April 25, 2019

Travis Armstrong
Tribal Historic Preservation Officer
Morongo Band of Mission Indians
12700 Pumarra Road
Banning, CA 92220

Interstate-10/Cherry Valley
Boulevard Interchange
Improvement Project

EA 0G170

Dear Mr. Armstrong,

Subject: Initial Section 106 and AB52 Native American Consultation for the I-10 / Cherry Valley Boulevard Interchange Improvement Project

The California Department of Transportation (Caltrans) as assigned by the Federal Highway Administration (FHWA) and in cooperation with City of Calimesa (City), and the County of Riverside (County), proposes to upgrade and reconfigure Cherry Valley Boulevard at Interstate-10 (I-10) in an effort to improve traffic flow. The I-10/Cherry Valley Boulevard Interchange Improvement Project (Project) limits and immediately surrounding area is depicted on the attached portions of the U.S. Geological Survey 7.5-minute topographic maps El Casco, California Quad (T2S, R1W and 2W, Section 30 and Tract between the San Jacinto and San Gorgonio Land Grant).

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

April 25, 2019
Page 2

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Gary Jones

GARY JONES
Associate Environmental Planner, Archaeologist
District 8 Native American Coordinator
Environmental Support/Cultural Studies

Enclosure

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

STATE OF CALIFORNIA Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691 Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov

March 13, 2019

Joan George
Applied EarthWorks

VIA Email to: jgeorge@appliedearthworks.com

RE: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, I-10/Cherry Valley Interchange Improvement Project, Riverside County

Dear Ms. George:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

> Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;
- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

   - Any report that may contain site forms, site significance, and suggested mitigation measures.

     All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of any Sacred Lands File (SLF) check conducted through the NAHC was negative.
4. Any ethnographic studies conducted for any area including all or part of the APE; and
5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: steven.quinn@nahc.ca.gov.

Sincerely,

Steven Quinn

Steven Quinn
Associate Governmental Program Analyst

Attachment

Native American Heritage Commission
Tribal Consultation List
Riverside County
3/13/2019

Agua Caliente Band of Cahuilla Indians
Jeff Grubbe, Chairperson
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6800
Fax: (760) 699-6919

Augustine Band of Cahuilla Mission Indians
Amanda Vance, Chairperson
P.O. Box 846 — Cahuilla
Coachella, CA, 92236
Phone: (760) 398 - 4722
Fax: (760) 369-7161
hhaines@augustinetribe.com

Cabazon Band of Mission Indians
Doug Welmas, Chairperson
84-245 Indio Springs Parkway — Cahuilla
Indio, CA, 92203
Phone: (760) 342 - 2593
Fax: (760) 347-7880
jstapp@cabazonindians-nsn.gov

Cahuilla Band of Indians
Daniel Salgado, Chairperson
52701 U.S. Highway 371 — Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 5549
Fax: (951) 763-2808
Chairman@cahuilla.net

Los Coyotes Band of Cahuilla and Cupeño Indians
Shane Chapparosa, Chairperson
P.O. Box 189 — Cahuilla
Warner Springs, CA, 92086-0189
Phone: (760) 782 - 0711
Fax: (760) 782-0712
Chapparosa@msn.com

Morongo Band of Mission Indians
Robert Martin, Chairperson
12700 Pumarra Rroad — Cahuilla, Serrano
Banning, CA, 92220
Phone: (951) 849 - 8807
Fax: (951) 922-8146
dtorres@morongo-nsn.gov

Ramona Band of Cahuilla
Joseph Hamilton, Chairperson
P.O. Box 391670 — Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 4105
Fax: (951) 763-4325
admin@ramonatribe.com

San Fernando Band of Mission Indians
Donna Yocum, Chairperson
P.O. Box 221838 — Kitanemuk, Vanyume, Tataviam
Newhall, CA, 91322
Phone: (503) 539 - 0933
Fax: (503) 574-3308
ddyocum@comcast.net

San Manuel Band of Mission Indians
Lee Clauss, Director of Cultural Resources
26569 Community Center Drive — Serrano
Highland, CA, 92346
Phone: (909) 864 - 8933
Fax: (909) 864-3370
lclauss@sanmanuel-nsn.gov

Santa Rosa Band of Cahuilla Indians
Steven Estrada, Chairperson
P.O. Box 391820 — Cahuilla
Anza, CA, 92539
Phone: (951) 659 - 2700
Fax: (951) 659-2228
mflaxbeard@santarosacahuilla-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of 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 and section 5097.98 of the Public Resources Code.

This list is only applicable for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed I-10/Cherry Valley Interchange Improvement Project, Riverside County.

PROJ-2019-001705 — 03/13/2019 10:44 AM — 1 of 2

Native American Heritage Commission
Tribal Consultation List
Riverside County
3/13/2019

Serrano Nation of Mission Indians Goldie Walker, Chairperson P.O. Box 343 Patton, CA, 92369 Phone: (909) 528 - 9027	Serrano
Soboba Band of Luiseno Indians Scott Cozart, Chairperson P. O. Box 487 San Jacinto, CA, 92583 Phone: (951) 654 - 2765 Fax: (951) 654-4198 jontiveros@soboba-nsn.gov	Cahuilla Luiseno
Torres-Martinez Desert Cahuilla Indians Thomas Tortez, Chairperson P.O. Box 1160 Thermal, CA, 92274 Phone: (760) 397 - 0300 Fax: (760) 397-8146 tmchair@torresmartinez.org	Cahuilla

This list is current only as of the date of this document. Distribution of this list does not relieve any person of 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 and section 5097.98 of the Public Resources Code.

This list is only applicable for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed I-10/Cherry Valley Interchange Improvement Project, Riverside County.

PROJ-2019-001705 03/13/2019 10:44 AM 2 of 2

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State Historic Preservation Officer Correspondence

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY Gavin C. Newsom, Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
ENVIRONMENTAL PLANNING (MS 825)
464 W. FOURTH STREET, 6TH FLOOR
SAN BERNARDINO, CA 92401-1400
PHONE: (909) 383-6933

Make Conservation a California Way of Life

May 5, 2021

Julianne Polanco
State Historic Preservation Officer
1725 23rd Street Suite 100
Sacramento, CA 95816-1700

PROJECT: I-10/Cherry Valley IC Project
PM R2.1/R3.8
EA: 0G170

RE: DETERMINATION OF ELIGIBILITY FOR THE INTERSTATE 10/CHERRY VALLEY BLVD. INTERCHANGE PROJECT, RIVERSIDE COUNTY, CALIFORNIA

Attention: Lucinda Woodward

The California Department of Transportation is initiating consultation with the SHPO regarding the proposed I-10/Cherry Valley Blvd. Improvement Project (EA: 0G170) in Riverside County. This consultation is undertaken in accordance with procedures outlined in the January 1, 2014 *First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation* (Section 106 PA. Caltrans is currently complying with PRC 5024 pursuant to Stipulation III of the *Memorandum of Understanding between the California Department of Transportation and the California State Historic Preservation Officer regarding compliance with Public Resource Code 5024 and Governor's Executive Order W-26-92* (PRC 5024 MOU).

The proposed project would upgrade and reconfigure the existing Interstate 10 (I-10)/Cherry Valley Boulevard Interchange from Post Mile R2.1 to R3.8 to improve traffic operations and relieve congestion at the interchange.

Enclosed please find a Historic Properties Survey Report (HPSR), Archaeological Survey Report (ASR), and Historic Resources Evaluation Report (HRER) for the project. The HRER evaluates 2 cultural resources for NRHP eligibility. Caltrans has determined that the resources are not eligible for the NRHP and seeks SHPOs concurrence on this determination under PA Stipulation VIII.C.6:

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

Ms. Julianne Polanco
May 5, 2021

Name	Address/Location	Community	OHP Status Code	State Owned	Map Reference Number
Æ-3997-01H	36015 Cherry Valley Blvd. in Section 30 of Township 2S, Range 1W, SBBM	Calimesa	6Z	No	1
APN 413-270-014	3607 Cherry Valley Blvd. in Section 30 of Township 2S, Range 1W, SBBM	Calimesa	6Z	No	2

Pursuant to Stipulation IX.A of the Section 106 PA, Caltrans is proposing that a finding of No Historic Properties Affected is appropriate for the Undertaking.

We look forward to receiving your written response within 30 days of your receipt of this transmittal in accordance with Stipulation VIII.C.6 of the Section 106 PA. If you have any questions, please contact me (phone: 909-260-5178; email: Andrew.walters@dot.ca.gov). Thank you for your assistance with this undertaking.

Sincerely,

Andrew M. Walters

Andrew Walters
Branch Chief
Environmental Support/Cultural Studies
Caltrans District 8

c. David Price, Section 106 Coordinator, Division of Environmental Analysis, HQ

Enclosure: *Historic Property Survey Report (HPSR) for the I-10/Cherry Valley Blvd. IC Improvement Project, Riverside County.*

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State of California • Natural Resources Agency
Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION
Armando Quintero, *Director*
Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

June 16, 2021

VIA EMAIL

In reply refer to: FHWA_2021_0505_001
CATRA_2021_0505_002

Mr. Andrew Walters, Branch Chief
Environmental Support/Cultural Studies
Caltrans District 8
464 W Fourth Street
San Bernardino, CA 92401-1400

Subject: Determinations of Eligibility for the Proposed I-10/Cherry Valley Blvd. Improvement Project, Riverside County, CA

Dear Mr. Walters:

Caltrans is initiating consultation regarding the above project in accordance with the January 1, 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration (FHWA), the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (PA). Caltrans is also currently complying with PRC 5024 pursuant to Stipulation III of the *Memorandum of Understanding between the California Department of Transportation and the California State Historic Preservation Officer regarding compliance with Public Resource Code 5024 and Governor's Executive Order W-26-92* (MOU). As part of your documentation, Caltrans submitted Historic Property Survey Report (HPSR), Historic Resources Evaluation Report, and Archaeological Survey Report for the proposed project.

The proposed project would upgrade and reconfigure the existing Interstate 10 (I-10)/Cherry Valley Boulevard Interchange from Post Mile R2.1 to R3.8 to improve traffic operations and relieve congestion at the interchange.

Pursuant to Stipulation VIII.C.6 of the PA, Caltrans determined that the following properties are not eligible for the NRHP:

- 36015 Cherry Valley Boulevard
- 3607 Cherry Valley Boulevard

Mr. Walters
June 16, 2021
Page 2 of 2

FHWA_2021_0505_001
CATRA_2021_0505_002

Based on review of the submitted documentation, I concur with the above determinations.

If you have any questions, please contact Natalie Lindquist at (916) 445-7014 with e-mail at natalie.lindquist@parks.ca.gov .

Sincerely,

Julianne Polanco
State Historic Preservation Officer

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Local Historical Society/Historic Preservation Group

Applied EARTHWORKS inc

3550 E. Florida Ave., Suite H
Hemet, CA 92544-4937
O: (951) 766-2000 | F: (951) 766-0020

Date: July 1, 2020

To: Jackie Davis
Calimesa Historical Society
C/O Yucaipa Valley Historical Society
P.O. Box 297
Yucaipa, Ca. 92399

Re: **Follow Up Letter:** I-10/Cherry Valley Boulevard Interchange Improvements Project

Dear Ms. Davies,

Please accept this letter as a follow up on the I-10/Cherry Valley Boulevard Interchange Improvements Project consultation inquiry sent on June 11, 2020. A copy of the original letter is attached.

To summarize, AppliedEarthWorks, Inc. is completing a Historic Resource Evaluation Report (HRER) for an interchange improvement project in the County of Riverside. The City of Calimesa, in cooperation with California Department of Transportation, proposes to upgrade and reconfigure the existing I-10/Cherry Valley Boulevard interchange from Post Mile R2.1 to R3.8.

The Historic Resource Evaluation Report requires a historic context for the area and identification of potentially significant historic resources in the project vicinity. AppliedEarthWorks, Inc. is asking local historical societies and repositories to identify known historical sources of a sensitive nature in the project area, as well as comments and concerns about the project from their constituencies. Does the Calimesa Historical Society have any historical sources relevant to Cherry Valley Road at I-10 and its surrounding areas? We appreciate any assistance you may provide.

Thank you for your time. Please do not hesitate to contact AppliedEarthworks, Inc. with any questions or concerns. You can contact me by phone at (951) 766-2000 xt 524 or email at swood@appliedearthworks.com.

All the Best,

Susan Wood

Susan M. Wood, PhD
Senior Architectural Historian/Historical Archaeologist
AppliedEarthWorks, Inc.

ARCHAEOLOGY
CULTURAL RESOURCES MANAGEMENT

www.appliedearthworks.com

Applied EARTHWORKS Inc.

3550 E. Florida Ave., Suite H
Hemet, CA 92544-4937
O: (951) 766-2000 | F: (951) 766-0020

Date: June 11, 2020

To: Sean Balingit, Museum/Society Director
San Gorgonio Pass Historical Society
P.O. Box 331, Beaumont, CA 92223

Re: I-10/Cherry Valley Boulevard Interchange Improvements Project

Dear Mr. Balingit,

AppliedEarthWorks, Inc. is completing a Historic Resource Evaluation Report (HRER) for an interchange improvement project in the County of Riverside. The City of Calimesa, in cooperation with California Department of Transportation, proposes to upgrade and reconfigure the existing I-10/Cherry Valley Boulevard interchange from Post Mile R2.1 to R3.8.

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Thank you for your time. Please do not hesitate to contact AppliedEarthworks, Inc. with any questions or concerns. You can contact me by phone at (951) 766-2000 xt 524 or email at swood@appliedearthworks.com.

All the Best,

Susan Wood

Susan M. Wood, PhD
Senior Architectural Historian/Historical Archaeologist
AppliedEarthWorks, Inc.

Applied EARTHWORKS Inc.

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O: (951) 766-2000 | F: (951) 766-0020

Date: July 1, 2020

To: Sean Balingit, Museum/Society Director
San Gorgonio Pass Historical Society
P.O. Box 331, Beaumont, CA 92223

Re: **Follow Up Letter:** I-10/Cherry Valley Boulevard Interchange Improvements Project

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To summarize, AppliedEarthWorks, Inc. is completing a Historic Resource Evaluation Report (HRER) for an interchange improvement project in the County of Riverside. The City of Calimesa, in cooperation with California Department of Transportation, proposes to upgrade and reconfigure the existing I-10/Cherry Valley Boulevard interchange from Post Mile R2.1 to R3.8.

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Thank you for your time. Please do not hesitate to contact AppliedEarthworks, Inc. with any questions or concerns. You can contact me by phone at (951) 766-2000 xt 524 or email at swood@appliedearthworks.com.

All the Best,
Susan Wood

Susan M. Wood, PhD
Senior Architectural Historian/Historical Archaeologist
AppliedEarthWorks, Inc.

Applied EARTHWORKS Inc.

3550 E. Florida Ave., Suite H
Hemet, CA 92544-4937
O: (951) 766-2000 | F: (951) 766-0020

Date: June 11, 2020

To: Claire Teeters
Yucaipa Valley Historical Society
P.O. Box 297
Yucaipa, Ca. 92399

Re: I-10/Cherry Valley Boulevard Interchange Improvements Project

Dear Ms. Teeters,

AppliedEarthWorks, Inc. is completing a Historic Resource Evaluation Report (HRER) for an interchange improvement project in the County of Riverside. The City of Calimesa, in cooperation with California Department of Transportation, proposes to upgrade and reconfigure the existing I-10/Cherry Valley Boulevard interchange from Post Mile R2.1 to R3.8.

