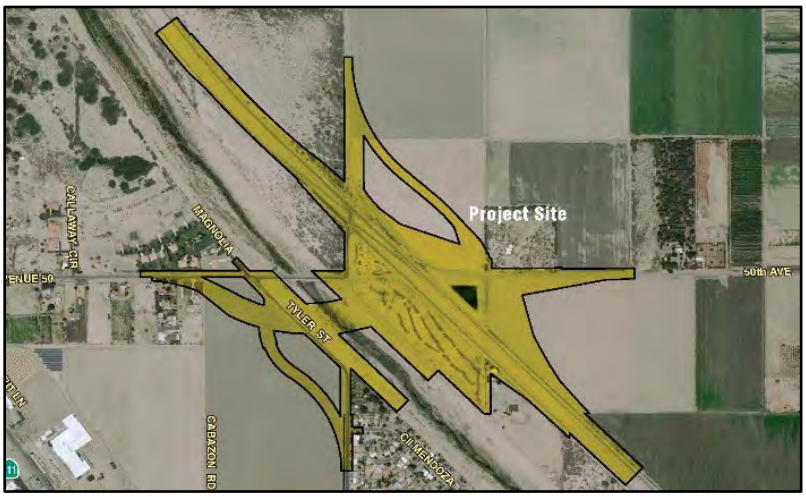
State Route 86/Avenue 50 New Interchange Project

CITY OF COACHELLA, RIVERSIDE COUNTY, CALIFORNIA
DISTRICT 8 – RIV – 86 (PM R19.2/R21.6)
EA 08-0C9700 PN 0814000144

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



Prepared by the
State of California, Department of Transportation

and the City of Coachella

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

November 2018

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General Information About This Document

What's in this document:

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), had 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 Coachella, 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 should you do:

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

  City of Coachella
  City Hall
  1515 Sixth Street
  Coachella, CA 92236

  Coachella Library
  1500 Sixth Street
  Coachella, CA 92236

- This document may be downloaded at the following website: http://www.coachella.org/residents/avenue-50/
- Attend the public hearing on December 20, 2018 from 6:00 PM to 8:00 PM at the Coachella Library, located at 1500 Sixth Street, Coachella, CA 92236.
- We'd 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
  Caltrans District 8
  464 West 4th Street, 6th Floor, MS-827
  San Bernardino, CA 92401-1400

- Send comments via email to: sr86-ave50interchange@dot.ca.gov
- Send comments by the deadline: January 7, 2019

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.

Alternative formats:

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Jonathan Hoy, City Engineer, City of Coachella, Engineering Department, 1515 Sixth Street, Coachella, CA 92236; (760) 398-5744 (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2922 (Voice) or 711.

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SCH #_____

08-RIV-86 PM R19.2/R21.6
08-0C9700
PN 0814000144

Construction of a new interchange at State Route 86 and Avenue 50 from Post Mile (PM) R19.2 to R21.6 and realign and widen Avenue 50, realign Tyler Street, and construct a new bridge spanning over the Coachella Valley Stormwater Channel (CVSC) that will replace the existing one-lane in each direction a portion of Avenue 50 that crosses the CVSC in the City of Coachella, Riverside County, California

INITIAL STUDY WITH (PROPOSED) MITIGATED NEGATIVE DECLARATION/ ENVIRONMENTAL ASSESSMENT

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

THE STATE OF CALIFORNIA
Department of Transportation
and
The City of Coachella

11/28/18
Date of Approval

David Bricker
Deputy District Director
District 8 Division of Environmental Planning
California Department of Transportation
CEQA and NEPA Lead Agency

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Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The City of Coachella (City), in cooperation with the California Department of Transportation (Caltrans), proposes the construction of a new interchange at State Route 86 (SR-86) (PM R19.2/R21.6) and Avenue 50, approximately 1.1 miles north of the existing Avenue 52 intersection and 1.95 miles south of the existing Dillon Road interchange. The proposed project would convert a portion of SR-86 from an at-grade signalized intersection into a grade-separated full interchange with a new overcrossing bridge and access ramps. A new Avenue 50 overcrossing would be constructed with associated on- and off-ramps and signalized intersections. The project would also construct a new Avenue 50 bridge structure over the Whitewater River/Coachella Valley Stormwater Channel (CVSC). This new bridge structure over the CVSC would replace the existing at-grade paved low water crossing and would include the following associated improvements: realignment and widening of a portion of Avenue 50, realignment of portions of Tyler Street on both the west and east sides of SR-86, respectively, and, the existing 1-lane in each direction road that is located within the limits of the CVSC would become a CVSC maintenance road. The purpose of the proposed project is to improve mobility to and from eastern parts of the City of Coachella by providing direct and dependable access over the CVSC, improve operational efficiency by replacing the existing SR-86/Avenue 50 intersection with a new interchange, improve expressway access for the City and the Coachella Valley Region, implement improvements consistent with the City's circulation plan, and improve traffic operations and accommodate planned growth by enhancing levels of service at local street intersections and adjacent interchanges. The existing SR-86/Avenue 50 interchange cannot accommodate anticipated planned growth for the area and does not provide adequate mobility, operational efficiency, and dependable access through the project area or connections for the future CV Link project.

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 SR-86/Avenue 50 New Interchange project would have no effect on the following resources: Mineral Resources, Land Use and Planning, and Tribal Cultural Resources.

In addition, the proposed SR-86/Avenue 50 New Interchange project would have less than significant effects to: Aesthetics, Agriculture and Forest Resources, Air Quality, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Population and Housing, Public Services, Recreation, Transportation/Traffic, and Utilities and Service Systems.

With mitigation measures incorporated, the project would have less than significant effects to Biological and Paleontological Resources:

WET-1 Permanent and temporary impacts to jurisdictional waters will be mitigated at a minimum 1:1 ratio at an approved mitigation bank, applicant-sponsored mitigation area, or on-site. The project will include a restoration plan that will

provide requirements for site selection, implementation, monitoring, long-term maintenance, and performance standards, in consultation with the resource agencies.

PAL-2 A Paleontological Mitigation Plan (PMP) that follows Caltrans guidelines and the recommendations of the Society of Vertebrate Paleontology (SVP) will be prepared. The PMP is anticipated to include, but not be limited to, the following mitigation measures:

a) A Paleontological Mitigation Plan (PMP) will be prepared and implemented for the project. The PMP will be conducted by a qualified professional paleontologist prior to the commencement of ground-disturbing activities.

b) If a paleontological resource is discovered, the paleontological monitor and the Resident Engineer may divert the construction equipment around the find temporarily.

c) The paleontological find will be assessed for scientific significance and collected.

PAL-3b At the conclusion of laboratory work and museum curation, a final Paleontological Mitigation Report shall be prepared describing the results of the paleontological mitigation monitoring efforts associated with the project. The report will include a summary of the field and laboratory methods, an overview of the project area geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. If the monitoring efforts produced fossils, then a copy of the report shall also be submitted to the Western Science Center in the City of Hemet, Riverside County, California.

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

Date of Approval

DRAFT

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Chapter 1 Proposed Project

NEPA Assignment

California participated in the "Surface Transportation Project Delivery Pilot Program" (Pilot Program) pursuant to 23 United States Code (USC) 327, for more than 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

The California Department of Transportation (Caltrans) is the lead agency pursuant to the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA). The City of Coachella (City), in cooperation with Caltrans, proposes to realign and widen a portion of Avenue 50, realign a portion of Tyler Street, and construct a new bridge spanning the Coachella Valley Storm Water Channel (CVSC) to replace the existing Avenue 50 at-grade crossing of the CVSC, and to construct a new interchange at State Route 86 (SR-86) and Avenue 50, replacing the existing SR-86/Avenue 50 signalized intersection. The existing SR-86/Avenue 50 intersection is located approximately 1.1 miles north of the existing Avenue 52 intersection and 1.95 miles south of the existing Dillon Road interchange; refer to Figure 1-1, Regional Vicinity and Figure 1-2, Site Vicinity. SR-86 is a north-south State highway facility serving Imperial and Riverside Counties. It begins at State Route 111 (SR-111) near the U.S./Mexico International Border in Imperial County, and extends approximately 91 miles northward (roughly parallel to SR-111) along the western shore of the Salton Sea, terminating at an interchange with Interstate 10 (I-10) in the City of Indio. SR-86 is a principal route used for distribution of agricultural products as well as local circulation for many of the surrounding areas.

The portion of SR-86 within the project limits was constructed in July 1993, and runs parallel and easterly to the old SR-86. The facility is a four-lane divided expressway that covers approximately 20.0 miles between Avenue 82 and I-10. SR-86 and Avenue 50 is currently an at-grade signalized intersection with a dedicated left-turn lane and right-turn lane in the northbound and southbound directions along SR-86.

SR-86 consists of two 12-foot-wide, mixed-flow lanes in each direction with 5-foot-wide inside and 10-foot-wide outside shoulders. The median width is 92 feet wide, which includes inside shoulders and unpaved area. The existing right-of-way (ROW) width is 224 feet with access control on either side.

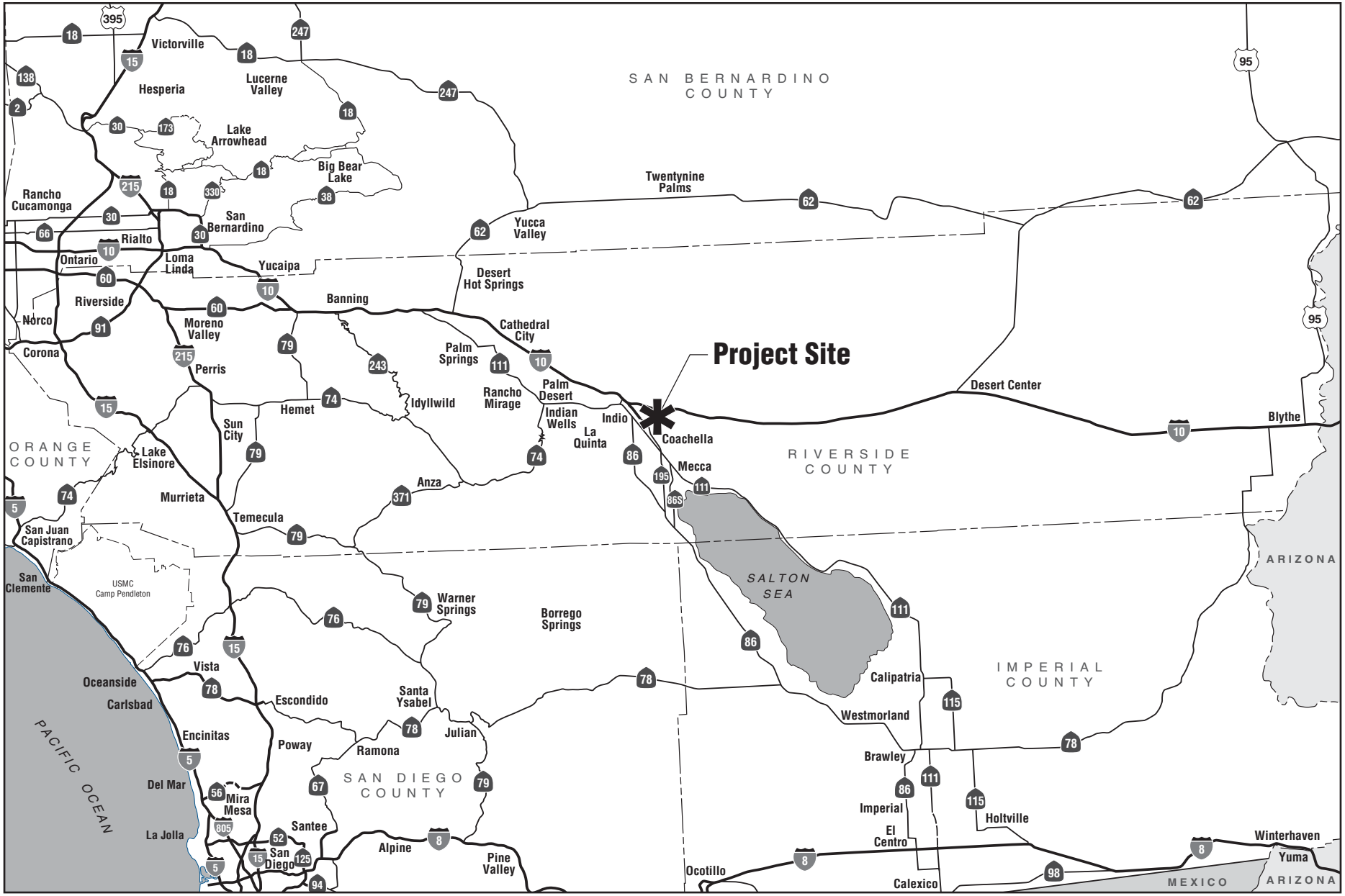
Avenue 50 is a major east/west thoroughfare that begins at the Eisenhower Drive intersection in the City of La Quinta, which then travels easterly through Indio and currently ends at the All American Canal in Coachella; however, in conjunction with the La Entrada development, Avenue 50 will be extended to Interstate 10. Work in this regard is expected to begin within the next 12 months. Avenue 50 is defined in the General Plan Mobility Element as a "Major Arterial with Bicycle Facility." Currently, Avenue 50 is a paved two-lane roadway, one-lane in each direction, through the project limits. Built in 1970, the existing Avenue 50 low water crossing begins immediately east of the Tyler Street intersection, which is stop-sign controlled. The crossing (over the Coachella Valley Stormwater Channel [CVSC]) is approximately 700 feet long and consists of two 72-inch diameter corrugated steel pipe culverts beneath the roadbed to convey ordinary low flow waters (approximately 600 cubic feet per second) from north to south. The capacity of these culverts is often exceeded, resulting in roadway flooding during heavy storm events. On the east side of the CVSC, Avenue 50 curves to the north and forms a four-leg signalized intersection with SR-86. Within the project limits, the existing Avenue 50 travel lanes are 12 feet wide with unpaved outside shoulders.

Tyler Street is defined in the General Plan Mobility Element as a "collector street with bicycle facility" road type, and is a two-lane north/south roadway that is segmented (or not continuous) within the project limits. The southern segment of Tyler Street terminates at Avenue 50, west of SR-86. The northern segment of Tyler Street begins at Avenue 50, east of SR-86. Currently, Avenue 50 and Tyler Street within the project limits do not include any signage or striping for bicyclists. Within the project limits, a sidewalk exists along the east side of Tyler Street, adjacent to existing residences and Sierra Vista Park. An aerial view of the project site and surroundings is provided on Figure 1-3, Project Site.

The entire length of SR-86 is included in the State Interregional Road System, the National Highway System and the California Freeway and Expressway System. According to the Transportation Concept Report (TCR), dated June 2017, the SR-86 corridor is also designated as a High Emphasis Route, a Focus Route, and a Goods Movement Route. The National Network for Surface Transportation Assistance Act (STAA) identifies SR-86 as a "National Network" route for STAA trucks. The segment within the project limits is currently designated as urbanized and is functionally classified as a Rural Principal Arterial.

The SR-86 TCR shows that four lanes (which includes both directions) are required on SR-86 from Airport Boulevard to Dillon Road to attain a Level of Service (LOS) "D" 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.