The Historic Resource Evaluation Report requires a historic context for the area and identification of potentially significant historic resources in the project vicinity. AppliedEarthWorks, Inc. is asking local historical societies and repositories to identify known historical sources of a sensitive nature in the project area, as well as comments and concerns about the project from their constituencies. Does the Yucaipa Valley Historical Society have any historical sources relevant to Cherry Valley Road at I-10 and its surrounding areas? We appreciate any assistance you may provide.

Thank you for your time. Please do not hesitate to contact AppliedEarthworks, Inc. with any questions or concerns. You can contact me by phone at (951) 766-2000 xt 524 or email at swood@appliedearthworks.com.

All the Best,

Susan Wood

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Applied EARTHWORKS Inc.

3550 E. Florida Ave., Suite H
Hemet, CA 92544-4937
O: (951) 766-2000 | F: (951) 766-0020

Date: July 1, 2020

To: Claire Teeters
Yucaipa Valley Historical Society
P.O. Box 297
Yucaipa, Ca. 92399

Re: **Follow Up Letter:** I-10/Cherry Valley Boulevard Interchange Improvements Project

Dear Ms. Teeters,

Please accept this letter as a follow up on the I-10/Cherry Valley Boulevard Interchange Improvements Project consultation inquiry sent on June 11, 2020. A copy of the original letter is attached.

To summarize, AppliedEarthWorks, Inc. is completing a Historic Resource Evaluation Report (HRER) for an interchange improvement project in the County of Riverside. The City of Calimesa, in cooperation with California Department of Transportation, proposes to upgrade and reconfigure the existing I-10/Cherry Valley Boulevard interchange from Post Mile R2.1 to R3.8.

The Historic Resource Evaluation Report requires a historic context for the area and identification of potentially significant historic resources in the project vicinity. AppliedEarthWorks, Inc. is asking local historical societies and repositories to identify known historical sources of a sensitive nature in the project area, as well as comments and concerns about the project from their constituencies. Does the Yucaipa Valley Historical Society have any historical sources relevant to Cherry Valley Road at I-10 and its surrounding areas? We appreciate any assistance you may provide.

Thank you for your time. Please do not hesitate to contact AppliedEarthworks, Inc. with any questions or concerns. You can contact me by phone at (951) 766-2000 xt 524 or email at swood@appliedearthworks.com.

All the Best,

Susan M. Wood, PhD
Senior Architectural Historian/Historical Archaeologist
AppliedEarthWorks, Inc.

ARCHAEOLOGY
CULTURAL RESOURCES MANAGEMENT

www.appliedearthworks.com

U.S. Fish and Wildlife Service Species List

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: September 15, 2021
Consultation Code: 08ECAR00-2020-SLI-1196
Event Code: 08ECAR00-2021-E-03399
Project Name: Interstate 10/Cherry Valley Boulevard Interchange Improvement Project

Subject: Updated list of threatened and endangered species that may occur in your proposed project location 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: 08ECAR00-2020-SLI-1196
Event Code: Some(08ECAR00-2021-E-03399)
Project Name: Interstate 10/Cherry Valley Boulevard Interchange Improvement Project
Project Type:
Project Description: The City of Calimesa (City), in cooperation with the California Department of Transportation (Caltrans) and the County of Riverside (County), is proposing to upgrade and reconfigure the existing I-10/ Cherry Valley Boulevard Interchange from Post Mile (PM) R2.1 to R3.8.

-Alternative 3 – Diverging Diamond

This alternative would reconstruct the current interchange into a diverging diamond interchange (DDI) and realign Calimesa Boulevard (refer to Figure 4A, Proposed Improvements – Alternative 3). This interchange configuration crosses each direction of traffic to the opposite side, optimizing left-turn movements and reducing conflict points. This alternative would utilize two separate overcrossing structures for each direction of Cherry Valley Boulevard.

Cherry Valley Boulevard would be widened to two lanes in each direction within the Project limits. Sidewalks would be provided along Cherry Valley Boulevard to allow pedestrian access along the corridor. Right-turn pockets would be provided approaching the westbound on-ramp and eastbound on-ramp. These right turn pockets would include a bicycle buffer and bypass the Cherry Valley Boulevard crossovers. Channelized turning would also be added on Cherry Valley Boulevard to connect to Calimesa Boulevard, which would have a signalized stop control at Calimesa Boulevard turning onto Cherry Valley Boulevard. All on- and off-ramps at the interchange would be realigned and reconstructed to multilane ramps. The entry ramps in both directions will accommodate California Highway Patrol (CHP) enforcement areas and ramp metering that reduce to a single lane entering the freeway. An auxiliary lane would be added to the eastbound off-ramp and westbound on-ramp to provide additional storage.

-Alternative 4 – Partial Cloverleaf:

This alternative would reconstruct the current interchange into a partial cloverleaf configuration and realign Calimesa Boulevard (refer to Figure 4B, Proposed Improvements – Alternative 4). The proposed westbound loop on-ramp would serve eastbound vehicles on Cherry Valley Boulevard and a proposed westbound direct on-ramp would provide a free-flow movement for westbound vehicles on Cherry Valley Boulevard.

The eastbound ramps would be widened and maintain their current tight diamond configuration.

Cherry Valley Boulevard would be widened to two lanes in each direction with sidewalk in the eastbound direction. The I-10/Cherry Valley Boulevard OC would be reconstructed to accommodate two through lanes in each direction, channelized left-turn lanes, and sidewalks. Right-turn pockets would be provided approaching the westbound on-ramp and eastbound on-ramp. Channelized turning would also be added on Cherry Valley Boulevard to connect to Calimesa Boulevard, which would have a signalized stop control at Calimesa Boulevard turning onto Cherry Valley Boulevard. The westbound loop on- and off-ramps would be realigned and reconstructed to intersect adjacent to Calimesa Boulevard creating a signalized intersection. The proposed westbound direct on-ramp and eastbound on- and off-ramps would be realigned and widened to multi lane ramps. The entry ramps in both directions will accommodate CHP enforcement areas and ramp metering that reduce to a single lane entering the freeway. An auxiliary lane would be added to the eastbound off-ramp and westbound on-ramp to provide additional storage.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@33.96951553106793,-117.03478921571065,14z

Counties: Riverside County, California

Endangered Species Act Species

There is a total of 13 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
San Bernardino Merriam's Kangaroo Rat *Dipodomys merriami parvus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2060	Endangered
Stephens' Kangaroo Rat *Dipodomys stephensi (incl. D. cascus)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3495	Endangered

Birds

NAME	STATUS
Coastal California Gnatcatcher *Polioptila californica californica* There is **final** critical habitat for this species. The location of the critical habitat is not available. 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. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Crustaceans

NAME	STATUS
Riverside Fairy Shrimp *Streptocephalus woottoni* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8148	Endangered
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
San Diego Ambrosia *Ambrosia pumila* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8287	Endangered
San Jacinto Valley Crownscale *Atriplex coronata var. notatior* There is **final** critical habitat for this species. However, no *actual* acres or miles were designated due to exemptions or exclusions. See Federal Register publication for details. Species profile: https://ecos.fws.gov/ecp/species/4353	Endangered
Santa Ana River Woolly-star *Eriastrum densifolium ssp. sanctorum* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6575	Endangered
Spreading Navarretia *Navarretia fossalis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1334	Threatened
Thread-leaved Brodiaea *Brodiaea filifolia* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6087	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Southern California Association of Governments Transportation Conformity Working Group Meeting Minutes

TRANSPORTATION CONFORMITY WORKING GROUP
of the
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

April 28, 2020
Minutes

THE FOLLOWING MINUTES ARE A SUMMARY OF THE MEETING OF THE TRANSPORTATION CONFORMITY WORKING GROUP. A DIGITAL RECORDING OF THE ACTUAL MEETING IS AVAILABLE FOR LISTENING IN SCAG'S OFFICE.

The Meeting of the Transportation Conformity Working Group was held via teleconference.

SCAG
Asuncion, John
Calderon, Karen
Luo, Rongsheng
McAlpine, Shannon
Sangkapichai, Mana

Via Teleconference

Acosta, Brooke	IBI Group
Bade, Rabindra	Caltrans, District 12
Brugger, Ron	LSA Associates
Cacatian, Ben	VCAPCD
Cooper, Keith	ICF
Huddleston, Lori	LA Metro
Kalandiyur, Nesamani	ARB
Lay, Keith	HDR Engineering
Lugaro, Julie	Caltrans, District 12
Masters, Martha	RCTC
O'Connor, Karina	EPA Region 9
Sanchez, Lucas	Caltrans Headquarters
Sun, Lijin	SCAQMD
Vaughn, Joseph	FHWA
Yoon, Andrew	Caltrans, District 7

TRANSPORTATION CONFORMITY WORKING GROUP
of the
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

April 28, 2020
Minutes

1.0 CALL TO ORDER AND SELF-INTRODUCTION

Martha Masters, TCWG Chair, called the meeting to order at 10:05 am.

2.0 PUBLIC COMMENT PERIOD

None.

3.0 CONSENT CALENDAR

3.1 January 28, 2020 TCWG Meeting Minutes
The meeting minutes were approved.

3.2 February 25, 2020 TCWG Meeting Minutes
The meeting minutes were approved.

3.3 March 24, 2020 TCWG Meeting Minutes
The meeting minutes were approved.

4.0 INFORMATION ITEMS

4.1 Review of PM Hot Spot Interagency Review Forms

1) **LA0G1562rev**
It was determined that this project is not a POAQC.

2) **RIV060116**
It was determined that this project is not a POAQC.

3) **20190010**
It was determined that this project is not a POAQC.

4.2 RTP Update
John Asuncion, SCAG, reported that Proposed Final Connect SoCal was scheduled to be considered for approval by Regional Council on May 7, 2020.

Rongsheng Luo, SCAG, reported the following:

- Transportation Conformity Analysis Technical Report including transportation conformity determination would be presented as part of Proposed Final Connect SoCal to SCAG's Regional Council for consideration for approval on May 7, 2020.

TRANSPORTATION CONFORMITY WORKING GROUP
of the
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

April 28, 2020
Minutes

- SCAG's Executive Director emailed a letter to FHWA and FTA Regional Administrators requesting their advance review of Proposed Final Connect SoCal pending Regional Council's approval because SCAG needs to receive federal approval of transportation conformity determination by June 1, 2020. The letter was forwarded to TCWG members on April 9, 2020. In addition, SCAG staff followed up with EPA and Caltrans Headquarters staff with whom FHWA and FTA staff consult in their review of the Plan.

At request of Mr. Luo, Joseph Vaughn, FHWA, Karina O'Connor, EPA Region 9, and Lucas Sanchez, Caltrans Headquarters, all confirmed their agencies' respective advance review of Proposed Final Connect SoCal and no issues at that time.

4.3 FTIP Update

John Asuncion, SCAG, reported the following:

- SCAG staff was working on 2019 FTIP Amendment #19-20 for which project submittals were due to SCAG April 28.
- It would be under discussion at California Federal Programming Group meeting on April 28, 2020 whether 2021 FTIP would be delayed by several months or postponed until 2023 FTIP.

4.4 EPA Update

Karina O'Connor, EPA Region 9, reported the following:

- EPA's proposed approval of Imperial County 2018 PM_{10} Redesignation Request and Maintenance Plan was published in Federal Register on April 2, 2020 and comment period closes May 4, 2020.
- EPA staff was reviewing comments received on proposed action on Coachella Valley 2008 8-hour ozone standard SIP published in January 2020.
- EPA staff continued work on South Coast 2012 Annual $PM_{2.5}$ standard Moderate Plan and hoped to propose action in May 2020.
- Signed on March 30, 2020, SAFE Vehicles Rule Part 2 was expected to be published in Federal Register on April 30, 2020 and become effective June 30, 2020.

4.5 ARB Update

Nesamani Kalandiyur, ARB, reported the following:

- ARB staff presented the base year emissions inventory along with the VMT offset demonstration under 2015 8-hour ozone standard for South Coast and Coachella Valley at South Coast AQMP Advisory Group Meeting on April 16, 2020. Both regions met applicable requirements.

- After reviewing and evaluating pre-publication SAFE Vehicles Rule Part 2, ARB staff found no need for additional adjustment factors for criteria pollutants. In addition, the pre-publication itself says that EMFAC2014 and EMFAC2017 adjustment factors for SAFE Vehicles Rule Part 1 continued to be valid and should be used for SIP and transportation conformity purposes.

Rongsheng Luo, SCAG, expressed thanks and appreciation to ARB staff for evaluation of Part 2 Rule before its publication and for confirming no additional adjustment factors.

In response to questions regarding ARB staff's finding on Part 2 Rule, Mr. Kalandiyur did not think that US EPA action would be needed; Both Karina O'Connor, EPA Region 9, and Joseph Vaughn, FHWA, concurred; In addition, Mr. Vaughn confirmed that the verbal agreement was sufficient for transportation conformity purposes.

4.6 Air Districts Update

Lijin Sun, SCAQMD, reported the following:

- A South Coast AQMP Advisory Group Meeting was held on April 16, 2020.
- SCAQMD staff was working on Reasonably Available Control Technology Analysis and Emission Statement Certification. These two items were scheduled to be presented to SCAQMD Board for consideration in June 2020.

Ben Cacatian, VCAPCD, reported the following:

- EPA's final approval of Ventura County 2008 8-hour ozone standard SIP was published on February 27, 2020.
- VCAPCD staff was working on 2022 Ventura County SIP for 2015 8-hour ozone standard. Draft Ventura County 2020 Reasonably Available Control Technology SIP was under public comment, available at vcapcd.org. VCAPCD Staff was also updating emissions inventory for the SIP.

5.0 INFORMATION SHARING

None.

6.0 ADJOURNMENT

The meeting was adjourned at 10:35 am. The next Transportation Conformity Working Group meeting will be held on Tuesday, May 26, 2020 via Zoom meeting and teleconference.

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PM Conformity Hot Spot Analysis – Project Summary for Interagency Consultation

PM Conformity Hot Spot Analysis – Project Summary for Interagency Consultation

RTIP ID# *(required)* RIV060116

TCWG Consideration Date: 4/28/2020

Project Description *(clearly describe project)*
The City of Calimesa (City), in cooperation with the California Department of Transportation (Caltrans) and the County of Riverside (County), is proposing to upgrade and reconfigure the existing I-10/Cherry Valley Boulevard Interchange (project) from Post Mile (PM) R2.1 to R3.8. The I-10/Cherry Valley Boulevard interchange is located on I-10 between Singleton Road and Oak Valley Parkway (See Figures 1 and 2). The I-10/Cherry Valley Boulevard interchange is a major access point for existing and proposed residential and commercial development. The existing configuration is a diamond interchange, with stop control at the ramp termini. The on- and off-ramps at the interchange consist of one lane. Within the project area, Cherry Valley Boulevard is a two-lane roadway with a posted speed limit of 35 miles per hour west of the interchange and a posted speed limit of 55 miles per hour east of the interchange. Per the City of Calimesa's General Plan, Cherry Valley Boulevard is classified as a Major Arterial. The Cherry Valley Boulevard Overcrossing (OC) (PM R3.05, Bridge Number 56-0481) is a four-span, concrete-girder bridge constructed in 1965 and is approximately 273 feet long, 47 feet wide, and crosses six lanes of traffic over I-10. Reconfiguring the interchange would improve traffic operations and relieve congestion associated with existing and planned development anticipated in the City of Calimesa and surrounding areas.

Alternative 1 – No-Build. Under this alternative, no reconstruction or improvements would be made to the existing I-10/ Cherry Valley Boulevard interchange, other than routine roadway maintenance and the current relocation of Roberts Road south along Cherry Valley Boulevard, resulting in a signalized intersection, by another project. This alternative does not address the purpose and need of the proposed project.