It is planned for this project to be constructed in two separate phases. The first phase will focus on construction of the bridge over CVSC and will include realignments of Avenue 50 and Tyler Street on the west side of SR-86. The second phase will focus on construction of the new SR-86/Avenue 50 interchange and will also include realignment of Tyler Street on the east side of SR-86. Proposed funding for the project is anticipated to be from a combination of City, CVAG, and Federal Highway Bridge Program (HBP) and Demonstration ("DEMO") funds. The project is included in the Southern California Association of Governments (SCAG)'s 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) [Project ID RIV061159/ RIV110825], as well as the 2017 Federal Transportation Improvement Program (FTIP) [Project ID RIV061159/RIV110825]. The project entry in the 2017 FTIP identifies the following scope of work for RIV 110825: "In the City of Coachella, Avenue 50 over Coachella Stormwater Channel: Replacement of a 2-lane low water crossing (Bridge No. 00L0055) with a 6-lane (3 lanes in each direction) bridge from 300-ft west of Apache Trail to SR-86 south intersection. The project entry in the 2017 FTIP identifies the following scope of work for RIV



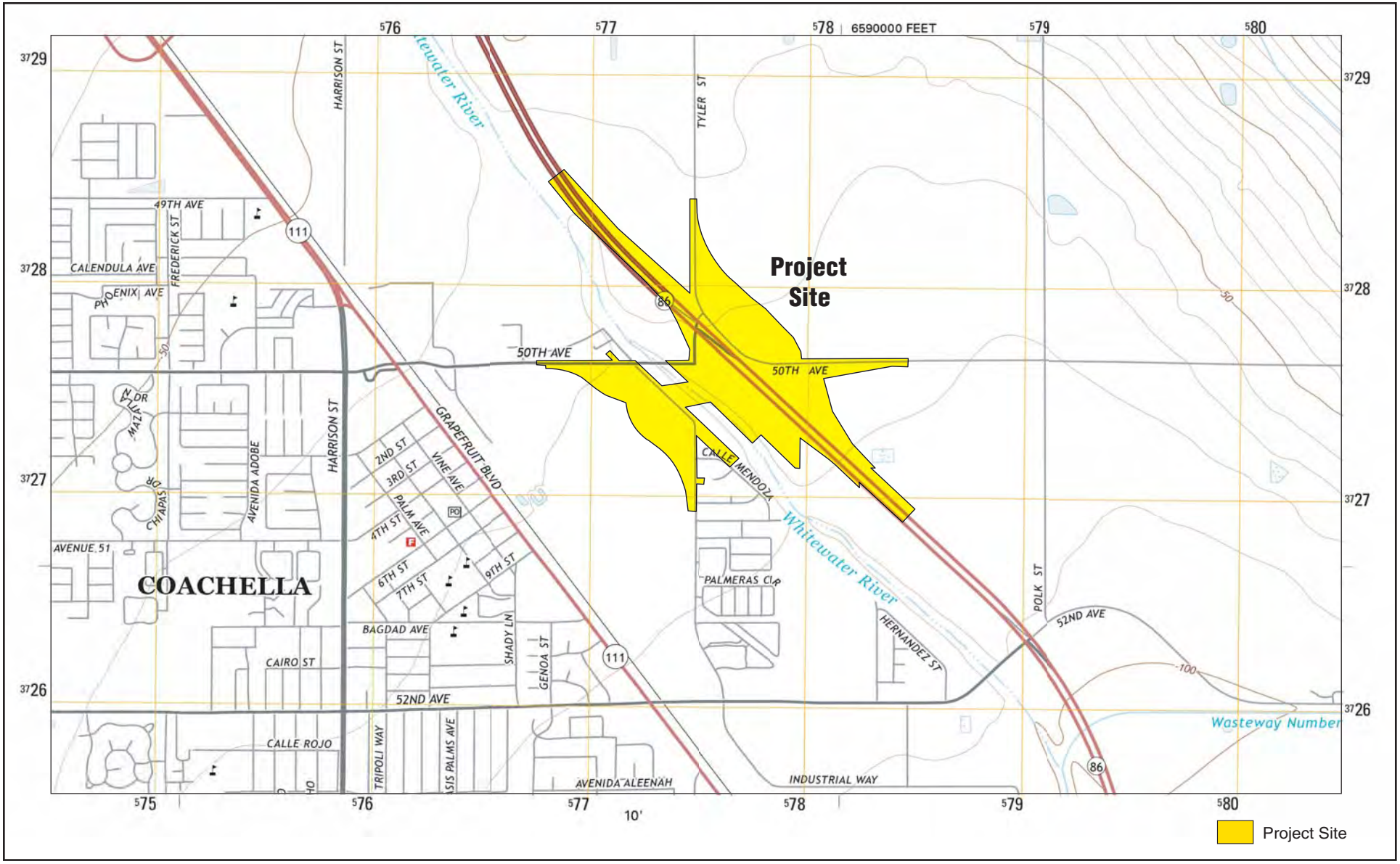
NOT TO SCALE

11/18 | JN 159814

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Regional Vicinity

Figure 1-1



NOT TO SCALE

11/18 | JN 159814

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Site Vicinity

Figure 1-2



NOT TO SCALE

11/18 | JN 159814

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Project Site

Figure 1-3

061159: At SR-86/Avenue 50: Widen and construct new 6-through lane interchange from east of Coachella Stormwater Channel Bridge to east of Tyler Street. Improvements include: extended ramp acceleration/deceleration lanes, relocate/realign Avenue 50 and Tyler Street, bike lanes, sidewalks, and reconstruct traffic signals (SAFETEA LU 1702, CA583, #2543) (EA: 0C970)." The project will also be included in the SCAG 2019 FTIP.

Other improvements include bike lanes/trails, sidewalks, reconstruct traffic signal/driveways, channel scour protection, and removal of low water crossing and culverts. The project is also included in CVAG's 2017 Transportation Project Prioritization Study (TPPS); the project was ranked #20.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the project is to:

- Improve mobility to and from eastern parts of the City of Coachella by providing direct and dependable access over the CVSC.
- Improve operational efficiency by replacing the existing SR-86/Avenue 50 intersection with a new interchange.
- Improve expressway access for the City and the Coachella Valley Region.
- Implement improvements consistent with the City's circulation plan.
- Improve traffic operations and accommodate planned growth by enhancing levels of service at local street intersections and adjacent interchanges.

1.2.2 Need

During severe winter and summer storms, the existing Avenue 50 low water crossing is frequently inundated and damaged due to debris flows within the CVSC. The flooding and the resulting road closure have a direct impact on the public's health and safety. In addition, the frequent flood damage results in substantial cost to the City for road repairs; and increases the response time of emergency vehicles.

Avenue 50 within the project limits is anticipated to operate at an unsatisfactory LOS as a result of planned development and associated traffic projections. The City's Land Use Plan Element of the General Plan identifies ongoing and planned development in the eastern part of Coachella that is expected to increase the local population and local/regional traffic demands.

1.2.3 Forecast Traffic Volumes

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 Memorandum of Traffic Methodology and Volumes for State Route 86/Avenue 50 New Interchange Project (see Appendix C of the Traffic Operations Report [Traffic Report] for the project, dated November 2017). The study area consists of study intersections along Avenue 50 (between Harrison Street and SR-86), the SR-86 mainline segment between Dillon Road and Avenue 52, and SR-86 ramp intersections at

Dillon Road and Avenue 52; refer to Figure 2.1.6-1, 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

1. Avenue 50/Harrison Street
2. Avenue 50/Leoco Lane
3. Avenue 50/Peter Rabbit Lane
4. Avenue 50/Tyler Street
5. Avenue 50/Southbound SR-86 Ramps
6. Avenue 50/Northbound SR-86 Ramps
7. Dillon Road/Southbound SR-86 Ramps
8. Dillon Road/Northbound SR-86 Ramps
9. Avenue 52/Southbound SR-86 Ramps
10. Avenue 52/Northbound SR-86 Ramps/Tyler Street
11. Tyler Street/Calle Mendoza

SR-86 Mainline Segments

1. Northbound and Southbound SR-86: between Dillon Road and Avenue 50
2. Northbound and Southbound SR-86: between Avenue 50 and Avenue 52

SR-86 Ramp Junctions

1. Northbound SR-86 Off-ramp to Avenue 50 (future)
2. Northbound SR-86 On-ramp from Avenue 50 (future)
3. Southbound SR-86 Off-ramp to Avenue 50 (future)
4. Southbound SR-86 On-ramp from Avenue 50 (future)

Study Roadway Segments

1. Avenue 50 Bridge: between Tyler Street and SR-86
2. Avenue 50: between Leoco Lane and Peter Rabbit Lane
3. Avenue 50: west of Harrison Street

Intersection Operations

Analysis Methodology

The Highway Capacity Manual (HCM) 2010 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 level of service (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

Level of Service	Description	Signalized Intersections (Average Stopped Delay per Vehicle [seconds per vehicle])	Unsignalized Intersections (Average Control Delay [seconds per vehicle])
A	Very low delay occurs due to little or no conflicting traffic.	<10.0	<10.0
B	Low delay occurs although conflicting traffic becomes noticeable.	>10.0 to 20.0	>10.0 to 15.0
C	Average delays result from increased conflicting traffic.	>20.0 to 35.0	>15.0 to 25.0
D	Longer delays occur due to a reduction in available gaps. At signals, individual cycle failures are noticeable.	>35.0 to 55.0	>25.0 to 35.0
E	High delays and extensive queues occur. This value indicates volume-to-capacity ratios. This is considered to be the limit of acceptable delay.	>55.0 to 80.0	>35.0 to 50.0
F	Delays are unacceptable to most drivers due to oversaturation.	>80.0	>50.0

Source: Transportation Research Board, *Highway Capacity Manual*, 2010.

Intersection Analysis

Table 1-2, Intersection LOS Summary Results – No-Build, summarizes the LOS for study area intersections without the project for existing (2015) and forecast 2021/2025 and 2045. All the roadway segments currently operate at acceptable LOS D or better conditions, with the exception of the intersection of Avenue 50/Tyler Street and the intersection of Avenue 50 at the northbound and southbound ramp intersections (operating at an unacceptable LOS F). By 2021/2025 and 2045, the intersection of Avenue 50/Tyler Street and the intersection of Avenue 50 at the northbound and southbound ramp intersections continue to deteriorate.

Table 1-2: Intersection LOS Summary Results – No-Build

Intersection	Control	Existing (2015)				2021 (2025)				2045			
		AM		PM		AM		PM		AM		PM	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Avenue 50/ Leoco Lane	Signal	7.1	A	8.3	A	8.8 (--)	A (--)	10.7 (--)	B (--)	14.0	B	30.9	C
Avenue 50/ Peter Rabbit Lane	Signal	6.4	A	8.4	A	7.6 (--)	A (--)	9.5 (--)	A (--)	8.9	A	8.7	A
Avenue 50/ Tyler Street	Side-street Stop	**127.1**	**F**	**176.1**	**F**	**621.4** (--)	**F** (--)	**653.4** (--)	**F** (--)	**1,817.2**	**F**	**877.2**	**F**
Avenue 50/ Southbound SR-86 Ramps	Signal	36.8	D	32.0	C	**79.8 (162.2)**	**E (F)**	**80.6 (182.2)**	**F (F)**	**450.8**	**F**	**431.7**	**F**
Avenue 50/ Northbound SR-86 Ramps													
Dillon Road/ Southbound SR-86 Ramps	Signal	9.9	A	10.5	B	-- (12.1)	-- (B)	-- (26.8)	-- (C)	12.4	B	32.1	C
Dillon Road/ Northbound SR-86 Ramps	Signal	19.9	B	12.3	B	-- (16.8)	-- (B)	-- (13.1)	-- (B)	31.2	C	18.2	B
Avenue 52/ Southbound SR-86 Ramps	Signal	16.3	B	19.3	B	-- (12.6)	-- (B)	-- (9.7)	-- (A)	11.3	B	10.3	B
Avenue 52/ Northbound SR-86 Ramps						-- (13.5)	-- (B)	-- (13.2)	-- (B)	10.1	B	9.0	A
Tyler Street/ Calle Mendoza	Side-street Stop	12.9	B	12.9	B	15.3 (--)	C (--)	14.9 (--)	B (--)	20.4	C	18.8	C

Source: Fehr & Peers, *SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report*, November 2017.

As shown in Table 1-3, Intersection LOS Summary Results – Build Alternatives Opening Year, all study area expressway locations along SR-86 would operate at acceptable LOS C or better under both Build Alternatives. As shown in Table 1-3, the two ramp terminal intersections at SR-86 and Avenue 50 would improve from LOS F without the project to an acceptable LOS C or better during both AM and PM peak hours under both Build Alternatives. All other study area intersections would operate at acceptable LOS B conditions under both of the Build Alternatives.

As mentioned above, the first phase of the project (Phase 1) includes the Avenue 50 bridge, which is anticipated to complete construction and be open to traffic by year 2021. The second phase of the project (Phase 2) includes the new interchange at SR-86/Avenue 50, which is anticipated to complete construction and be open to traffic by year 2025. The indication of year 2021 in Table 1-3 refers to Phase 1 improvements, and the indication of year 2025 in parentheses refers to Phase 2 improvements. It should be noted that 2045 is the design horizon year in conjunction with both phases being fully constructed.

Table 1-3: Intersection LOS Summary Results – Build Alternatives Opening Year

Intersection	Control	Build Alternative 7 – 2021 (2025)*				Build Alternative 8 – 2021 (2025)*			
		AM		PM		AM		PM	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Avenue 50/ Leoco Lane	Signal	8.8 (--)	A (--)	10.4 (--)	B (--)	8.8 (--)	A (--)	10.4 (--)	A (--)
Avenue 50/ Peter Rabbit Lane	Signal	9.1 (--)	A (--)	12.0 (--)	B (--)	9.1 (--)	A (--)	12.0 (--)	B (--)
Avenue 50/ Tyler Street	Side-street Stop	28.2 (--)	C (--)	23.0 (--)	C (--)	28.2 (--)	C (--)	23.0 (--)	C (--)
Avenue 50/ Southbound SR-86 Ramps	Signal	**95.5** (16.1)	**F** (B)	**96.8** (22.8)	**F** (C)	**95.5** **(15.5)**	**F** **(B)**	**96.8** **(19.9)**	**F** **(B)**
Avenue 50/ Northbound SR-86 Ramps	Signal	**95.5** (11.9)	**F** (B)	**86.8** (16.0)	**F** (B)	**95.5** (11.9)	**F** (B)	**96.8** (16.2)	**F** (B)
Dillon Road/ Southbound SR-86 Ramps	Signal	-- (11.9)	-- (B)	-- (19.6)	-- (B)	-- (11.9)	-- (B)	-- (19.6)	-- (B)
Dillon Road/ Northbound SR-86 Ramps	Signal	-- (15.9)	-- (B)	-- (17.0)	-- (B)	-- (15.9)	-- (B)	-- (17.0)	-- (B)
Avenue 52/ Southbound SR-86 Ramps	Signal	-- (13.6)	-- (B)	-- (13.2)	-- (B)	-- (13.6)	-- (B)	-- (13.2)	-- (B)
Avenue 52/ Northbound SR-86 Ramps	Signal	-- (13.9)	-- (B)	-- (12.8)	-- (B)	-- (13.9)	-- (B)	-- (12.8)	-- (B)
Tyler Street/ Calle Mendoza	Side-street Stop	16.2 (--)	C (--)	16.0 (--)	C (--)	16.2 (--)	C (--)	16.0 (--)	C (--)

Source: Fehr & Peers, *SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report*, November 2017.
* Year 2021 data is applicable to Phase 1 of the project and year 2025 data in parentheses is applicable to Phase 2 of the project.

As shown in Table 1-4, Intersection LOS Summary Results – Build Alternatives Buildout Year, both the Avenue 50/Tyler Street and SR-86/Avenue 50 intersections would improve from LOS F without the project to an acceptable LOS C or better during both AM and PM peak hours under both Build Alternatives. However, the intersection of Avenue 50 and Harrison Street would operate at an unacceptable LOS E under both Build Alternatives due to the anticipated traffic demand increase along Avenue 50. The decline in LOS at this intersection will be addressed by improvements that will be implemented as part of another project.