Alternative 3 – Diverging Diamond. Depicted in Figure 3, this alternative would reconstruct the current interchange into a diverging diamond interchange (DDI) and realign Calimesa Boulevard. This interchange configuration crosses each direction of traffic to the opposite side, optimizing left-turn movements and reducing conflict points. This alternative would utilize two separate overcrossing structures for each direction of Cherry Valley Boulevard.

Cherry Valley Boulevard would be widened to two lanes in each direction within the project limits. Sidewalks would be provided along Cherry Valley Boulevard to allow pedestrian access along the corridor. Right-turn pockets would be provided approaching the westbound on-ramp and eastbound on-ramp. These right turn pockets would include a bicycle buffer and bypass the Cherry Valley Boulevard crossovers. Channelized turning would also be added on Cherry Valley Boulevard to connect to Calimesa Boulevard, which would have a signalized stop control at Calimesa Boulevard turning onto Cherry Valley Boulevard. All on- and off-ramps at the interchange would be realigned and reconstructed to multilane ramps. The entry ramps in both directions will accommodate California Highway Patrol (CHP) enforcement areas and ramp metering that reduce to a single lane entering the freeway. An auxiliary lane would be added to the eastbound off-ramp and westbound on-ramp to provide additional storage.

Alternative 4 – Partial Cloverleaf. Depicted in Figure 4, this alternative would reconstruct the current interchange into a partial cloverleaf configuration and realign Calimesa Boulevard. The proposed westbound loop on-ramp would serve eastbound vehicles on Cherry Valley Boulevard and a proposed westbound direct on-ramp would provide a free-flow movement for westbound vehicles on Cherry Valley Boulevard. The eastbound ramps would be widened and maintain their current tight diamond configuration.

Cherry Valley Boulevard would be widened to two lanes in each direction with sidewalk in the eastbound direction. The I-10/Cherry Valley Boulevard OC would be reconstructed to accommodate two through lanes in each direction, channelized left-turn lanes, and sidewalks. Right-turn pockets would be provided approaching the westbound on-ramp and eastbound on-ramp. Channelized turning would also be added on Cherry Valley Boulevard to connect to Calimesa Boulevard, which would have a signalized stop control at Calimesa Boulevard turning onto Cherry Valley Boulevard. The westbound loop on- and off-ramps would be realigned and reconstructed to intersect adjacent to Calimesa Boulevard creating a signalized intersection. The proposed westbound direct on-ramp and eastbound on- and off-ramps would be realigned and widened to multilane ramps. The entry ramps in both directions will accommodate CHP enforcement areas and ramp metering that reduce to a single lane entering the freeway. An auxiliary lane would be added to the eastbound off-ramp and westbound on-ramp to provide additional storage.

PM Conformity Hot Spot Analysis – Project Summary for Interagency Consultation

Type of Project *(use Table 1 on instruction sheet)*
Reconfigure existing interchange

County	Narrative Location/Route & Postmiles
Riverside	**Narrative Location/Route & Postmiles:** 08-RIV-10-R2.1/R3.8 **Caltrans Projects – EA#** 0G170

Lead Agency: California Department of Transportation

Contact Person	Phone#	Fax#	Email
Keith Cooper	(213) 312-1752	N/A	Keith.Cooper@icf.com

Hot Spot Pollutant of Concern *(check one or both)* **PM2.5 X** **PM10 X**

Federal Action for which Project-Level PM Conformity is Needed *(check appropriate box)*

	Categorical Exclusion (NEPA)	X	EA or Draft EIS	FONSI or Final EIS	PS&E or Construction	Other

Scheduled Date of Federal Action: 2021

NEPA Assignment – Project Type *(check appropriate box)*

Exempt	Section 326 – Categorical Exemption	X	Section 327 – Non-Categorical Exemption

Current Programming Dates *(as appropriate)*

	PE/Environmental	ENG	ROW	CON
Start	12/27/2018	10/1/2021	10/1/2021	1/1/2024
End	10/1/2021	10/1/2023	10/1/2023	09/01/2025

Project Purpose and Need (Summary): *(attach additional sheets as necessary)*
The purpose of the proposed project is to:

- Relieve congestion and improve traffic operations at the Interstate 10 (I-10)/Cherry Valley Boulevard interchange; and
- Address increased travel associated with existing and planned development anticipated in the City of Calimesa and surrounding areas.

The project addresses the following needs and transportation deficiencies:

- Due to expected continuing increases in traffic volumes associated with planned development in the area, this interchange is expected to not satisfy applicable operational performance standards by the design horizon year of 2045.

Surrounding Land Use/Traffic Generators *(especially effect on diesel traffic)*
Land uses north of I-10 in the vicinity of the proposed project predominantly consists of residential development, with interspersed commercial land uses. South of I-10, land uses within the project vicinity consists of residential development.

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Opening Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility

AADT and Truck AADT Opening Year (2025) Conditions for the No-Build and Build Alternatives

Segment	AADT	Non-Trucks	Trucks
I-10 north of the Cherry Valley Blvd ramps	84,500	77,700	6,800
I-10 south of the Cherry Valley Blvd ramps	122,900	113,000	9,900
Cherry Valley Blvd east of the I-10 ramps	14,900	13,700	1,200
Cherry Valley Blvd west of the I-10 ramps	24,500	22,500	2,000

AADT, non-truck, and truck volumes are estimated to be unchanged under the Build Alternatives when compared to the No-Build Alternative at Opening Year 2025.

The truck percentage is estimated to be **8.7%** for Opening Year 2025 conditions.

RTP Horizon Year / Design Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility

AADT and Truck AADT Design Year (2045) Conditions for the No-Build and Build Alternatives

Segment	AADT	Non-Trucks	Trucks
I-10 north of the Cherry Valley Blvd ramps	116,600	107,200	9,400
I-10 south of the Cherry Valley Blvd ramps	176,400	162,200	14,200
Cherry Valley Blvd east of the I-10 ramps	30,700	28,200	2,500
Cherry Valley Blvd west of the I-10 ramps	58,200	53,500	4,700

AADT, non-truck, and truck volumes are estimated to be unchanged under the Build Alternatives when compared to the No-Build Alternative at Horizon Year 2045.

The truck percentage is estimated to be **8.7%** for Design Year 2045 conditions.

PM Conformity Hot Spot Analysis – Project Summary for Interagency Consultation

Opening Year: If facility is an interchange(s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT

Intersection Operations – Opening Year (2025) Conditions for the No-Build and Build Alternatives

Intersection	Control	Alt. 1 – No-Build		Alt. 3 – Diverging Diamond		Alt. 4 – Partial Cloverleaf	
		AM	PM	AM	PM	AM	PM
1. I-10 EB Off/On-Ramps/Singleton Rd	Side Street Stop	A / 9.9 (SBR)	B / 12.6 (SBL)	B / 10.3 (SBL)	B / 11.4 (SBL)	B / 10.7 (SBL)	B / 11.2 (SBL)
2. I-10 WB Off/On-Ramps/Singleton Rd	Side Street Stop	A / 8.0 (NBR)	B / 11.1 (NBR)	A / 9.0 (NBL)	B / 14.4 (NBL)	B/ 10.2 (NBL)	B / 11.3 (NBR)
3. Cherry Valley Blvd/Palmer Ave/Desert Lawn Drive	Signal	**<u>F / 499.7</u>**	**<u>F / 378.1</u>**	C / 27.7	C / 22.1	C / 25.8	C / 20.8
4A. Cherry Valley Blvd/Roberts Rd	Signal	**<u>F / 166.5</u>**	**<u>F / 318.6</u>**	B / 13.5	B / 19.0	B / 12.3	B / 19.0
4B. Old Roberts Road/Cherry Valley Blvd	--	--	--	--	--	--	--
5. I-10 EB Off/On-Ramps/Cherry Valley Blvd	Signal/ Roundabouts	**<u>E / 70.4</u>**	**<u>F / 125.8</u>**	C / 22.0	B / 14.7	B / 11.4	B / 13.4
6. I-10 WB Off/On-Ramps/Cherry Valley Blvd	Signal/ Roundabouts	**<u>E / 57.4</u>**	C / 27.1	A / 7.1	A / 5.7	--	--
7. Calimesa Blvd/Cherry Valley Blvd	Side Street Stop/ Signal	**<u>F / 146.4 (WBT)</u>**	C / 14.2 (SBL)	C / 22.0	A / 9.5	C / 20.6	B / 15.2
8. I-10 EB Off/On-Ramps/Oak Valley Pkwy	Signal	B / 11.1	B / 17.1	B / 11.1	B / 17.4	B / 11.6	B / 17.0
9. I-10 WB Off/On-Ramps/Oak Valley Pkwy	Signal	A / 8.4	B / 11.0	A / 8.6	B / 10.9	A / 8.9	B / 11.1

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RTP Horizon Year / Design Year: If facility is an interchange (s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT

Intersection Operations – Design Year (2045) Conditions for the No-Build and Build Alternatives

Intersection	Control	Alt. 1 – No-Build		Alt. 3 – Diverging Diamond		Alt. 4 – Partial Cloverleaf	
		AM	PM	AM	PM	AM	PM
1. I-10 EB Off/On-Ramps/Singleton Rd	Signal	C / 29.3	**F / 143.6**	C / 29.1	**E / 57.2**	C / 29.1	**E / 56.1**
2. I-10 WB Off/On-Ramps/Singleton Rd	Signal	**E / 60.8**	**F / 150.5**	**E/ 71.2**	D/ 53.8	**E / 69.0**	**E / 57.0**
3. Cherry Valley Blvd/Palmer Ave/Desert Lawn Drive	Signal	**F / 994.6**	**F / 171.4**	C / 25.9	B / 18.2	C / 23.8	B / 17.2
4A. Cherry Valley Blvd/Roberts Rd	Signal	**F / 264.8**	**F / 174.7**	C / 26.1	**E / 63.8**	C / 23.4	**E / 66.5**
4B. Old Roberts Road/Cherry Valley Blvd	--	--	--	--	--	--	--
5. I-10 EB Off/On-Ramps/Cherry Valley Blvd	Signal/ Roundabouts	**F / 108.9**	**F / 103.8**	C / 24.3	B / 16.9	B / 10.4	B / 19.7
6. I-10 WB Off/On-Ramps/Cherry Valley Blvd	Signal/ Roundabouts	**F / 100**	**E / 64.6**	B / 11.3	A / 8.9	--	--
7. Calimesa Blvd/Cherry Valley Blvd	Side Street Stop/ Signal	C / 20.5 (SBL)	C / 21.1 (SBL)	C / 22.1	A / 9.3	C / 25.5	B / 18.6
8. I-10 EB Off/On-Ramps/Oak Valley Pkwy	Signal	B / 15.4	B / 18.4	B / 14.3	C/ 31.2	B/ 14.5	C / 32.4
9. I-10 WB Off/On-Ramps/Oak Valley Pkwy	Signal	**E / 56**	B / 12	B / 10.8	B / 12.7	B / 11	B / 13.0

Describe potential traffic redistribution effects of congestion relief *(impact on other facilities)*
No traffic redistribution is anticipated to occur as a result of proposed project improvements. The proposed project would improve existing roadway facilities rather than develop new facilities or provide access to areas that currently lack access.

PM Conformity Hot Spot Analysis – Project Summary for Interagency Consultation

Comments/Explanation/Details *(attach additional sheets as necessary)*

Project construction would require less than 5 years. As such, construction emissions analysis for project-level conformity is not required.

Under 40 CFR 93.123(b)—PM10 and PM2.5 Hot Spots—the following criteria are utilized to determine the potential for the proposed project to qualify as a Project of Air Quality Concern (POAQC):

(i) New or expanded highway projects with significant number/increase in diesel vehicles?
- ✓ Not a new highway project
- ✓ Minor interchange improvements to relieve congestion (reducing delay and air pollutant emissions)
- ✓ No substantial change in traffic volumes or truck percentages

(ii) Affects intersections at LOS D, E, or F with a significant number of diesel vehicles?
- ✓ Improves operations at local intersections with projected LOS of E for the Design Year (2045), but these intersections do not have a significant number or percentage of diesel vehicles.

(iii) New bus and rail terminals and transfer points?—Not Applicable

(iv) Expanded bus and rail terminals and transfer points?—Not Applicable

(v) Affects areas identified in PM_{10} or $PM_{2.5}$ implementation plan as site of violation?
- ✓ Not identified in a PM_{10} or $PM_{2.5}$ implementation plan as an area of potential violation

For the reasons noted above, the proposed project would not be considered a POAQC.

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AUGUST, 2020 +

JULY, 2020 +

JUNE, 2020 +

MAY, 2020 +

APRIL, 2020 −

April, 2020	Determination
20190010 April 2020	Not a POAQC-Hot Spot Analysis Not Required
RIV060116 April 2020	Not a POAQC-Hot Spot Analysis Not Required
LA0G1562 April 2020	Not a POAQC-Hot Spot Analysis Not Required

FEBRUARY, 2020 +

JANUARY, 2020 +

City of Calimesa - Identification of Locally Preferred Alternative City Council Meeting Minutes

EXCERPTS FROM MINUTES OF A REGULAR MEETING
CITY COUNCIL, CITY OF CALIMESA, CALIFORNIA
HELD SEPTEMBER 8, 2020

A Regular meeting of the City Council of the City of Calimesa was called to order in the Council Chambers of the City Council located at 908 Park Avenue, City of Calimesa, at the hour of 6:00 p.m., on the 8th day of September 2020 with Mayor Davis presiding.

ROLL CALL	PRESENT:	Mayor Davis, Mayor Pro Tem Molina, Council Members Cervantez and Clark.
	ABSENT:	Council Member Smith
	A quorum of the City Council was present.	

ITEM NO.11

CHERRY VALLEY INTERCHANGE LOCALLY PREFERRED ALTERNATIVE

RECOMMENDATION: That the City Council select a Locally Preferred Alternative interchange geometric design for the Cherry Valley Interchange – either the Diverging Diamond Interchange (DDI) or a Partial Four-Leaf Clover (Parclo).

ACTION: MOTION BY MAYOR PRO TEM MOLINA, SECONDED BY COUNCIL MEMBER CLARK, CARRIED 4-0-1-0(COUNCIL MEMBER SMITH WAS ABSENT) TO SELECT THE LOCALLY PREFERRED ALTERNATIVE INTERCHANGE GEOMETRIC DESIGN FOR THE CHERRY VALLEY INTERCHANGE AS THE DIVERGING DIAMOND INTERCHANGE (DDI).

STATE OF CALIFORNIA }
COUNTY OF RIVERSIDE } SS.
CITY OF CALIMESA }

I, **DARLENE GERDES**, City Clerk of the City of Calimesa, California, DO HEREBY CERTIFY, that the foregoing is a full and correct excerpt of the Minutes of a Regular meeting of the City Council held on the 8th day of September 2020

CITY OF CALIMESA
INCORPORATED
December 1, 1990
STATE OF CALIFORNIA

Darlene Gerdes

DARLENE GERDES, CITY CLERK

Dated this 9th day of September 2020.

Chapter 5 List of Preparers

The following persons were principally responsible for review and preparation of this IS/EA.

California Department of Transportation

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Diana DeGroot	Associate Environmental Planner
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Andrew Walters	Senior Environmental Planner, Cultural Studies
Steven Holm	Principal Investigator, Historical Archaeology (PQS)
Christopher Gonzalez	Transportation Engineer, Air Quality
Chun-Sheng-Wang	Associate Environmental Planner, Natural Sciences
Gabriella Machal	Environmental Planner, Natural Sciences
Donald Cheng	Associate Environmental Planner, Hazardous Waste
Olufemi Odufalu	Office Chief/Environmental Engineering
Rodrigo Panganiban	Transportation Engineer, Noise
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City of Calimesa

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Kholood Abdo	Principal Investigator, Applied Earthworks, Inc.
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Greg Berg	Principal Noise Control Specialist, Parsons
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Delia Votsch	Senior Transportation Engineer, Fehr & Peers

Hashmi Quazi	Principal Engineer, Converse Consultants
Laura Tanaka	Principal Environmental Scientist, Converse Consultants

Chapter 6 Distribution List

The Initial Study/Environmental Assessment (IS/EA) and/or a Notice of Availability was distributed to the following federal, state, regional, and local agencies, elected officials, interested groups, organizations and individuals, and utilities and service providers in the project area. In addition, all property owners and resident/occupants located within 500 feet of the proposed project were provided with a Notice of Availability.

Federal Agencies

United States Army Corps of Engineers
Attn: Intergovernmental Reviewer
915 Wilshire Blvd., Ste. 1101
Los Angeles, CA 90017

United States Fish and Wildlife Service
Attn: Intergovernmental Reviewer
Palm Springs Office
777 East Tahquitz Road
Palm Springs, CA 92262

U.S. Department of Agriculture
Natural Resources Conservation Service
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25864 Business Center Drive, Ste. K
Redlands, CA 92374-4515

United States Department of the Interior
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Washington, DC 20240

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Yorba Linda, CA 92686

KMJD Irrevocable Trust
8592 Los Coyotes Dr.
Buena Park, CA 90621

John Ohanian
Oak Valley Partners
P.O. Box 645
Calimesa CA, 92320

Sean Balingit, Museum/Society Director
San Gorgonio Pass Historical Society
P.O. Box 331
Beaumont, CA 92223

Calimesa Seventh-Day Adventist Church
391 Myrtlewood Dr
Calimesa, CA 92320

Stephanie DeHerrera
Glaser Weil
10250 Constellation Blvd #19,
Los Angeles, CA 90067

C/O William A Shopoff
TSG Cherry Valley
2 Park Plaza Suite 700
Irvine, CA 92614

C/O Chris Taylor
East Second Street
315 W 3rd St
Santa Ana, CA 92701

Majestic Cherry Valley Partners
13191 Crossroads Parkway N FL6
City of Industry CA, 91746

Joanne Ferguson
1628 Country Club Dr
Redlands CA 92373

Luther French
39610 Grand Ave
Cherry Valley, CA 92223

Stearns
P O Box 111
Calimesa, CA 92320

AVMGH Three Golden Palms Ltd Partnership
12139 Paramount Blvd.
Downey, CA 90242

Diocese of San Bernardino Land Dev Corp
1201 E Highland Ave
San Bernardino, CA 92404

Elisa Paster
Glaser Weil
10250 Constellation Blvd #19,
Los Angeles, CA 90067

Calimesa Cultural and Performing Arts Association
Attn: Brenda Hyatt, President
1300 3rd Street
Calimesa, CA 92320

Meritage Homes of California Inc.
8800 E Raintree Suite 300
Scottsdale, AZ 85260

C/O Scott Homan
City Ventures Homebuilding
3121 Michelson Dr Ste 150
Irvine, CA 92612

C/O Arnold N Applebaum
Mei Ling Prop
P O BOX 1510
La Mirada, CA 90637

Stearns Property
9840 N Fireridge Trail
Fountain Hills AZ
85268

William Wynn
632 S Hope Ave
Ontario, CA 91761

Oak Valley Partners
10410 Roberts Rd
Calimesa, CA 92320

Plantation CO
P O Box 1960
Newport Beach, CA 92660

James Watson
101 Main St. Suite A
Seal Beach, CA 90740

AVMGH Three Golden Palms LTD Partnership
12139 Paramount Blvd.
DOWNEY, CA 90242

Merlin Properties
P.O. Box 891
Long Beach, CA 90801

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Santa Ana, CA 92701

C/O Denise Siverson
D&A Semi Annual Mortgage Fund III
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San Diego, CA 92121

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Majestic Realty
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City of Industry, CA 91746

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Owner/Occupant
10320 Calimesa Blvd #1
Calimesa, CA 92320

Owner/Occupant
10320 Calimesa Blvd #2
Calimesa, CA 92320

Owner/Occupant
10320 Calimesa Blvd #3
Calimesa, CA 92320

Owner/Occupant
10320 Calimesa Blvd #38
Calimesa, CA 92320

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10320 Calimesa Blvd #4
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10320 Calimesa Blvd #51
Calimesa, CA 92320

Owner/Occupant
1004 Cherry Valley Blvd
Calimesa, CA 92320

Owner/Occupant
1020 Cherry Valley Blvd
Calimesa, CA 92320

Owner/Occupant
1032 Cherry Valley Blvd
Calimesa, CA 92320

Owner/Occupant
1048 Cherry Valley Blvd
Calimesa, CA 92320

Owner/Occupant
36240 Cherry Valley Blvd
Calimesa, CA 92320

Owner/Occupant
1044 Dahlia Ct
Calimesa, CA 92320

Owner/Occupant
1047 Poinsettia Cir
Calimesa, CA 92320

Owner/Occupant
1052 Poinsettia Cir
Calimesa, CA 92320

Owner/Occupant
1059 Poinsettia Cir
Calimesa, CA 92320

Owner/Occupant
10320 Calimesa Blvd #87
Calimesa, CA 92320

Owner/Occupant
10320 Calimesa Blvd #90
Calimesa, CA 92320

Owner/Occupant
10320 Calimesa Blvd #93
Calimesa, CA 92320

Owner/Occupant
10320 Calimesa Blvd #96
Calimesa, CA 92320

Owner/Occupant
9950 Calimesa Blvd
Calimesa, CA 92320

Owner/Occupant
1008 Cherry Valley Blvd
Calimesa, CA 92320

Owner/Occupant
1024 Cherry Valley Blvd
Calimesa, CA 92320

Owner/Occupant
1036 Cherry Valley Blvd
Calimesa, CA 92320

Owner/Occupant
3607 Cherry Valley Blvd
Calimesa, CA 92320

Owner/Occupant
36244 Cherry Valley Blvd
Calimesa, CA 92320

Owner/Occupant
1048 Dahlia Ct
Calimesa, CA 92320

Owner/Occupant
1048 Poinsettia Cir
Calimesa, CA 92320

Owner/Occupant
1055 Poinsettia Cir
Calimesa, CA 92320

Owner/Occupant
1060 Poinsettia Cir
Calimesa, CA 92320

Owner/Occupant
10320 Calimesa Blvd #88
Calimesa, CA 92320

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10320 Calimesa Blvd #91
Calimesa, CA 92320

Owner/Occupant
10320 Calimesa Blvd #94
Calimesa, CA 92320

Owner/Occupant
10320 Calimesa Blvd #97
Calimesa, CA 92320

Owner/Occupant
1000 Cherry Valley Blvd
Calimesa, CA 92320

Owner/Occupant
1016 Cherry Valley Blvd
Calimesa, CA 92320

Owner/Occupant
1028 Cherry Valley Blvd
Calimesa, CA 92320

Owner/Occupant
1044 Cherry Valley Blvd
Calimesa, CA 92320

Owner/Occupant
36233 Cherry Valley Blvd
Beaumont, CA 92223

Owner/Occupant
1043 Dahlia Ct
Calimesa, CA 92320

Owner/Occupant
1052 Dahlia Ct
Calimesa, CA 92320

Owner/Occupant
1051 Poinsettia Cir
Calimesa, CA 92320

Owner/Occupant
1056 Poinsettia Cir
Calimesa, CA 92320

Owner/Occupant
1064 Poinsettia Cir
Calimesa, CA 92320

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1068 Poinsettia Cir
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1072 Poinsettia Cir
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1076 Poinsettia Cir
Calimesa, CA 92320

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1079 Poinsettia Cir
Calimesa, CA 92320

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1080 Poinsettia Cir
Calimesa, CA 92320

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1083 Poinsettia Cir
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Owner/Occupant
1096 Poinsettia Cir
Calimesa, CA 92320

Owner/Occupant
1099 Poinsettia Cir
Calimesa, CA 92320

Owner/Occupant
1100 Poinsettia Cir
Calimesa, CA 92320

Owner/Occupant
1120 Raven Ct
Calimesa, CA 92320

Owner/Occupant
981 Roberts Rd
Calimesa, CA 92320

Owner/Occupant
1012 Roberts Rd
Calimesa, CA 92320

Owner/Occupant
1038 Roberts Rd
Calimesa, CA 92320

Owner/Occupant
1058 Roberts Rd
Calimesa, CA 92320

Owner/Occupant
1072 Roberts Rd
Calimesa, CA 92320

Owner/Occupant
1100 Roberts Rd
Calimesa, CA 92320

Owner/Occupant
1114 Roberts Rd
Calimesa, CA 92320

Owner/Occupant
1128 Roberts Rd
Calimesa, CA 92320

Owner/Occupant
1142 Roberts Rd
Calimesa, CA 92320

Owner/Occupant
1156 Roberts Rd
Calimesa, CA 92320

Appendix A Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination

Introduction

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code (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.”

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 because: 1) they are not publicly owned, 2) they are not open to the public, 3) they are not eligible historic properties, or 4) the project does not permanently use the property and does not hinder the preservation of the property. Refer to Figure A-1, Resources Evaluated Relative to the Requirements of Section 4(f).

Resources Evaluated Relative to the Requirements of Section 4(f)

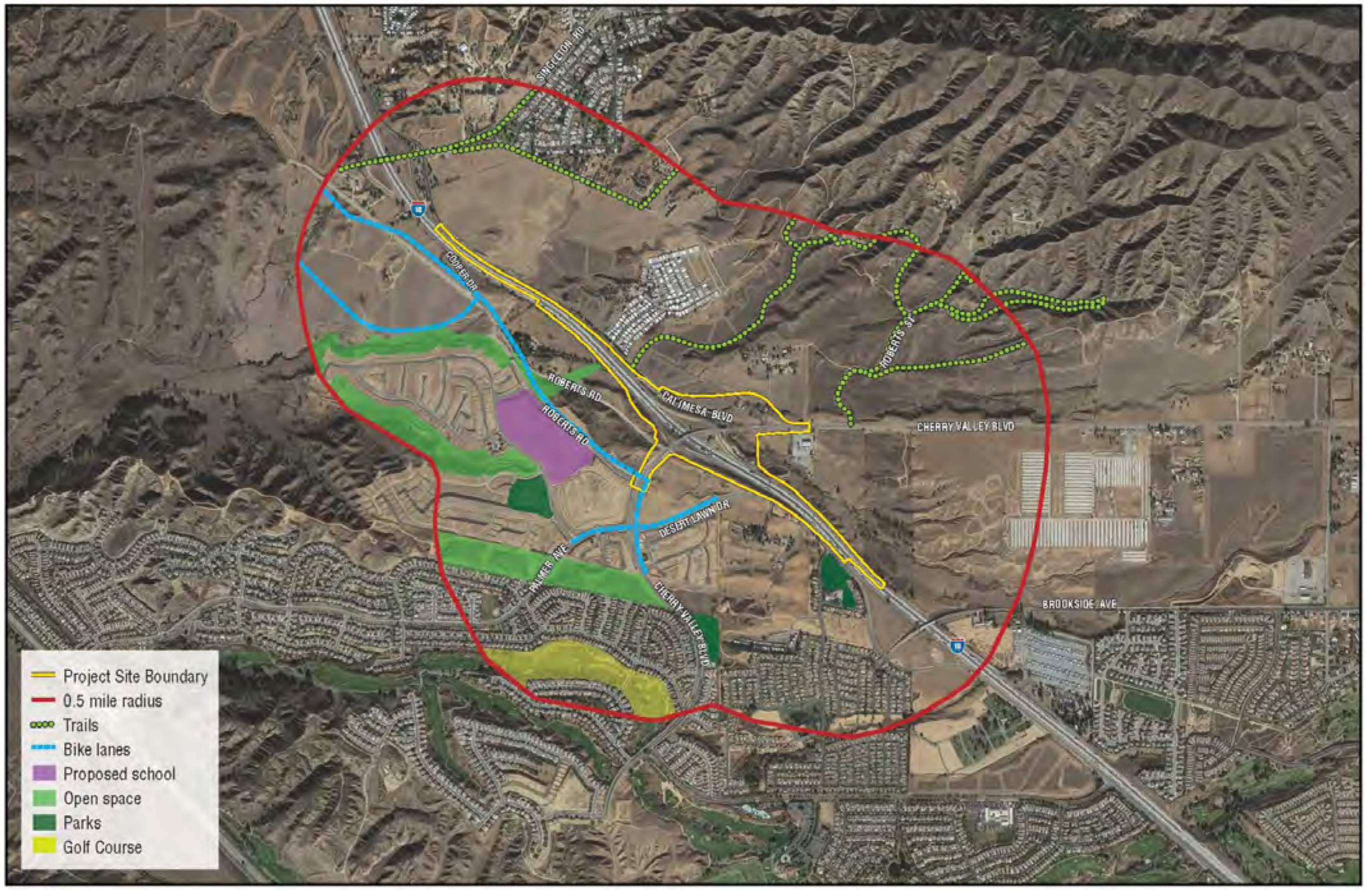
As noted above, Section 4(f) requires an analysis of potential project impacts to parks, recreational facilities, wildlife refuges, and historic properties that qualify as resources protected under Section 4(f).

There are no publicly owned wildlife and waterfowl refuges within 0.5-mile of the project site.

The study area for National Register listed and eligible resources was defined as the Area of Potential Effects (APE) delineated in the Historic Property Survey Report (HPSR) (May 2021); Historic Resources Evaluation Report (HRER) (May 2021); and Archaeological Survey Report (ASR) (May 2021). These documents determined there are no National Register listed or eligible cultural resources in the APE for the proposed project. Therefore, there are no National Register listed or eligible cultural resources that would trigger the requirements for protection under Section 4(f), and no further discussion of such resources required.

The following is a list of publicly-owned parks and recreation resources within 0.5-mile of the project site. These resources include a range of recreational paths/trails, parks, and a golf club that includes recreational facilities. The locations of those resources are shown on Figure A-1, Resources Evaluated Relative to the Requirements of Section 4(f).

Figure A-1: Resources Evaluated Relative to the Requirements of Section 4(f)



Source: Google Earth, January 2021

NOT TO SCALE

01/2021 JN 169171

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
INTERSTATE 10/CHERRY VALLEY BOULEVARD INTERCHANGE PROJECT

Resources Evaluated Relative to the Requirements of Section 4(f)

Figure A-1

Resources Not Subject to the Provisions of Section 4(f)

City of Calimesa Trails

Based on the City of Calimesa's CommunityView Geographical Information System (GIS) website (http://maps.digitalmapcentral.com/production/VECommunityView/cities/calimesa/index.aspx#), which provides an interactive map of the City's land use and zoning designations, location of trails and trailheads, among other things, multiple trails occur within 0.5-mile of the project site; refer to Figure A-1.

Trails located within 0.5-mile of the project site:

- Osborne Spine Trail
- Box Canyon Trail
- Posey's Road
- Beef Canyon
- Hobo's Loop
- Brown Ridge
- Roberts Street
- Existing trail within Southern California Edison (SCE) power utility easement
- Singleton/Bryant Connector
- PASEO Trails

According to email communication with City of Calimesa staff, of the 10 trails listed above, the following 8 trails are located on private property:[14]

- Osborne Spine Trail
- Box Canyon Trail
- Posey's Road
- Beef Canyon
- Hobo's Loop
- Brown Ridge
- Roberts Street
- Existing trail within SCE easement

As such, these eight trails are not Section 4(f) properties and the provisions of Section 4(f) do not apply.

[14] Email Correspondence, Lori Askew, City of Calimesa, August 7, 2019.