Table 1-4: Intersection LOS Summary Results – Build Alternatives Buildout Year

Intersection	Control	Build Alternative 7 2045				Build Alternative 8 2045			
		AM		PM		AM		PM	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Avenue 50/ Harrison Street	Signal	49.7	D	**79.7**	**E**	49.7	D	**79.7**	**E**
Avenue 50/ Leoco Lane	Signal	19.0	B	50.0	D	19.0	B	50.0	D
Avenue 50/ Peter Rabbit Lane	Signal	10.4	B	12.6	B	10.4	B	12.6	B
Avenue 50/ Tyler Street	Signal	34.0	C	33.0	C	34.0	C	33.0	C
Avenue 50/ Southbound SR-86 Ramps	Signal	13.9	B	31.6	C	13.7	B	20.8	B
Avenue 50/ Northbound SR-86 Ramps	Signal	8.2	A	15.9	B	10.9	B	16.5	B
Dillon Road/ Southbound SR-86 Ramps	Signal	12.8	B	25.9	C	12.8	B	25.9	C
Dillon Road/ Northbound SR-86 Ramps	Signal	24.6	C	29.3	C	24.6	C	29.3	C
Avenue 52/ Southbound SR-86 Ramps	Signal	12.4	B	22.0	C	12.4	B	22.0	C
Avenue 52/ Northbound SR-86 Ramps	Signal	10.0	B	14.4	B	10.0	B	14.4	B
Tyler Street/ Calle Mendoza	Side-street Stop	18.5	C	24.0	C	18.5	C	24.0	C

Notes: **Bold** text indicates unacceptable level of service. For signalized intersections, delay shows whole intersection weighted average control delay using methods (HCM 2010).

Source: Fehr & Peers, *SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report*, November 2017.

Roadway Segment Operations

Roadway Segment Methodology

Roadway segment operations were evaluated by comparing the daily traffic volumes to the roadway classification capacity identified in the City's General Plan Circulation Element. The roadway capacity by classification is shown in Table 1-5, Roadway Segment AADT Capacity. The volume to capacity (v/c) ratio is calculated for study roadway segments along Avenue 50. Any roadway segments with the v/c ratio equal to or greater than 1.0 is considered as LOS F conditions.

Table 1-5: Roadway Segment AADT Capacity

Roadway Classification	Number of Lanes	AADT Capacity
Major Arterial	6 – Divided	56,000
Primary Arterial	4 – Divided	37,400
Secondary Arterial	4 – Divided	28,900
Major Collector	4 – Undivided	20,000
Minor Collector	2 – Undivided	12,000
Local Street	2 – Undivided	10,400

Source: City of Coachella, City of Coachella General Plan Update, Circulation Element, May 2014.

Roadway Segment Analysis

Roadway segments were evaluated by comparing the daily existing and forecast without project volumes to the capacity thresholds utilized as part of the Traffic Report, and the results are shown in Table 1-6, Existing and Forecast Roadway Segment Volumes - No-Build. All the roadway segments currently operate at acceptable LOS D or better conditions. However, by 2021, forecast volumes, without the project, along Avenue 50 bridge between Tyler Street and SR-86, operations would deteriorate to a LOS F, and would continue to operate at an unacceptable LOS F by 2045.

Table 1-6: Existing and Forecast Roadway Segment Volumes - No-Build

Segment	Classification[1]	Existing (2015)				2021				2045			
		ADT	Capacity[2]	V/C	LOS[3]	ADT	Capacity[2]	V/C	LOS[3]	ADT	Capacity[2]	V/C	LOS[3]
Avenue 50: Bridge between Tyler Street and SR-86	Major Arterial	10,473	13,000[4]	0.81	D	14,500	13,000[4]	1.12	**F**	30,570	13,000[4]	2.35	**F**
Avenue 50: Between Leoco Lane and Peter Rabbit Lane	Primary Arterial	16,203	37,400	0.43	A	18,220	37,400	0.49	A	26,270	37,400	0.70	C
Avenue 50: West of Harrison	Major Arterial	10,144	13,000[4]	0.78	C	11,200	13,000[4]	0.86	D	15,370	56,000	0.27	A

Notes:
1 Classification reflects future build-out of roadway segment from City of Coachella General Plan (2015)
2 Capacity from City of Coachella General Plan EIR Appendix 11.4 (2013), unless otherwise indicated.
3 LOS E represents at capacity operations.
4 Capacity is based on existing roadway condition and Riverside County Integrated Project General Plan's capacity thresholds for 2-lane Collector.

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report, November 2017.

Under both of the Build Alternatives, a portion of SR-86, between Avenue 52 and Dillon Road, would be converted from an at-grade signalized intersection into a grade-separated full interchange, which would eliminate cross traffic. It is acknowledged that Avenue 50 roadway segments were not included as study locations under Opening Year 2025, and therefore, no roadway segments were analyzed under 2025 conditions. As shown in Table 1-7, Existing and Forecast Roadway Segment Volumes – Build Alternatives, all study area roadway segments along Avenue 50 would operate at acceptable LOS D or better conditions under both of the Build Alternatives. With the increased capacity proposed by the project, Avenue 50 would expect an increase in traffic demand. However, the study area roadway segments would accommodate the traffic demand increase and still operate at LOS D or better under both Build Alternatives.

Table 1-7: Existing and Forecast Roadway Segment Volumes - Build Alternatives

Segment	Classification[1]	Opening Year (2021)				Opening Year (2025)				Design Year (2045)			
		ADT	Capacity[2]	V/C	LOS[3]	ADT	Capacity[2]	V/C	LOS[3]	ADT	Capacity[2]	V/C	LOS[3]
Avenue 50: Bridge between Tyler Street and SR-86	Major Arterial	16,480	56,000	0.29	A	--	--	--	--	32,350	56,000	0.58	A
Avenue 50: Between Leoco Lane and Peter Rabbit Lane	Primary Arterial	18,960	37,400	0.51	A	--	--	--	--	31,240	37,400	0.84	D
Avenue 50: West of Harrison	Major Arterial	11,260	13,000[4]	0.87	D	--	--	--	--	16,930	56,000	0.30	A

Notes:
1 Classification reflects future build-out of roadway segment from City of Coachella General Plan (2015).
2 Capacity from City of Coachella General Plan EIR Appendix 11.4 (2013), unless otherwise indicated.
3 LOS E represents at capacity operations.
4 Capacity is based on existing roadway condition and Riverside County Integrated Project General Plan's capacity thresholds for 2-lane Collector.

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report, November 2017, Tables 10 and 18.

Freeway Mainline Analysis

Methodology

Freeway mainline and ramps were evaluated using a HCS equivalent tool which applies methodologies contained in the Highway Capacity Manual (HCM 2010) (Transportation Research Board, 2010). The LOS was calculated for each study facility based on density in number of vehicles per hour per lane. Table 1-8, Freeway LOS Threshold, describes the LOS thresholds for freeway sections identified in the HCM 2010.

Table 1-8: Freeway LOS Threshold

Level of Service	Description	Density (vplpm)[1]	
		Mainline (Basic)	Ramp/Weave
A	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	≤11	≤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
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
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
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 45[2]
F	Represents a breakdown in flow.	>45	>45[2]

Notes:
1. Density is reported in vehicles per lane per mile (vplpm).
2. The maximum density for ramp junctions and weaving 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.

Source: Transportation Research Board, Highway Capacity Manual, 2010.

Freeway Mainline Analysis

Under the Build Alternatives, a portion of SR-86, between Avenue 52 and Dillon Road, would be converted from an at-grade signalized intersection into a grade-separated full interchange which would eliminating cross traffic. As shown in Table 1-9, Opening Year 2025 Freeway Analysis Summary – Build Alternatives, all study area expressway locations along SR-86 would operate at acceptable LOS C or better under both Build Alternatives. As shown in Table 1-6 and Table 1-7 above, the two ramp terminal intersections at SR-86 and Avenue 50 would improve from LOS F without the project to an acceptable LOS C or better during both AM and PM peak hours under both Build Alternatives. All other study area intersections would operate at acceptable LOS B conditions under the Build Alternatives.