The Singleton/Bryant Connector and PASEO trails are discussed below under Section A.2.2, Resources Subject to the Provisions of Section 4(f) - No Use.

City of Calimesa Bicycle Routes

Bicycle facilities are planned along Roberts Road and Palmer Avenue within the southern portion of the project boundaries, prior to project implementation, refer to Figure A-1. However, based on email communication with City staff, the proposed bicycle facilities would be on-street, striped, Class II bike lanes. Because Class II bike lanes are on-street facilities that share the roadway with vehicles, they are considered transportation facilities opposed to Class I bicycle facilities, which are separate from vehicles and can be used as multi-use trail systems. These Class II facilities are not anticipated to have a primary function that supports recreation. Accordingly, the bicycle facilities are not Section 4(f) properties and the provisions of Section 4(f) do not apply.

Morongo Golf Club at Tukwet Canyon

The Morongo Golf Club at Tukwet Canyon is located approximately 0.3-mile south of the project site at 36211 Champions Drive, Beaumont. The facility offers two 18-hole courses (the Champions Course and Legends Course), a restaurant and bar called, “The Clubhouse,” and banquet facilities for private events. A parking lot is provided near the northeast portion of the golf club. Morongo Golf Club Tukwet Canyon is privately owned. Accordingly, the proposed recreational facility is not a Section 4(f) property and the provisions of Section 4(f) do not apply.

Plantation by the Lake

The Plantation by the Lake is a senior mobile home community located within a half mile of the eastern portion of the project site at 10961 Desert Lawn Drive. The facility includes the following amenities:

<u>Clubhouse</u>: The 5,000 square foot clubhouse provides residents with a community office, restaurant kitchen, pool tables and card room, swimming pool, spa, library with fireplace, and hobby room complete with ceramic kiln.

<u>Recreation Center</u>: The 8,500 square foot recreation center includes a restaurant kitchen, fireside lounge, swimming pool, spa, fitness room, and dining hall with 700-person seating capacity.

<u>Open Space</u>: The facility provides a lake, pond, and stream with walking paths, and picnic tables.

<u>Vineyard and Orchard</u>: The vineyard and orchard at the facility provide residents with seasonal fruit such as grapes, peaches, plums, nectarines, apricots, figs, persimmons, pears, oranges, lemons and pomegranates.

A photograph of the recreational facility is included within the City's Open Space, Parks, and Recreation Element of the General Plan as an example of open space resources within the City. However, based on email communication with City staff, the Plantation by the Lake recreational facilities are located on private property and are not open to the public.[15] Accordingly, the property is not a Section 4(f) property and the provisions of Section 4(f) do not apply.

Resources Subject to the Provisions of Section 4(f) - No Use

Singleton/Bryant Connector Trail

Based on the City of Calimesa's CommunityView GIS website, the Singleton/Bryant Connector trail is located approximately 0.3-mile northeast of the project site. Within the project area, the trail is generally a dirt/gravel shoulder, with the exception of sidewalk provided along the northern side of the I-10/Singleton interchange. The trail begins approximately 355 feet west of the eastbound I-10 on-ramp along Singleton Road and continues east until turning southeast along Beckwith Avenue or continuing northeast along Singleton Road; refer to Figure A-1. The trail is open to the public and is considered a Section 4(f) property subject to the provisions of Section 4(f).

The Build Alternative's facilities and construction activities would not encroach onto the trail facility. Thus, there would be no permanent incorporation or temporary occupancy of the trail as a result of the Build Alternatives.

In addition, the Build Alternatives would have minimal adverse constructive use effects (i.e., "proximity" impacts), that would substantially impair the activities, features, and/or attributes that qualify this facility for protection under Section 4(f). This conclusion is based on the following:

- <u>Access</u>: Singleton/Bryant Connector trail can be accessed via multiple roadways surrounding the facility (Woodhouse Road/Roberts Road, Singleton Road, I-10, Calimesa Boulevard, etc.). The Build Alternatives would not include any temporary or permanent improvements or activities that would have the capacity to alter or impede access to the trail facility with implementation of a Transportation Management Plan (TMP). Access to this facility would be maintained throughout the duration of construction, and the TMP would be implemented during the Plans, Specifications, and Estimates (PS&E) phase. The Caltrans TMP Guidelines identify the processes, roles, and responsibilities for preparing and implementing TMPs, as well as useful strategies for reducing congestion and managing work zone circulation and access. One of the primary objectives of the TMP is to maintain safe movement and access for vehicles, pedestrians, and bicyclists through the construction zone.

[15] Email Correspondence, Lori Askew, City of Calimesa, August 7, 2019.

- Visual/Aesthetics: The Build Alternatives would not include any features that would be tall enough to be visible from the trail, or that would substantively alter views from the trail given the existing rolling topography. Additionally, the houses and mature trees that surround portions of the trail do not allow views towards the I-10/Cherry Valley Boulevard interchange. Thus, the Build Alternatives would not result in adverse proximity effects to the Singleton/Bryant Connector trail.
- Water Quality: The Build Alternatives would not have the potential to adversely affect water quality at the trail facility. No storm water drainage or runoff from the project site would encroach or enter onto the trail, and adverse proximity impacts would not occur under the Build Alternatives.
- Air Quality: As noted in Section 2.2.6, Air Quality, of this IS/EA, the Build Alternatives would have minimal adverse effects on surrounding uses related to short-term construction or long-term operational pollutant emissions, upon adherence to Caltrans' Standard Specifications intended to reduce equipment emissions and fugitive dust. Thus, the Build Alternatives would not have adverse proximity effects related to air quality on the Singleton/Bryant Connector trail.
- Noise: As described in Section 2.2.7, Noise, of this IS/EA, the Build Alternatives would have minimal adverse effects on surrounding uses related to short-term construction or long-term operational noise, upon adherence to Caltrans' Standard Specifications and recommended abatement measures. Additionally, intervening structures, rolling terrain, and mature trees would serve as a buffer between trail users and the project site. Thus, the Build Alternatives would have minimal proximity effects related to noise on the Singleton/Bryant Connector trail.
- Biological Environment: Within the project area, the Singleton/Bryant Connector trail is primarily dirt/gravel with sidewalk along the I-10/Singleton interchange overcrossing. The trail appears to be maintained. Given the lack of natural habitat and level of human activity/disturbance on a daily basis, it is not anticipated that any sensitive natural communities or species exist. However, there would be no project construction within or immediately adjacent to the trail, and no disturbance of any vegetation associated with the trail would occur. In addition, as noted above, the Build Alternatives are not expected to result in adverse effects related to air quality or noise, that could otherwise result in proximity effects to biological resources at the facility.

The property is a Section 4(f) property, but no “use” will occur. Therefore, the provisions of Section 4(f) do not apply.

PASEO Trails

A portion of the Summerwind Ranch at Oak Valley Specific Plan Area 1 is located on-site, west of Roberts Road within the western portion of the project site. Recreational facilities shown within the Summerwind Ranch at Oak

Valley Specific Plan Area 1 on the Land Use Map include parks, trails, and community recreation uses, as well as open space, and schools. Based on email communication with the City on August 7, 2019, Phase I of the Summerwind Ranch at Oak Valley Specific Plan Area 1 is currently under construction and includes construction of the proposed PASEO trails.

PASEO trails are asphalt/concrete residential trail connectors. Based on the City of Calimesa's CommunityView GIS website, the PASEO trails are located within the western portion of the project site, approximately 0.15-mile west of the I-10 along Roberts Road, Cherry Valley Boulevard, and Palmer Avenue; refer to Figure A-1. The trails are open to the public and are considered Section 4(f) properties, subject to the provisions of Section 4(f).

The Build Alternative's facilities and construction activities would not encroach onto the trail facilities. Thus, there would be no permanent incorporation or temporary occupancy of the trails as a result of the Build Alternatives.

In addition, the Build Alternatives would have minimal adverse constructive use effects (i.e., "proximity" impacts), that would substantially impair the activities, features, and/or attributes that qualify these facilities for protection under Section 4(f). This conclusion is based on the following:

- Access: The PASEO trails can be accessed via multiple roadways surrounding the facility (Cherry Valley Boulevard, Palmer Avenue, Desert Lawn Drive, Roberts Road, etc.). The Build Alternatives would not include any temporary or permanent improvements or activities that would have the capacity to alter or impede access to the trail facility with implementation of a TMP. A TMP would be implemented that would maintain safe movement and access for vehicles, pedestrians, and bicyclists through the construction zone.
- Visual/Aesthetics: The Build Alternatives would not include any features that would be tall enough to be visible from the trail, or that would substantively alter views from the trail given the existing rolling topography. Additionally, the residential uses currently under construction that surround portions of the trail facilities will further impede views towards the I-10/Cherry Valley Boulevard interchange. Thus, the Build Alternatives would not result in adverse proximity effects to the PASEO trails.
- Water Quality: The Build Alternatives would not have the potential to adversely affect water quality at the trail facilities. No storm water drainage or runoff from the project site would encroach or enter onto the PASEO trails, and adverse proximity impacts would not occur under the Build Alternatives.
- Air Quality: As noted in Section 2.2.6, Air Quality, of this IS/EA, the Build Alternatives would have minimal adverse effects on surrounding uses related to short-term construction or long-term operational pollutant emissions, upon adherence to Caltrans' Standard Specifications intended to

reduce equipment emissions and fugitive dust. Thus, the Build Alternatives would have minimal proximity effects related to air quality on the PASEO trails.

- Noise: As described in Section 2.2.7, Noise, of this IS/EA, the Build Alternatives would have minimal adverse effects on surrounding uses related to short-term construction or long-term operational noise, upon adherence to Caltrans' Standard Specifications and recommended abatement measures. Additionally, intervening structures would serve as a buffer between trail users and the project site. Thus, the Build Alternatives would have minimal proximity effects related to noise on the PASEO trails.
- Biological Environment: The PASEO trails are asphalt/concrete residential trail connectors. Given the lack of natural habitat and level of human activity/disturbance on a daily basis, it is not anticipated that any sensitive natural communities or species exist. No disturbance of any vegetation associated with the trail would occur. In addition, as noted above, the Build Alternatives are not expected to result in adverse effects related to air quality or noise, that could otherwise result in proximity effects to biological resources at the PASEO trails.

The PASEO trails are Section 4(f) properties, but no "use" will occur. Therefore, the provisions of Section 4(f) do not apply.

Trevino Park

Trevino Park and associated parking lot are located approximately 0.25-mile southwest of the project site at 11286 Tukwet Canyon Parkway, Beaumont. Based on the City of Beaumont website (http://beaumontca.gov/facilities/facility/details/Trevino-Park-18), the Trevino Park amenities include a baseball diamond, playground equipment, two basketball courts, picnic benches, barbeques, and a grass field. Sidewalk occurs along the outer boundary and bisects the central portion of the park. The parking lot provides 38 parking spots and three Americans with Disabilities Act (ADA) parking spots. The facility is owned and operated by the City of Beaumont and is open to the public. Thus, it is considered a Section 4(f) property and is subject to the provisions Section 4(f).

The Build Alternative's facilities and construction activities would not encroach into Trevino Park. Thus, there would be no permanent incorporation or temporary occupancy of the park as a result of the Build Alternatives.

In addition, the Build Alternatives would have minimal adverse constructive use effects (i.e., "proximity" impacts), that would substantially impair the activities, features, and/or attributes that qualify this facility for protection under Section 4(f). This conclusion is based on the following:

- Access: Trevino Park and the associated parking lot can be accessed via multiple roadways surrounding the facility (Desert Lawn Drive, Palmer

Avenue, and Champions Drive all connect to Cherry Valley Boulevard). The Build Alternatives would not include any temporary or permanent improvements or activities that would have the capacity to alter or impede access to the park or affect parking associated with the facility with implementation of a TMP. A TMP would be implemented that would maintain safe movement and access for vehicles, pedestrians, and bicyclists through the construction zone.

- Visual/Aesthetics: The Build Alternatives would not include any features that would be tall enough to be visible from the park, or that would substantively alter views from the park given the rolling topography and intervening structures. Between the park and the project site, residential properties are currently being developed. Additionally, the current topography of the land does not afford views of the I-10/Cherry Valley Boulevard interchange. Thus, the Build Alternatives would not result in adverse proximity effects to Trevino Park.
- Water Quality: The Build Alternatives would not have the potential to adversely affect water quality at the park. No storm water drainage or runoff from the project site would encroach or enter Trevino Park, and adverse proximity impacts would not occur under the Build Alternatives.
- Air Quality: As noted in Section 2.2.6, Air Quality, of this IS/EA, the Build Alternatives would have minimal adverse effects on surrounding uses related to short-term construction or long-term operational pollutant emissions, upon adherence to Caltrans' Standard Specifications intended to reduce equipment emissions and fugitive dust. Thus, the Build Alternatives would have minimal proximity effects related to air quality on Trevino Park.
- Noise: As described in Section 2.2.7, Noise, of this IS/EA, the Build Alternatives would have minimal adverse effects on surrounding uses related to short-term construction or long-term operational noise, upon adherence to Caltrans' Standard Specifications and recommended abatement measures. Additionally, intervening structures and rolling topography would serve as a buffer between park users and the project site. Thus, the Build Alternatives would have minimal proximity effects related to noise on Trevino Park.
- Biological Environment: Trevino Park is routinely maintained, and on-site vegetation consists primarily of turf and ornamental landscaping. Given the lack of natural habitat and level of human activity/disturbance on a daily basis, it is not anticipated that any sensitive natural communities or species exist. However, there would be no project construction within or immediately adjacent to the park, and no disturbance of any vegetation associated with the park would occur. In addition, as noted above, the Build Alternatives are not expected to result in adverse effects related to air quality or noise, that could otherwise result in proximity effects to biological resources at the facility.

The property is a Section 4(f) property, but no “use” will occur. Therefore, the provisions of Section 4(f) do not apply.

Appendix B Title VI Policy Statement

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY Gavin Newsom, Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
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Making Conservation a California Way of Life.

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NON-DISCRIMINATION POLICY STATEMENT

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

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

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 324-8379 or visit the following web page: https://dot.ca.gov/programs/business-and-economic-opportunity/title-vi.

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

Toks Omishakin
Director

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

Appendix C Summary of Relocation Benefits and Right-of-Way Acquisition

California Department of Transportation Relocation Assistance Program

RELOCATION ASSISTANCE ADVISORY SERVICES

DECLARATION OF POLICY

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

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

FAIR HOUSING

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

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

RELOCATION ASSISTANCE ADVISORY SERVICES

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

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

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

RESIDENTIAL RELOCATION FINANCIAL BENEFITS

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

Moving Costs

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

Purchase Differential

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

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

Rent Differential

Tenants and certain owner-occupants (based on length of ownership) who have occupied the property to be acquired by the Department prior to the date of the initiation of negotiations may qualify to receive a rent differential payment. This payment is made when the Department determines that the cost to rent a comparable “decent, safe, and sanitary” replacement dwelling will be more than the present rent of the displacement dwelling. As an alternative, the tenant may qualify for a down payment benefit designed to assist in the purchase of a replacement property and the payment of certain costs incidental to the purchase, subject to certain limitations noted under the Down Payment section below. To receive any relocation benefits, the displaced person must buy or rent and occupy a “decent, safe and sanitary” replacement dwelling within one year from the date the Department takes legal possession of the property or from the date the displacee vacates the displacement property, whichever is later.

Down Payment

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

Last Resort Housing

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

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

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

NONRESIDENTIAL RELOCATION ASSISTANCE

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

Moving Expenses

Moving expenses may include the following actual, reasonable costs:

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

Reestablishment Expenses

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

Fixed In Lieu Payment

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

ADDITIONAL INFORMATION

Reimbursement for moving costs and replacement housing payments are not considered income for the purpose of the Internal Revenue Code of 1954 or for the purpose of determining the extent of eligibility of a displacee for assistance under the Social Security Act or any other law, except for any federal law providing local “Section 8” Housing Programs.