Table 1-9: Opening Year 2025 Freeway Analysis Summary – Build Alternatives

Segment	Type	Build Alternative 7				Build Alternative 8			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density[1]	LOS	Density[1]	LOS	Density[1]	LOS	Density[1]	LOS
Northbound SR-86									
NB Mainline south of Avenue 50	Basic	10.5	A	11.1	B	10.5	A	11.1	B
Avenue 50 Off-ramp	Diverge	15.5	B	16.2	B	15.5	B	16.2	B
Avenue 50 Loop On-ramp	Merge	16.8	B	15.6	B	16.8	B	15.6	B
Avenue 50 Slip On-ramp	Merge	18.8	B	16.0	B	18.8	B	16.0	B
Mainline (Avenue 50 to Dillon Road)	Basic	15.8	B	13.1	B	15.8	B	13.1	B
Dillon Road Off-ramp	Diverge	21.3	C	18.1	B	21.3	C	18.1	B
Southbound SR-86									
Dillon Road On-ramp	Merge	16.0	B	18.5	B	16.0	B	18.5	B
Mainline (Dillon Road to Avenue 50)	Basic	13.2	B	15.8	B	13.2	B	15.8	B
Avenue 50 Off-ramp	Diverge	18.8	B	22.0	C	18.8	B	22.0	C
Avenue 50 Slip On-ramp	Merge	11.9	B	12.7	B	11.9	B	12.7	B
Mainline north of Avenue 50	Basic	9.4	A	10.2	A	9.4	A	10.2	A

Bold text indicates unacceptable operations
Note:
1 - Density was reported in number of vehicles per lane per mile.

Source: Fehr & Peers, *SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report* (November 2017), Page 38.

As shown in Table 1-10, Buildout Year 2045 Freeway Analysis Summary – Build Alternatives, all study area locations along SR-86 would operate at an acceptable LOS D or better for the Buildout Year 2045 under both Build Alternatives.

Table 1-10: Buildout Year 2045 Freeway Analysis Summary – Build Alternatives

Segment	Type	Build Alternative 7				Build Alternative 8			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density[1]	LOS	Density[1]	LOS	Density[1]	LOS	Density[1]	LOS
Northbound SR-86									
NB Mainline south of Avenue 50	Basic	13.5	B	16.8	B	13.5	B	16.8	B
Avenue 50 Off-ramp	Diverge	19.2	B	23.1	C	19.2	B	23.1	C
Avenue 50 Loop On-ramp	Merge	22.2	C	22.5	C	22.2	C	22.5	C
Avenue 50 Slip On-ramp	Merge	25.2	C	23.5	C	25.2	C	23.5	C
Mainline (Avenue 50 to Dillon Road)	Basic	22.2	C	20.1	C	22.2	C	20.1	C
Dillon Road Off-ramp	Diverge	28.5	D	26.3	C	28.5	D	26.3	C
Southbound SR-86									
Dillon Road On-ramp	Merge	21.6	C	24.3	C	21.6	C	24.3	C
Mainline (Dillon Road to Avenue 50)	Basic	18.5	C	21.3	C	18.5	C	21.3	C
Avenue 50 Off-ramp	Diverge	25.1	C	28.2	D	25.1	C	28.2	D
Avenue 50 Slip On-ramp	Merge	17.6	B	18.0	B	17.6	B	18.0	B
Mainline north of Avenue 50	Basic	14.6	B	15.0	B	14.6	B	15.0	B

Note:
1 - Density was reported in number of vehicles per lane per mile.

Source: Fehr & Peers, *SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report* (November 2017), Page 51.

Freeway Mainline Collision Analysis

Traffic Accident Surveillance and Analysis System (TASAS) – Transportation System Network (TSN) data was provided by Caltrans District 8, which includes accidents that occurred between July 1, 2012 and June 30, 2015 on the SR-86 expressway from post mile (PM) R19.5 to R21.5 for a period of three years. The TASAS run was generated on February 6, 2017. Accident data for Avenue 50 was not obtained because it is a local facility and is not included in the TASAS database.

There were 29 accidents, with 13 injury accidents and one fatality accident. As shown in Table 1-11, Accident Rates, the actual accident rate for the SR-86 segment was 0.56 per million vehicle miles (pmvm), which is higher than the statewide average of 0.46 pmvm for similar facilities. The actual fatal accident rate of 0.019 pmvm was higher than the statewide average of 0.008, and also the actual fatal plus injury rate of 0.27 was higher than the statewide average of 0.16.

Table 1-11: Accident Rates

Location	ADT	Actual (pmvm for mainline, per million vehicles for ramp)			Average (pmvm for mainline, per million vehicles for ramp)		
		Fatal	Fatal Plus Injury	Total	Fatal	Fatal Plus Injury	Total
Mainline SR-86 (PM R 19.5 – R 21.5)	23.5	0.019	0.27	0.56	0.008	0.16	0.46

Notes: ADT = average daily trips; pmvm = per million vehicle miles; PM = post mile
Source: Draft Project Report, dated June 2018.

The primary collision factor was speeding (58.6 percent). Other factors involved in the collisions were improper turn (13.8 percent), influence of alcohol (13.8 percent), and other violation(s) (13.8 percent).

The types of collision were as follows: rear end (65.5 percent), hit object (13.8 percent), sideswipe (10.3 percent), head-on (3.4 percent), overturn (3.4 percent), and the remainder were not disclosed (3.4 percent).

The current Avenue 50 and SR-86 is an at-grade signalized intersection with a dedicated left-turn lane and right-turn lane in the northbound and southbound direction along SR-86. Avenue 50 carries a substantial volume of trucks and other slow-moving farming vehicles that cross or enter the high-speed traffic of SR-86. The high number of accidents related to speeding and rear end type collisions suggest that speed differentials between crossing traffic and mainline, poor intersection skew angle, and operational conflicts generated with the existing wide median area of SR-86 are the primary causes.

The proposed project is expected to provide capacity and operational benefits over the existing conditions, thereby reducing potential for accidents.

1.2.4 Roadway Deficiencies

The existing Avenue 50/Tyler Street/Magnolia intersection is currently stop-controlled and operates at an unacceptable LOS F during both AM and PM peak hours. Roadway deficiencies that occur on the existing intersection include a steep roadway profile grade of approximately 9.1 percent, resulting in a sloping towards CVSC, combined with a short vertical curve on Avenue 50. There is a limited sight distance as a result of an existing non-standard intersection skew angle of 44-degrees. The project alignment would continue routing across SR-86 at an approximate 57-degree skew angle, which is an improvement, and would tie back into the existing centerline approximately 1300-feet east of the SR-86 intersection. Based on the Caltrans Highway Design Manual (HDM) 6th edition (July 2, 2018), Index 402.2 (2), the existing intersection has the following deficient geometric features:

- Intersection angle < 75 degrees;
- Inadequate approach sight distance;
- Inadequate corner sight distance.

The proposed project will eliminate these existing operational deficiencies by constructing a new Avenue 50/Tyler Street/Magnolia signal-controlled intersection, reducing the roadway profile grade, and eliminating the short vertical curve, as per the most recent design standards.

1.2.5 Social Demands or Economic Development

The eastern portion of the City of Coachella currently consists of undeveloped land. The City's General Plan Update 2035 land use designation for the portion of this area north of I-10 is Resort District, whereas land use located south of I-10 within the eastern portion of the City is governed by the La Entrada Specific Plan. The La Entrada Specific Plan designates land within the project area south of I-10 as Mixed Use and High Density Residential. Future development of this portion of the City is expected to result in direct and indirect population increases in the City.

1.2.6 Modal Interrelationships and System Linkages

As discussed above, the entire length of SR-86 is included in the State Interregional Road System, the National Highway System, and the California Freeway and Expressway System. According to the TCR, the SR-86 corridor is also designated as a High Emphasis Route, a Focus Route, and a Goods Movement Route. The National Network for Surface Transportation Assistance Act (STAA) identifies SR-86 as a "National Network" route for STAA trucks. The segment within the project limits is currently designated as urbanized and is functionally classified as a Rural Principal Arterial.