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

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

Table C-1: Potential Partial Temporary (TCE) ROW Acquisitions

APN	Address	Alternative 3 Impacts (Acres)	Alternative 4 Impacts (Acres)	Property Type/Current Land Use	Relocation	ROW Acquisition
413-270-004	--	0.16	0.14	Commercial/Vacant Land	No	N/A
413-270-014	3607 Cherry Valley Boulevard	2.38	2.84	Commercial/Multiple SFR Structures	No	N/A
413-270-015	36240 Cherry Valley Boulevard	0.50	0.11	Residential/Residential	No	N/A
407-230-018	--	0.19	0.08	Commercial/Vacant Land	No	N/A
407-230-004	--	--	--	Commercial/Vacant Land	No	N/A
407-230-017	36015 Cherry Valley Boulevard	0.13	--	Commercial/Vacant Land	No	N/A
407-230-016	--	0.06	--	Commercial/Vacant Land	No	N/A
413-780-020	--	--	--	Commercial/Shopping Center	No	N/A
413-780-018	--	0.05	--	Commercial/Shopping Center	No	N/A
413-290-044	--	0.17	0.02	Commercial/Vacant Land	No	N/A
413-270-021	--	--	--	Commercial/Vacant Land	No	N/A
413-270-019	--	--	--	Commercial/Vacant Land	No	N/A
413-270-020	--	--	--	Residential/Vacant Land	No	N/A
TOTAL	--	**3.64**	**3.19**	**--**	**--**	**--**

Source: Michael Baker International, Relocation Impact Memorandum, Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, July 2020.

Table C-2: Potential Permanent ROW Acquisitions and Relocations

APN	Address	Alternative 3 Impacts (Acres)	Alternative 4 Impacts (Acres)	Property Type/Current Land Use	Relocation	ROW Acquisition
413-270-004	--	0.63	1.02	Commercial/Vacant Land	No	Temporary
413-270-014	3607 Cherry Valley Boulevard	1.94	1.31	Commercial/Multiple SFR Structures	Yes (Under Alt. 4)	Temporary
413-270-015	36240 Cherry Valley Boulevard	0.81	<0.01	Residential/Residential	No	Temporary
407-230-018	--	0.02	--	Commercial/Vacant Land	No	Temporary
407-230-004	--	--	0.01	Commercial/Vacant Land	No	Temporary
407-230-017	36015 Cherry Valley Boulevard	--	2.77	Commercial/Vacant Land	No	Temporary
407-230-016	--	--	0.92	Commercial/Vacant Land	No	Temporary
413-780-020	--	0.44	0.26	Commercial/Shopping Center	No	Temporary
413-780-018	--	--	--	Commercial/Shopping Center	No	Temporary
413-290-044	--	0.02	--	Commercial/Vacant Land	No	Temporary
413-270-021	--	0.21	0.21	Commercial/Vacant Land	No	Full
TOTAL	--	**4.08**	**6.50**	--	--	--

Source: Michael Baker International, Relocation Impact Memorandum, Interstate 10/Cherry Valley Boulevard Interchange Improvement Project, July 2020

Appendix D List of Acronyms

AADT	Annual Average Daily Traffic
AB	Assembly Bill
AB52	Assembly Bill 52
ACM	Asbestos Containing-Materials
ADT	Average Daily Traffic
ADA	Americans with Disabilities Act
ADL	Aerially Deposited Lead
AGR	Agriculture Supply
AJD	Approved Jurisdictional Determination
amsl	Above Mean Sea Level
APCD	Air Pollution Control District
APE	Area of Potential Effects
APN	Assessor’s Parcel Number
ARB	Air Resources Board
AST	Above Storage Tank
ASTM	American Society for Testing and Materials
blvd	boulevard
bgs	below ground surface
BAU	Business as Usual
BCVD	Beaumont-Cherry Valley Water District
BMP	Best Management Practices
BP	Business Park
BSA	Biological Study Area
C-R	Regional Commercial

C-P-S	Scenic Highway Commercial
CA	California
CAFÉ	Corporate Average Fuel Economy
CalFire	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
Cal-IPC	California Invasive Plant Council
CAL/OSHA	California Division of Occupational Safety and Health
CAP	Climate Action Plan
CARB	California Air Resources Board
CCAA	California Clean Air Act
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERFA	Community Environmental Response Facilitation Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CHP	California Highway Patrol
CIA	Community Impact Assessment
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CNS	Commercial Neighborhood
CRCMP	County of Riverside Corridor Master Plan
CO	carbon monoxide
CO2	carbon dioxide

CO2eq	carbon dioxide equivalent
CPT	Cone Penetrometer Tests
CR	Commercial Retail
CTP	California Transportation Plan
CWA	Clean Water Act
CZMA	Coastal Zone Management Act of 1972
DI-WET	Deionized Water Waste Extraction Test
dBA	A weighted decibel scale
DDD	dichlorodiphenyldichloroethane
DDE	dichlorodiphenyldichloroethylene
DDT	dichlorodiphenyltrichloroethane
DHHS	Department of Health and Human Services
DLRP	Division of Land Resource Protection
DPP	Detention Pollution Prevention
DRIM	Draft Relocation Impact Memorandum
DSA	Disturbed Soil Area
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EA	Environmental Assessment
EB	eastbound
EDR	Environmental Data Resources
EIC	Eastern Information Center
EIR	Environmental Impact Report
EMFAC	Emission Factors
EO	Executive Order

EPA	Environmental Protection Agency
EQUUS	Excellence Quality Uniqueness Universality
ESAs	Environmentally Sensitive Areas
FCAA	Federal Clean Air 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
FIS	Flood Insurance Study
FMMP	Farmland Mapping and Monitoring Program
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Program
GHG	greenhouse gas
GPS	Global Positioning System
GWR	Ground Water Recharge
H2S	hydrogen sulfide
H&SC	Health and Safety Code
Ha	High A
Hb	High B
HBP	Highway Bridge Program
HCM	Highway Capacity Manual
HCS	Highway Capacity Software

HDM	Highway Design Manual
HFC	Hydrofluorocarbons
HPSR	Historic Property Survey Report
HRER	Historical Resource Evaluation Report
HSA	Hydrologic Sub-Area
HOV	High Occupancy Vehicle
I-P	Industrial Park
ICE	Intersection Control Evaluation
IPaC	Information for Planning and Conservation
IPCC	Intergovernmental Panel on Climate Change
IS/EA	Initial Study/Environmental Assessment
ISA	Initial Site Assessment
ITS	Intelligent Transportation Systems
IND	Industrial Service Supply
JD	Jurisdictional Delineation
LBP	Lead-Based Paint
LCFS	Low Carbon Fuel Standard
LEDPA	least environmentally damaging practicable alternative
LHS/SFER	Location Hydraulic Study and Summary Floodplain Encroachment Report
LI	Light Industrial
LOS	Level of Service
LRA	Locally Responsibility Area
MBTA	Migratory Bird Treaty Act
MGS	Midwest Guardrail Systems
MMTCO2e	Million Metric Tons of Carbon Dioxide Equivalent

MOE	Measures of Effectiveness
MOU	Memorandum of Understanding
mph	miles per hour
MPO	Metropolitan Planning Organization
MS4	Municipal Separate Storm Sewer Systems
MSAT	Mobile Source Air Toxics
MTCO2eq	metric tons per year of carbon dioxide equivalent
MUN	Municipal and Domestic Supply
MVP	Maintenance Vehicle Pullouts
N2O	Nitrous Oxide
N/A	Not Available
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NAHC	Native American Heritage Commission
NB	northbound
NCHRP	National Cooperative Highway Research Program Report
ND	Negative Declaration
NEPA	National Environmental Policy Act
NES-MI	Natural Environment Study (Minimal Impacts)
NFIP	National Flood Insurance Program
NHMLAC	Natural History Museum of Los Angeles County
NHS	National Highway System
NMFS	National Marine Fisheries Service
NO2	nitrogen dioxide
NOA	naturally occurring asbestos

NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NSR	Noise Study Report
NWI	National Wetland Inventory
O3	ozone
OC	Overcrossing
OHP	Office of Historic Preservation
OSHA	Occupational Safety and Health Act
OS-R	Open Space Recreation
P/QP	Public/Quasi-Public
PA	Programmatic Agreement
PA/ED	Project Approval/Environmental Document
Pb	lead
PBDB	Paleobiology Database
PCBs	polychlorinated biphenyls
PDR	Preliminary Drainage Report
PDT	Project Development Team
PGDR	Preliminary Geotechnical Design Report
PJD	Preliminary Jurisdictional Determination
PIR/PER	Paleontological Identification Report and Paleontological Evaluation Report
PLACs	permits, licenses, agreements, and certifications
PM	particulate matter
PM	Post Mile
PMP	Paleontological Mitigation Plan

PM2.5	particles of 2.5 micrometers or smaller
PM10	particles of 10 micrometers or smaller
POAQC	project of air quality concern
PRC	Public Resources Code
PROC	Industrial Process Supply
PS&E	Plans, Specifications and Estimates
PSR-PDS	Project Study Report-Project Development Support
QA	quality assurance
Qlo	Live Oak Canyon
Qof2	old alluvial-fan deposits
Qvof2	Pleistocene alluvial-fan deposits
Qvof3	Very Old Alluvial-Fan Deposits
Qvors	Pedogenic Soils
Qya5	Holocene axial-valley deposits
Qya	Young Axial-Valley Series
Qvywm	Very Young Wash Deposits
Qvyw	Very Young Wash
R-A-1	Residential Agricultural
R-L-M	Residential Low/ Medium
RAP	Relocation Assistance Program
RCB	Reinforced Concrete Box
RCEM	Roadway Construction Emissions Model
RCFC	Riverside County Flood Control
RCRA	Resource Conservation and Recovery Act
RCSD	Riverside County Sheriff’s Department

REC	Recognized Environmental Condition
RFG	reformulated gasoline
RivTAM	Riverside County Traffic Analysis Model
RL	Residential Low
RLM	Residential Low Medium
ROG	Reactive Organic Gas
ROW	right-of-way
RR	Residential Rural
RSA	Resource Study Areas
RSIRS	Rural and Single Interstate Routing System
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SARWQCB	Santa Ana Regional Water Quality Control Board
SB	Senate Bill
SCAB	Southern California Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCG	Southern California Gas Company
SCS	Sustainable Communities Strategy
SHPO	State Historic Preservation Officer
SI	Site Investigation
SIP	State Implementation Plan

SLR	Sea-Level Rise
SO2	sulfur dioxide
SMARTS	Stormwater Multi-Application Tracking System
SMP	Soil Management Plan
SoCal Gas	Southern California Gas Company
sp.	species
spp	subspecies
SQWQI	Scoping Questionnaire for Water Quality Issues
SSP	Standard Special Provisions
STAA	Surface Transportation Assistance Act
STIP	State Transportation Improvement Program
STRAHNET	Strategic Highway Corridor Network
STURA	Surface Transportation and Uniform Relocation Act of 1987
STLC	Soluble Threshold Limit Concentration
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TASAS	Traffic Accident Surveillance and Analysis System
TCE	Temporary Construction Easement
TCWG	Transportation Conformity Working Group
TDM	Transportation Demand Management
TIPS	Transportation Improvement Programs
TMDL	Total Maximum Daily Loads
TMP	Transportation Management Plan
TOAR	Traffic Operations Analysis Report
TPPS	Transportation Project Prioritization Study

TRB	Transportation Research Board
TSCA	Toxic Substances Control Act
TSM	Transportation System Management
TSN	Transportation Systems Network
Tstm	San Timoteo Formation
TUMF	Transportation Uniform Mitigation Funds
UCMP	University of California Museum of Paleontology
USACE	United States Army Corps of Engineers
USC	United States Code
UST	Underground Storage Tank
U.S.	United States
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
USGCRP	United States Global Change Research Program
USPS	United States Postal Service
UST	underground storage tank
v/c	volume-to-capacity
VLDR	Very Low Density Residential
VHD	Vehicle Hours Delay
VHT	Vehicle Hours Travelled
VMT	Vehicle Miles Traveled
WB	westbound

WCD	Water Conservation District
WDID	Waste Discharge Identification
WDR	Waste Discharge Requirement
WEAP	Worker's Environmental Awareness Program
WILD	Wildlife Habitat
WoUS	Waters of the United States
WPCP	Water Pollution Control Program
WQC	Water Quality Certification
WQF	Water Quality Flow
WRCOG	Western Riverside Council of Governments
WR-MSHCP	Western Riverside Multiple Species Habitat Conservation Plan

Appendix E Avoidance, Minimization and/or Mitigation Summary

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

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

Caltrans Standardized Project Measures

This project contains standardized project measures (Caltrans Standard Specifications, Special Provisions, and current federal and State regulations) that are used on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project. These measures are included as project features and addressed in more detail in the Environmental Consequences sections found in Chapter 2 when appropriate.

- A Transportation Management Plan (TMP) will be prepared during the final design phase to minimize traffic impacts during construction. The primary objective of the TMP is to maintain safe movement through the construction zone, as well as minimize traffic delays during the construction period. The TMP will include, but not be limited to, the following six major elements:
    1. Public information/public awareness campaign
    2. Traveler information strategies
    3. Incident management
    4. Construction strategies

5. Demand management
6. Alternate route strategies

- Comply with standard provisions dealing with the discovery of unanticipated cultural materials and human remains.
- Comply with Standard Specification 14-9.02 and other standard practices according to the California Air Resources Board (CARB) and South Coast Air Quality Management District (SCAQMD) requirements for air quality restrictions such as reducing idling time, proper maintenance of equipment, and fugitive dust control during the construction period.
- Comply with Standard Specifications for construction (Sections 14-11.04 [Dust Control]) and 14-9.02 [Air Pollution Control]) regarding the use of heavy construction equipment for all earthwork, clearing and grubbing, and roadbed activities emitting asphalt concrete emissions.
- Construction equipment fleets will be in compliance with Best Available Control Technology requirements.
- Comply with sound control provisions as included in Section 14-8.02, “Noise Control,” of Caltrans’ 2015 Standard Specifications and Special Provisions. The contractor shall not exceed 86 dBA at 50 feet from the job site from 9:00 PM to 6:00 AM. Internal combustion engines shall be equipped with the manufacturer-recommended muffler. Internal combustion engines shall not be operated on the job site without the appropriate muffler.
- Design pollution prevention BMPs as required under the Caltrans MS4 Permit for areas within State ROW that focus on reducing or eliminating runoff and controlling sources of pollutants.
- Comply with Caltrans SSP 14-11.14 regarding the proper disposal of treated wood waste.
- Comply with the following Caltrans’ Standard Special Provision’s regarding proper removal, handling, and disposal of the generated traffic striping waste at a permitted disposal facility:
  1. Section 14-11.12, Removal of Yellow Traffic Stripe and Pavement Marking with Hazardous Waste Residue,
  2. Section 36-4, Residue Containing Lead from Paint and Thermoplastic, and
  3. Section 84-9.03C, Remove Traffic Stripes and Pavement Markings Containing Lead.
- Follow Caltrans Standard Specifications Section 14-11.02, Discovery of Unanticipated Asbestos and Hazardous Substances, in the event

unknown wastes or suspect materials are discovered during site disturbance activities that may involve hazardous waste/materials.

1. During construction, solid waste would be disposed of as specified in Caltrans' Standard Specifications Section 14-10.01, General.

2. During construction, dust palliatives would be used as specified in the Caltrans Standard Specifications Section 18-1.03A, General.

- Follow Standard Specifications Sections 13-05 and 21 related to erosion control during construction. Measures include fiber rolls, silt fencing, soil binders, rock slope protection, revegetation with erosion control seed mix, and the use of 4:1 slopes or flatter.
- Comply with Caltrans Standard Specifications, Section 19, Earthwork regarding standardized measures related to compacted fill, over-excavation and recompacting, and retaining walls, and specifically:
- During construction, soil compaction would be accomplished in accordance with Caltrans Standard Specifications Section 19-5, Compaction.
- During construction, fill for the widening of the embankments would be benched into the existing slopes in accordance with Caltrans Standard Specifications Section 19-6, Embankment Construction.
- Construction shall be conducted in accordance with Division III, "Earthwork and Landscape" Section 21-1 through 21-3 of Caltrans Standard Specifications (2015), requiring erosion protection and drainage control.
- Comply with California Health and Safety Code Section 7050.5 which establishes provisions in the event human remains are discovered during ground disturbing activities performed during construction.
- Adherence to Chapter 33 of the California Fire Code, Fire Safety During Construction and Demolition, which includes safety provisions and precautions to minimize the potential for fires during construction.
- If buried cultural resources are encountered during project activities, it is Caltrans' policy that all work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find.
- In the event that human remains are found, the county coroner shall be notified and all construction activities within 60 feet of the discovery shall stop. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who will then notify the Most Likely Descendant (MLD). The person who discovered the remains will contact the District 8 Division of Environmental Planning; Andrew Walters, District Environmental Branch Chief: (909) 383-2647 and Gary Jones, District Native American Coordinator: (909) 383-7505. Further provisions of PRC 5097.98 are to be followed as applicable.

Environmental Commitments Record (ECR)

DIST-CO-RTE: 08-RIV-10 **PM/PM:** R2.1/R3.8 **EA/Project ID.:** 0G170/0800000190
Project Description: Construction of interchange improvements at Interstate 10 (I-10) and Cherry Valley Boulevard, located at Post Mile (PM) Revised (R) 3.5 between PM R2.1 and PM R3.8 on I-10 in the City of Calimesa, County of Riverside, California.
Date (Last modification): November 2021
Environmental Planner: Shawn Oriaz **Phone No.:** 909/388-7034
Construction Liaison: TBD **Phone No.:** TBD
Resident Engineer: TBD **Phone No.:** TBD

PERMITS

Permit	Agency	Application Submitted	Permit Received	Permit Expiration	Permit Requirement Completed by:	Permit Requirement Completed on:	Comments
Section 1602 Streambed Alteration Agreement	California Department of Fish and Wildlife	Enter date	Enter date	Enter date	Enter Name	Enter date	Enter comments
Approved Jurisdictional Determination (AJD), or Preliminary Jurisdictional Determination (PJD) with Section 404 Nationwide Permit	U.S. Army Corps of Engineers	Enter date	Enter date	Enter date	Enter Name	Enter date	Enter comments
401 Water Quality Certification or Waste Discharge Requirements	Santa Ana Regional Water Quality Control Board and State Water Resources Control Board	Enter date	Enter date	Enter date	Enter Name	Enter date	Enter comments
402 NPDES (National Pollutant Discharge Elimination System) (Construction Activity)/Caltrans NPDES Permit CAS000003 and CAS000002 (General Permit)	Santa Ana Regional Water Quality Control Board (SARWQCB) and State Water Resources Control Board	Enter date	Enter date	Enter date	Enter Name	Enter date	Enter comments
Encroachment Permit	Beaumont Cherry Valley Water District	Enter date	Enter date	Enter date	Enter Name	Enter date	Enter comments
Air Quality Conformity Determination	Federal Highway Administration	Enter date	Enter date	Enter date	Enter Name	Enter date	Enter comments
Freeway Maintenance Agreement	County of Riverside and California Department of Transportation	Enter date	Enter date	Enter date	Enter Name	Enter date	Enter comments

ENVIRONMENTAL COMMITMENTS

PA&ED

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
Community Impact Assessment	ROW-1: Right-of-way shall be acquired in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and property owners shall receive just compensation and fair market value for their property.	DED, Page 121	Yes	County of Riverside/City of Calimesa/Caltrans Right-of-way	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No

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Other	TT-1 A Traffic Management Plan (TMP) shall be prepared during Plans, Specifications, and Estimates (PS&E) phase of the project. The Caltrans Transportation Management Plan Guidelines (TMP Guidelines) identifies the processes, roles, and responsibilities for preparing and implementing TMPs, as well as useful strategies for reducing congestion and managing work zone traffic impacts. The primary objective of the TMP is to maintain safe movement for vehicles, pedestrians, and bicyclists through the construction zone, as well as minimize traffic delays during the construction period. The TMP prepared for the project shall implement alternate route strategies to minimize adverse effects to roadways and reduce potential congestion. The TMP shall include, but not be limited to, the following six major elements: • Public information/public awareness campaign • Traveler information strategies • Incident management • Construction strategies • Demand management • Alternate route strategies The TMP shall be submitted to Caltrans for review and approval.	DED, Page 220								
Visual Resources	VIS-1 During nighttime construction activities, the construction contractor shall minimize project-related light and glare to the maximum extent feasible by directing construction lighting away from land uses located off-site and shall contain and direct construction lighting toward the specific area of construction.	DED, Page 224	Yes	County of Riverside/City of Calimesa/Resident Engineer/ Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Visual Resources	VIS-2 To maintain consistency with the existing infrastructure (i.e., bridges, 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. Elements discussed corridor-wide, as well as those identified for Area A, of the I-10 Corridor Master Plan (I-10 Corridor Master Plan) shall be incorporated as applicable pertaining to structures, slope paving, landscape design, signage, and lighting.	DED, Page 224	Yes	County of Riverside/City of Calimesa/Caltrans Landscape Architecture/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Visual Resources	VIS-3 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	DED, Page 224	Yes	County of Riverside/City of Calimesa/Caltrans Landscape Architecture/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No

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	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. In addition, all proposed landscaping species shall be well suited for the local climate, humidity, soil types, and local wind.									
Visual Resources	VIS-4 Based on California Streets and Highways Code Section 92.3, Caltrans shall use drought resistant landscaping and recycled water when feasible, and incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate.	DED, Page 225	Yes	County of Riverside/City of Calimesa/Caltrans Landscape Architecture/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Paleontology	PAL-1 Prior to the start of construction, all field personnel shall be briefed during a Worker's Environmental Awareness Program (WEAP) regarding the types of fossils that could be found in the project area and the procedures to follow shall paleontological resources be encountered. This training shall be accomplished first at the preconstruction kick-off meeting by a Principal Paleontologist who meets the Caltrans qualifications standards or his/her qualified and supervised representative. The training shall be developed by the Principal Paleontologist and may be conducted concurrently with other environmental training (e.g., biological, cultural, and natural resources awareness training, safety training, etc.). Specifically, the training will provide brochure handouts with descriptions of the fossil resources that may be encountered in the project area, outline steps to follow in the event that a fossil discovery is made, and provide contact information for the Principal Paleontologist and on-site paleontological monitor(s). A project-specific sign-in sheet will be utilized to illustrate that all construction personnel have completed the WEAP training prior to the start of construction for CEQA compliance. Extra sign-in sheets and brochures would be left with the construction contractor for distribution and WEAP training of future construction personnel as they are added to the project. If possible, the original WEAP training should be recorded on video for future use as additional construction personnel are added to the project.	DED, Page 257	Yes	County of Riverside/City of Calimesa/Caltrans Paleontology/Project Paleontologist/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Paleontology	PAL-2 Prior to the commencement of ground-disturbing activities, a Principal Paleontologist who meets the Caltrans qualification standards shall be retained to prepare and implement a Paleontological Mitigation Plan (PMP) for the project. The project's PMP shall develop	DED, Page 258	Yes	County of Riverside/City of Calimesa/Caltrans Paleontology/Project Paleontologist/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Yes

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	mitigation measures based on the assigned sensitivity rankings as well as the proposed depths of ground disturbance throughout the project area, as surface and near-surface geologic units are well documented while geologic units at greater depths remain undocumented. Depending on the proposed project's excavation depths, the type of monitoring shall be one of the following: • For areas categorized as High Potential: Full-time monitoring shall be required for disturbance at all depths in selected areas with intact sediments. In subareas of High Potential, monitoring efforts shall be reduced or eliminated at the discretion of the Principal Paleontologist if no fossil resources are encountered after 50 percent of the excavations are completed. • For areas categorized as Low Potential: Spot-check monitoring is recommended for disturbance in particular areas at four feet or greater below group surface (bgs) in intact sediments. If High Potential geologic units are encountered at depth in those particular locations during spot-check monitoring, those subareas shall be elevated to High Potential and monitoring shall be upgraded to full-time. Monitoring shall not be required for excavations less than four feet bgs in subareas with Low Potential or within any subareas with artificial fill. Although monitoring is not typically required in subareas of Low Potential, spot-check monitoring shall be implemented at the discretion of the Principal Paleontologist to confirm the presence of subsurface High Potential geologic units. In particular, deeper excavations of approximately 12 to 25 feet bgs for items such as bridge abutments, bent footings, and overhead sign foundations shall be spot-checked, as these construction activities may impact High Potential geologic units at depth. All monitoring shall include the visual inspection of excavated or graded areas, trench sidewalls, spoils, and any other disturbed sediment. In the event that a paleontological resource is discovered, either the Principal Paleontologist or approved on-site paleontological monitor shall have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance and collected. Additionally, test samples of sediments from									

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	geologic units with High Potential shall be collected and screened on site to determine the presence of fossils in the small grain-size fractions. If significant small-fraction fossils are discovered during the test sampling, larger bulk samples of sediments may be collected for further processing in the laboratory. The recommended sampling shall follow best practice procedures in mitigation paleontology.									
Paleontology	PAL-3 If fossils are encountered during construction monitoring, significant fossils shall be collected and prepared in a properly equipped paleontology laboratory to a point ready for curation. Preparation shall include the careful removal of excess matrix from fossil materials and stabilizing and repairing specimens, as necessary. Following laboratory work, all fossil specimens shall be identified to the lowest taxonomic level, cataloged, analyzed, and prepared for curation. Assuming landowners concur and will sign a Deed of Gift Form, fossil specimens shall be submitted for permanent curation in a museum repository approved by Caltrans. The cost of curation is assessed by the repository and is the responsibility of the landowners. At the conclusion of laboratory work and curation, the paleontological contractor shall prepare a final report to describe the results of the paleontological monitoring. The report shall include an overview of the project area geology and paleontology, a description of the field and laboratory methods, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. If fossils will be donated for permanent curation, a copy of the report shall be submitted to the curation institution along with the fossil assemblage.	DED, Page 259	Yes	County of Riverside/City of Calimesa/Caltrans Paleontology/Project Paleontologist/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Hazardous Waste	HAZ-1 If the ACM bolt mastic or shims associated with the Cherry Valley Boulevard Overcrossing (Bridge No. 56-0481) are impacted by construction activities, the ACMs shall be abated by a Cal/OSHA licensed asbestos abatement contractor using methods in accordance with Title 8 of California Code of Regulations (CCR) 1529 for a Class II material using wet methods and SCAQMD Rule 1403.	DED, Page 273	Yes	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Hazardous Waste	HAZ-2 As some of the paint associated with the Cherry Valley Boulevard Overcrossing (Bridge No. 56-0481) contains minimal amounts of lead, workers that perform either manual demolition, manual scraping or sanding of painted surfaces shall undergo an exposure assessment	DED, Page 274, ISA	Yes	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No

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	including air monitoring of the breathing zone pursuant to Title 8 CCR 1532.1 (Lead).									
Hazardous Waste	HAZ-3 Any transformer to be relocated/removed during site construction/ demolition should be conducted under the purview of the local purveyor to identify property-handling procedures regarding PCBs.	DED, Page 274, ISA	Select a response	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Hazardous Waste	HAZ-4 A Soil Management Plan (SMP) shall be prepared by a qualified environmental professional with Phase II/Site Characterization experience during the plan, specification and estimates (PS&E) phase of the project for Assessor's Parcel Numbers 413-270-004, 413-270-014, 413-270-015, and 407-230-17. The SMP shall include guidelines for safety measures and soil management in the event that soils are to be disturbed, and for handling soil during any planned earthwork activities. The SMP shall also include a decision framework and specific risk management measures for managing soil, including any soil import/export activities, in a manner protective of human health and consistent with applicable regulatory requirements. As part of this SMP, all excavation activities shall be documented daily using digital photography. In addition, the sides and the bottom of the excavation areas of concern should be appropriately logged on scaled paper. Observed materials, including an estimate of the quantity observed, and PID and dust monitor readings shall be recorded on the Daily Field Record and/or the Direct Reading Log. Well abandonment should be conducted in accordance with state and local laws and regulations. The SMP shall include measures in the event that potential USTs are discovered during grading activities. The SMP should require Caltrans to contact the appropriate regulatory agency (i.e., the County of Riverside Department of Environmental Health Hazardous Materials Management Branch) for further guidance and oversight, if deemed necessary by the regulatory agency. If the results of the stockpile samples show no contamination, or detected concentrations of chemicals or ACMs or LBPs in soils, within acceptable regulatory limits, then the soil may be redistributed within the excavation in accordance with Caltrans SSPs 14-11.08 and 7-1.02K(6)(j) for nonhazardous soil. If soil is deemed contaminated, then it should be disposed of off-site at an approved landfill facility. Should any soils be imported or exported at an off-site location, a Phase II/Site Characterization Specialist should verify that all	DED, Page 274, ISA	Yes	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No

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	imported/exported soils are not contaminated with hazardous materials above regulatory thresholds. If import/export soils are determined to be contaminated above regulatory thresholds, the Phase II/Site Characterization Specialist would recommend proper handling, use, and/or disposal of these soils. The Soil Management Plan shall also document that excavation activities could disturb septic systems and leach fields that may be present. It is the opinion of Michael Baker that the location of septic tanks and leach fields should be confirmed prior to site disturbance activities. Should septic systems be present on-site, the septic system shall be properly closed/abandoned and/or removed per City of Calimesa requirements.									
Hazardous Waste	HAZ-5 A Phase II Site Investigation Specialist shall conduct ACMs and LBPs surveys, prior to site clearing activities, for all on-site structures proposed for demolition or modification, or any on-site debris piles suspect of containing demolition debris materials that could contain ACMs or LBPs in accordance with Caltrans SSPs 14-11.08 and 7-1.02K(6)(j), respectively. If present, the Specialist shall recommend appropriate remedial measures, such as the proper removal and disposal, of the ACMs/LBPs as they are uncovered.	DED, Page 275, ISA	Yes	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Hazardous Waste	HAZ-6 Soluble lead concentrations (Soluble Threshold Limit Concentration [STLC]/CAWET), defined by U.S. EPA as lead concentrations greater than 5 milligrams/liter (mg/L), were detected in three samples along I-10. However, extractable lead concentrations (Deionized Water Waste Extraction Test [DI-WET]) were detected below 1.5 mg/L. As a result, soils in the area of these samples may be reused on-site if buried under a pavement structure or under at least one foot of clean soil. If excavated and removed, ADL contaminated soil shall be hauled to a Class I landfill and categorized as hazardous waste (i.e. Type Z2). DTSC shall be notified of the STLC/CA-WET soluble lead concentration exceedances. As some of the soil contains minimal amounts of lead, workers that perform either manual excavation shall undergo an exposure assessment including air monitoring of the breathing zone pursuant to Title 8 CCR 1532.1 (Lead).	DED, Page 275, ISA	Yes	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Hazardous Waste	HAZ-7 Additional Site Investigation (SI)/sampling shall be conducted by a qualified environmental professional with Phase II/Site Characterization experience during the plan, specification and estimate (PS&E) phase of the project to verify the presence or absence of the identified	DED, Page 276, ISA	Yes	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No