The project would also include facilities intended to promote connectivity for system linkages related to pedestrian and bicycle movement. The project includes bicycle lanes and sidewalks along proposed Avenue 50 through the interchange, where no such facilities currently exist. In addition, the project site also includes a future alignment of the planned Coachella Valley (CV) Link project. CV Link is a 50-mile multi-modal transportation pathway proposed by CVAG that would extend from the City of Palm Springs on the west to the City of Coachella on the east. The route is generally proposed along the levees of the CVSC and on local streets. CV Link is designed to accommodate the widest possible range of users, including pedestrians, bicyclists, low-speed electric vehicles (LSEVs), and mobility device users (wheelchairs and electric scooters). LSEVs include golf carts and neighborhood electric vehicles (NEVs). The project would accommodate a segment of the CV Link project along the south levee of the CVSC within the project limits. The proposed project would provide approximately 1,700 linear feet of 20-foot-wide paved access ramps, which would travel under the new Avenue 50 overcrossing, which is intended to accommodate the future planned CV Link facility, and avoid major reconstruction of the bridge in the future. The paved access ramps beneath the bridge would also serve as channel slope protection, immediately upstream and downstream of the bridge abutments, and accommodate Coachella Valley Water District (CVWD) maintenance vehicles. Access points to the planned future CV Link from Avenue 50 and Sierra Vista Park are proposed to be consistent with the access point locations identified in the CV Link Conceptual Master Plan.

1.2.7 Air Quality Improvements

The proposed project would provide new bicycle facilities on Avenue 50, as described in Section 1.4 below. Refer to subsection Bike/LSEV Lane, on page 1-36.

1.2.8 Independent Utility and Logical Termini

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

1. Connect logical termini and be of sufficient length to address environmental matters on a broad scope.

2. Have independent utility or independent significance (be usable and require 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 new SR-86/Avenue 50 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 SR-86/Avenue 50 interchange.

1.3 Project Description

The proposed project would convert a portion of SR-86 from an at-grade signalized intersection into a grade-separated full interchange with a new overcrossing bridge and access ramps. The new interchange proposed would be a Modified Type L-9 Partial Cloverleaf interchange at SR-86 and Avenue 50. A new Avenue 50 overcrossing would be constructed with associated on- and off-ramps and signalized intersections. This new overcrossing would be up to approximately 326 feet long and 122 feet wide. It would be a 2-span structure to accommodate 3 through lanes in each direction and two left-turn pockets for the eastbound and westbound directions of Avenue 50. A northbound loop on-ramp is proposed to accommodate the anticipated predominant eastbound-to-northbound movement of morning commute traffic. The project includes an auxiliary lane north of the northbound on-ramp convergence point to improve traffic operations. Retaining walls would be constructed where required.

The project would also construct a new Avenue 50 bridge structure over the Whitewater River/Coachella Valley Stormwater Channel (CVSC). This new bridge would be approximately 605 feet long and 120 feet wide. It would be a 5-span structure to accommodate 3 through lanes in each direction and a 14-foot-wide median on Avenue 50. This new bridge structure over the CVSC would replace the existing at-grade paved low water crossing and would include the following associated improvements; realignment and widening of a portion of Avenue 50 from the existing two-lane roadway to a six-lane major arterial, realignment of portions of Tyler Street on both the west and east sides of SR-86, respectively, and, the existing 1-lane in each direction road that is located within the limits of the CVSC would become a CVSC maintenance road.

The purpose of the proposed project is to improve mobility to and from eastern parts of the City of Coachella by providing direct and dependable access over the CVSC, improve operational efficiency by replacing the existing SR-86 / Avenue 50 intersection with a new interchange, improve expressway access for the City and the Coachella Valley Region, implement improvements consistent with the City's circulation plan, and improve traffic operations and accommodate planned growth by enhancing levels of service at local street intersections and adjacent interchanges.

The proposed project will be constructed in two separate phases, due to funding considerations. The first phase will focus on construction of the new bridge structure over the CVSC and will include the associated realignment of Avenue 50 and Tyler Street west of SR-86. Table 1-12, Project Phasing, below, identifies how the two phases of the project are described as well as the federal project number that has been assigned to each of the phases.

Table 1-12: Project Phasing

Phase	Description	Federal Project ID No.
Phase 1 (local, off-State Highway System)	Avenue 50 Bridge over Coachella Valley Stormwater Channel (CVSC)	BR-NBIL (536)
Phase 2 (on State Highway System)	SR-86/Avenue 50 New Interchange	HPLULN - 5294(011)

Even though Phase 1 is to be constructed in advance, it has independent utility and usability without Phase 2. Phase 1 would implement a new bridge over CVSC that would eliminate flooding hazards along Avenue 50, and could be implemented and be fully operational without any additional transportation improvements in the area occurring (including Phase 2 of the project). Phase 2 would be constructed when funding is available in the future to further improve operational efficiency and expressway access through implementation of a new interchange at SR-86.

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, direct and dependable access over the CVSC, and environmental impacts. Two Build Alternatives and a No-Build Alternative were studied for the SR-86/Avenue 50 New Interchange Project.

- Build Alternative 7 (Modified Type L-9 Partial Cloverleaf with One Loop Ramp): Refer to Figure 1-4a, Build Alternative 7 Key Map, and Figures 1-4b through 1-4d, Build Alternative 7;

- Build Alternative 8 (Modified Type L-9 Partial Cloverleaf with Two Loop Ramps): Refer to Figure 1-5a, Build Alternative 8 Key Map, and Figures 1-5b through 1-5d, Build Alternative 8; and

- Alternative 1 (No-Build Alternative): Refer to Figure 1-3.

Both Build Alternatives would require detours during both construction phases. Figure 2.1.4-4, in Section 2.1.4 of this IS/EA, Phase 1 Detour Map, shows the location of closures and detour routes for Phase 1 of the project.

There are no alternatives to impacts on wetlands for this proposed project. Please see discussion in Section 2.3.2.3.2, in this regard.

Figure 2.1.4-5, in Section 2.1.4 of this IS/EA, Phase 2 Detour Map, shows the location of closures and detour routes for Phase 2 of the project. Construction-related detours will be finalized during the final design phase; however, construction of the proposed improvements have been examined relative to the existing transportation system and it has been determined that no long-term lane closures would be necessary.

LEGEND:

- PROPOSED ACCESS CONTROL / STATE RIGHT OF WAY
- EXISTING ACCESS CONTROL / STATE RIGHT OF WAY
- EXISTING ACCESS CONTROL / STATE RIGHT OF WAY TO BE RELINQUISHED
- PROPOSED RIGHT OF WAY
- Exist RIGHT OF WAY
- PROPOSED RETAINING WALL
- PROPOSED STRIPED MEDIAN
- PROPOSED RAISED MEDIAN
- PROPOSED SIDEWALK
- NO PUBLIC ACCESS (MAINTENANCE ACCESS THRU LOCKED GATES ONLY)



NOT TO SCALE

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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Build Alternative 7 Key Map

Figure 1-4a

Back of 11x17 figure.



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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Build Alternative 7 – Sheet 1

Figure 1-4b

Back of 11x17 figure.