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	RECs presented in the Phase I ISA prepared for the project.									
Hazardous Waste	HAZ-8 If unknown wastes or suspect materials are discovered during construction by the contractor that are believed to involve hazardous waste or materials, the contractor shall comply with the following: • Immediately cease work in the vicinity of the suspected contaminant, and remove workers and the public from the area; • Notify the City Engineer of the City of Calimesa; • Secure the area as directed by the City Engineer; and • Notify the County of Riverside Department of Environmental Health (or other appropriate agency specified by the City Engineer). The Hazardous Waste/Materials coordinator shall advise the responsible part of further actions that shall be taken, if required.	DED, Page 276, ISA	Yes	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Biology	NC-1: Prior to the commencement of construction, a qualified biologist shall prepare and present a Workers Environmental Awareness Program (WEAP) training in Spanish and English to all contractors, subcontractors, and workers expected to be on-site throughout the entire construction period. The WEAP shall include a brief review of any special-status vegetation communities and special-status species, including habitat requirements and where they might be found, and other sensitive biological resources that could occur in and adjacent to the project. The WEAP shall address the biological mitigation measures listed in the project’s approved Mitigation Monitoring and Reporting Program, as well as applicable conditions and provisions of any associated environmental permits (e.g., Section 404 permit, Section 401 Certification, Section 1602 SAA), including but not limited to pre-construction biological surveys, pre-construction installation of perimeter sediment and erosion control best management practices per the RWQCB-approved Storm Water Pollution Prevention Plan, and any recurrent nesting bird surveys (as needed).	DED, Page 394	Yes	County of Riverside/City of Calimesa/Project Biologist/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Biology	NC-2: All construction equipment shall be inspected and cleaned prior to use in the project area to minimize the importation of non-native plant material. A weed abatement program shall be implemented should invasive plant species colonize the area within the limits of disturbance post-construction.	DED, Page 394	Yes	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No

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Biology	NC-3: An application for an oak tree removal/encroachment permit shall be obtained prior to the initiation of project activities. A permit shall be issued by the Community Development Director for the removal, encroachment, or relocation of a protected oak tree(s) only if the director has made the following findings: • A reasonable and conforming use of the property justifies the removal of trees. • No other permit for removal of an oak tree on the same property has been issued within the prior one-year period. • The retention or relocation of the tree prevents reasonable use of the property on which it is located and, if required, the applicant has applied for any related discretionary or ministerial permits for the proposed use of property or that the tree has been determined to be damaged or diseased by a licensed arborist, as documented in a report to be reviewed and approved by the Community Development Department. • Replacement trees or acorns shall be planted to replace each tree that is removed, if feasible, based upon site characteristics, or other appropriate mitigation shall be provided. [Ord. 342 § 3 (Exh. A), 2016].	DED, Page 395	Yes	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Biology	WET-1: The following regulatory approvals shall be obtained prior to commencement of any construction activities within the identified jurisdictional areas: 1) A determination from USACE via an Approved Jurisdictional Determination (AJD) or a Preliminary Jurisdictional Determination (PJD); 2) RWQCB CWA Section 401 Water Quality Certification (WQC) or a Waste Discharge Requirements (WDR); and 3) CDFW Section 1602 Streambed Alteration Agreement (SAA). As part of the regulatory approval process, permanent and temporary impacts on jurisdictional waters shall be mitigated at a minimum ratio of 1:1 at an approved mitigation bank, applicant-sponsored mitigation area, or on site, in consultation with the resource agencies.	DED, Page 401	Yes	C County of Riverside/City of Calimesa/Project Regulatory Specialist	Enter action	Enter date	Enter Name	Enter date	Enter remarks	Yes
Biology	WET-2: The limits of construction shall be clearly delineated by a survey crew prior to the commencement of project activities. The limits of construction shall be defined with silt fencing or orange construction fencing and checked by a qualified biologist before initiation of construction.	DED, Page 402	Yes	County of Riverside/City of Calimesa/Project Biologist/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Biology	AS-1: Prior to the commencement of project activities, a bat survey shall be conducted by a qualified bat specialist to identify the presence of bats or potential bat	DED, Page 422	Yes	County of Riverside/City of Calimesa/Project Biologist/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No

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	roosting cavities. The bat survey shall be conducted no more than three days prior to initiating project activities. Target areas include the trees along the proposed grading limits, where bats may roost, and in the surrounding open habitats where they may forage. Bats may utilize cavities within the trees, spaces behind loose bark or dense foliage, or cracks or splits in the trees for roosting, and these areas should be examined closely for roosting activity during the day. Bat roosting opportunities inside cracks in the Cherry Valley Boulevard overcrossing over Interstate 10 (I-10) are limited due to the continual disturbance from traffic above and below; however, this area shall be examined for roosting activity during the day. Surveys in any open fields should begin at dusk. Equipment will include an AnaBat Detector or other bat detecting unit for ease. Any bats found to be roosting during the pre-construction survey shall be safely evicted using exclusionary measures under the direction of the qualified bat specialist and California Department of Fish and Wildlife (CDFW).									
Biology	AS-2: To avoid direct mortality, a qualified biological monitor shall be on-site during ground and habitat disturbance activities associated with implementation of the proposed project to move out of harm's way any San Diegan tiger whiptails that would be injured or killed by grubbing or other project-related grading activities.	DED, Page 423	Yes	County of Riverside/City of Calimesa/ Biological Monitor/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Biology	AS-3: If project-related activities are to be initiated during the nesting season (February 1 through September 30), a pre-construction nesting bird clearance survey shall be conducted by a qualified biologist no more than three days prior to the start of any vegetation removal or ground disturbing activities. The qualified biologist shall survey all suitable nesting habitat within the project footprint, and areas within a biologically defensible buffer zone (e.g., 500 feet) surrounding the project footprint. Documentation of surveys and findings shall be submitted to the City for review and file. If no active nests are detected during the clearance survey, project activities may begin, and no additional measures would be required. If an active nest is found, the bird species shall be identified and a "no-disturbance" buffer shall be established around the active nest. The size of the "no-disturbance" buffer shall be increased or decreased based on the judgement of the qualified biologist and level of activity and sensitivity of the species. The qualified biologist shall periodically monitor any active nests to	DED, Page 423	Yes	County of Riverside/City of Calimesa/Project Biologist/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No

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	determine if project-related activities occurring outside the "no-disturbance" buffer disturb the birds and if the buffer should be increased. Once the young have fledged and left the nest, or the nest otherwise becomes inactive under natural conditions, project activities within the "no-disturbance" buffer may occur.									
Biology	AS-4: Prior to initiating any ground disturbance or vegetation removal activities, a qualified biologist shall conduct one pre-construction clearance survey no more than 30 days prior to initiating ground disturbance activities to confirm that burrowing owl (BUOW) remain absent and impacts do not occur to any occupied burrows that may be located on or within the Biological Study Area (BSA). Documentation of the survey and findings shall be provided to the City for review prior to initiating project activities. If no BUOW or occupied burrows are detected, project-related activities may begin. If BUOW are observed, active burrows shall be avoided in accordance with the Burrowing Owl Survey Instructions for the Western Riverside County Multiple Species Habitat Conservation Plan Area (RCA, 2006). The Regional Conservation Authority (RCA) and California Department of Fish and Wildlife (CDFW)shall be immediately notified of any BUOW observations. A BUOW avoidance and minimization plan would need to be prepared and submitted to the RCA and the CDFW for approval prior to initiating project activities. The plan shall detail specific avoidance measures that shall be implemented during construction, including any passive or active relocation methodology, and monitoring requirements.	DED, Page 423	Yes	County of Riverside/City of Calimesa/Project Biologist/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Air Quality	CC-1 The project will incorporate facilities to promote mobility for pedestrians and bicyclists, including sidewalks, crosswalks, and bicycle buffers.	DED, Page 525	Yes	County of Riverside/City of Calimesa/Resident Engineer	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Air Quality	CC-2 A Transportation Management Plan (TMP) will be prepared during the final design phase to minimize traffic delays and idling during construction.	DED, Page 525	Yes	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Air Quality	CC-6 The project will incorporate the use of energy-efficient lighting, such as LED traffic signals, to help reduce the project's CO2 emissions.	DED, Page 526	Yes	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Air Quality	CC-8 The project will incorporate complete streets components, specifically pedestrian sidewalks and turn-lane bicycle buffers along Cherry Valley Boulevard.	DED, Page 526	Yes	County of Riverside/City of Calimesa/Resident Engineer	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Air Quality	CC-9 The project will implement landscaping as determined during final design in coordination with the City of Calimesa and the Caltrans District Landscape Architect. This landscaping will include energy- and	DED, Page 526	Yes	County of Riverside/City of Calimesa/Caltrans Landscape Architecture/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No

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	water-efficient irrigation systems and native plants as appropriate, to conserve energy and help offset any potential CO2 emissions increase.									
Air Quality	CC-14 The project will recycle construction debris as practicable.	DED, Page 527	Yes	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Air Quality	CC-15 Tree removals required for project implementation will be subject to tree removal permit(s) associated requirements for replacement consistent with the City of Calimesa Zoning Code, Chapters 18.70 and 18.80.	DED, Page 527	Yes	County of Riverside/City of Calimesa/Resident Engineer/Project Biologist	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Air Quality	CC-16 Idling is limited to five minutes for delivery and dump trucks and other diesel-powered equipment (with some exceptions).	DED, Page 527	Yes	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Air Quality	GHG-1 According to the Caltrans' Standard Specifications, the contractor must comply with all local Air Pollution Control District's (APCD) rules, ordinances, and regulations for air quality restrictions. This includes CARB's anti-idling rule (Section 2489 of the California Code of Regulations) and South Coast Air Quality Management District's (SCAQMD) Rule 2449 (In-Use Mobile Source Emission Reduction Programs).	DED, Page 525	Yes	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Air Quality	GHG-2 According to the Caltrans Standard Specifications, idling time for lane closure during construction will be limited to 10 minutes in each direction. In addition, the contractor will comply with all SCAQMD rules, ordinances, and regulations regarding air quality restrictions.	DED, Page 526	Yes	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Air Quality	GHG-3 The project will maintain equipment in proper tune and working condition. Construction equipment fleets will be in compliance with Best Available Control Technology requirements.	DED, Page 526	Yes	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Air Quality	GHG-4 Bids will be solicited that include use of energy and fuel-efficient fleets in accordance with current practices.	DED, Page 526	Yes	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Air Quality	GHG-5 The project will use cement blended with the maximum feasible amount of fly ash or other materials that reduce GHG emissions from cement production.	DED, Page 5263	Yes	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Air Quality	GHG-6 The project will incorporate design measures to reduce GHG emissions from solid waste management through solid waste reduction, recycling, and reuse.	DED, Page 526	Yes	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No
Air Quality	GHG-7 The project will utilize energy- and fuel-efficient vehicles and equipment that meet and exceed U.S. EPA/NHTSA/CARB standards relating to fuel efficiency and emission reduction.	DED, Page 526	Yes	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No

Category	**Task and Brief Description**	**Source**	**Included in PS&E package**	**Responsible Branch/Staff**	**Action to Comply**	**Due Date**	**Task Completed by**	**Task Completed on**	**Remarks**	**Mitigation for significant impacts under CEQA?**
Air Quality	GHG-8 The project will use the minimum feasible amount of GHG-emitting construction materials.	DED, Page 527	Yes	County of Riverside/City of Calimesa/Resident Engineer/Contractor	Enter action	Enter date	Enter Name	Enter date	Enter remarks	No

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Appendix F List of Technical Studies

The technical studies listed below were used as supporting documentation in the preparation of this Initial Study/Environmental Assessment. All listed technical studies were prepared specifically for the proposed I-10/Cherry Valley Boulevard Interchange Improvement Project.

Abbreviated Visual Impact Assessment, Interstate 10/Cherry Valley Boulevard Interchange Project (July 2021)

Aerially Deposited Lead Report, Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (November 18, 2020)

Air Quality Report, Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (December 2020)

Combined Paleontological Identification Report and Paleontological Evaluation Report, Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (December 2020)

Community Impact Assessment Memorandum, Interstate 10/Cherry Valley Boulevard Interchange Improvement (January 2021)

Delineation of State and Federal Jurisdictional Waters, Interstate 10/Cherry Valley Boulevard Interchange Improvement, (November 2020)

Energy Analysis Report, Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (January 2021)

Historic Property Survey Report, Interstate 10/Cherry Valley Boulevard Interchange Improvement (May 2021)

Location Hydraulic Study, Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (October 2019)

Natural Environment Study (Minimal Impacts), Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (December 2020)

Noise Abatement Decision Report, Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (August 2021)

Noise Study Report, Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (April 2021)

Phase I Initial Site Assessment, Interstate 10/Cherry Valley Boulevard Interchange Improvement Project (December 2020)

Appendix G Farmland Conversion Impact Rating Form

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request
Name of Project I-10/Cherry Valley Boulevard Interchange	Federal Agency Involved FHWA
Proposed Land Use Transportation Use	County and State Riverside, California
PART II *(To be completed by NRCS)*	Date Request Received By NRCS: December 16, 2020 / Person Completing Form: Peter Fahnestock

Does the site contain Prime, Unique, Statewide or Local Important Farmland? *(If no, the FPPA does not apply - do not complete additional parts of this form)*	YES ✓ NO ☐	Acres Irrigated: 126,217	Average Farm Size: 99
Major Crop(s): Vegetable, Melons, Misc., Livestock and Poultry and Tree/Vine	Farmable Land In Govt. Jurisdiction — Acres: 937,530 %: 19.9		Amount of Farmland As Defined in FPPA — Acres: 713,559 %: 15.1
Name of Land Evaluation System Used	Name of State or Local Site Assessment System: Storie		Date Land Evaluation Returned by NRCS: December 22, 2020

PART III *(To be completed by Federal Agency)*	Alternative Site Rating: Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	11.02	9.22		
B. Total Acres To Be Converted Indirectly	0.22	0.22		
C. Total Acres In Site	65.5	67.0		

PART IV *(To be completed by NRCS)* Land Evaluation Information	Site A	Site B	Site C	Site D
A. Total Acres Prime And Unique Farmland	8.0	8.4		
B. Total Acres Statewide Important or Local Important Farmland	1.2	0.6		
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.001	0.001		
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	7.22	7.22		
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)	86	87		

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)*	Maximum Points	Site A	Site B	Site C	Site D
1. Area In Non-urban Use	(15)	12	12		
2. Perimeter In Non-urban Use	(10)	6	6		
3. Percent Of Site Being Farmed	(20)	0	0		
4. Protection Provided By State and Local Government	(20)	20	20		
5. Distance From Urban Built-up Area	(15)	0	0		
6. Distance To Urban Support Services	(15)	0	0		
7. Size Of Present Farm Unit Compared To Average	(10)	0	0		
8. Creation Of Non-farmable Farmland	(10)	0	0		
9. Availability Of Farm Support Services	(5)	5	5		
10. On-Farm Investments	(20)	2	2		
11. Effects Of Conversion On Farm Support Services	(10)	0	0		
12. Compatibility With Existing Agricultural Use	(10)	3	3		
TOTAL SITE ASSESSMENT POINTS	160	48	48	0	0
PART VII ***(To be completed by Federal Agency)***					
Relative Value Of Farmland *(From Part V)*	100	86	87	0	0
Total Site Assessment *(From Part VI above or local site assessment)*	160	48	48	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	134	135	0	0

Site Selected: N/A	Date Of Selection N/A	Was A Local Site Assessment Used? YES ✓ NO ☐

Reason For Selection:

N/A

Name of Federal agency representative completing this form: Date:

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