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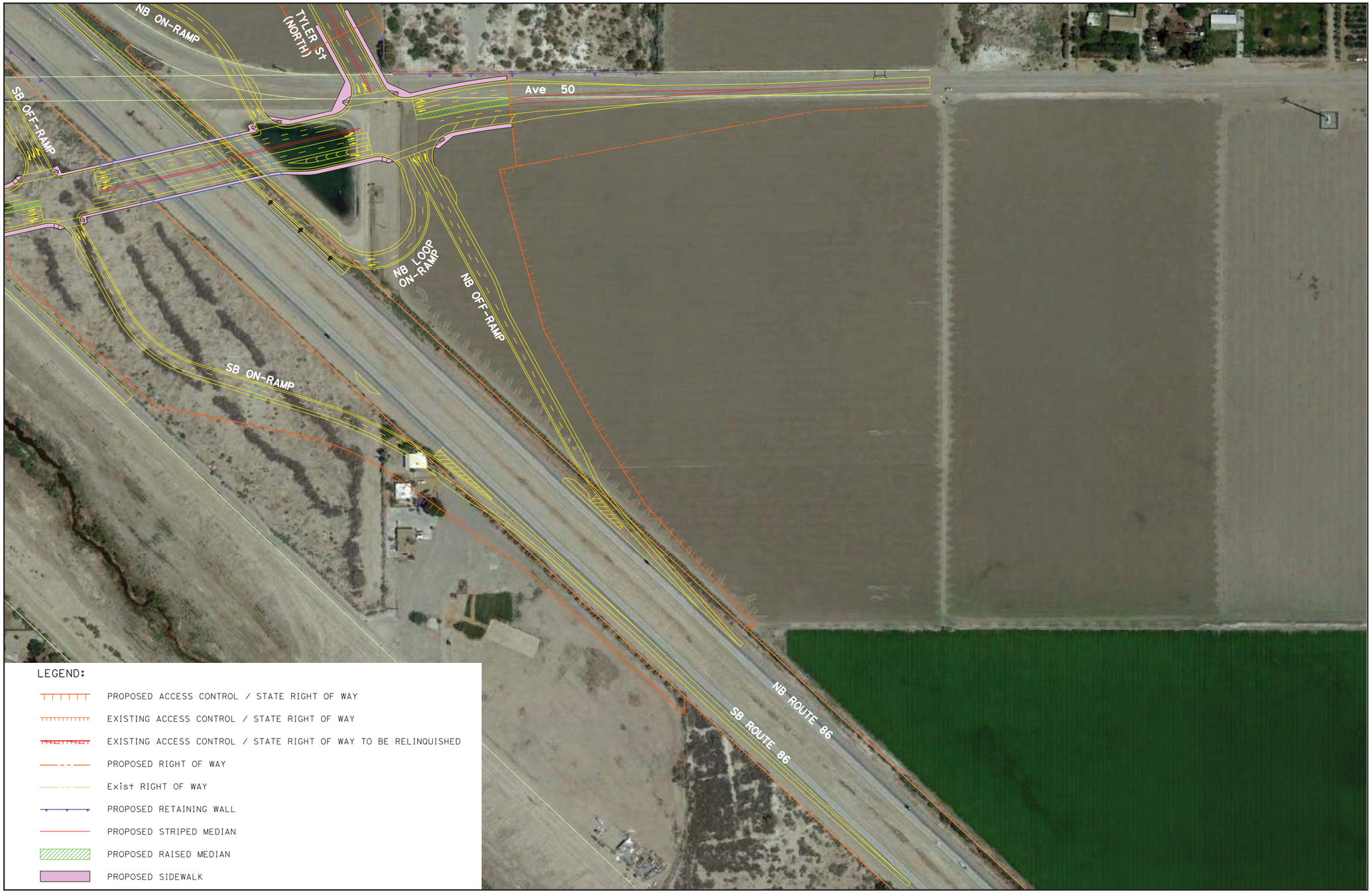
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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Build Alternative 7 – Sheet 2

Figure 1-4c

Back of 11x17 figure.



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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Build Alternative 7 – Sheet 3

Figure 1-4d

Back of 11x17 figure.

LEGEND:

- PROPOSED ACCESS CONTROL / STATE RIGHT OF WAY
- EXISTING ACCESS CONTROL / STATE RIGHT OF WAY
- EXISTING ACCESS CONTROL / STATE RIGHT OF WAY TO BE RELINQUISHED
- PROPOSED RIGHT OF WAY
- Exist RIGHT OF WAY
- PROPOSED RETAINING WALL
- PROPOSED STRIPED MEDIAN
- PROPOSED RAISED MEDIAN
- PROPOSED SIDEWALK
- NO PUBLIC ACCESS (MAINTENANCE ACCESS THRU LOCKED GATES ONLY)



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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Build Alternative 8 Key Map

Figure 1-5a

Back of 11x17 figure.



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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Build Alternative 8 – Sheet 1

Figure 1-5b

Back of 11x17 figure.



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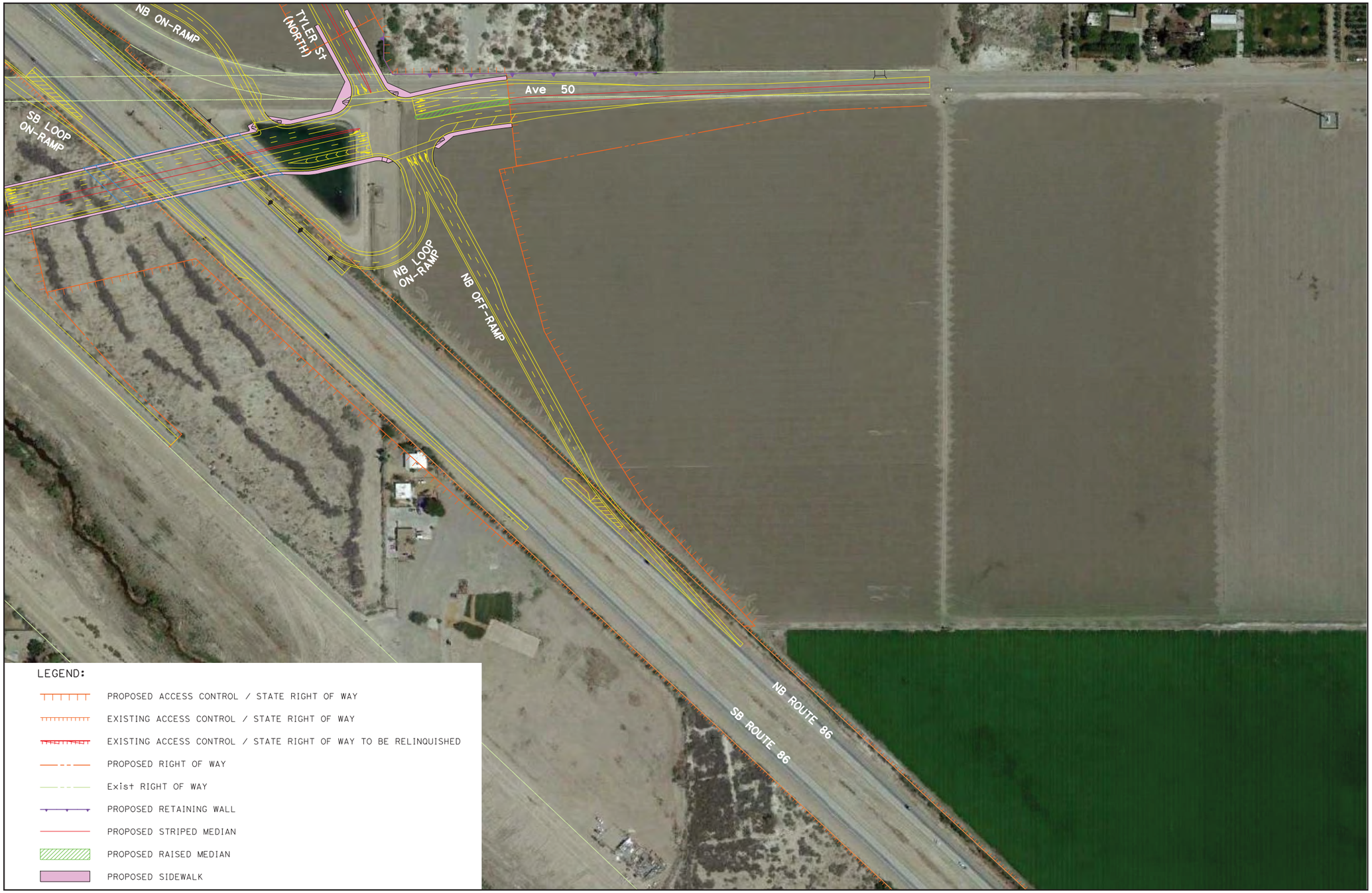
11/18 | JN 159814

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Build Alternative 8 – Sheet 2

Figure 1-5c

Back of 11x17 figure.



NOT TO SCALE

11/18 | JN 159814

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Build Alternative 8 – Sheet 3

Figure 1-5d

Back of 11x17 figure.

1.4.2 Common Design Features of the Build Alternatives

Avenue 50

The project would realign and widen Avenue 50 from the existing two-lane roadway to a six-lane major arterial, consistent with the City's General Plan designation as a major arterial with enhanced bicycle facilities. A 98-foot curb-to-curb roadway section with a 118-foot ROW width and three through lanes in each direction with a raised and paved median and outside shoulders would be constructed, as well as a 10-foot-wide sidewalk for a distance of approximately 2,800 feet. The proposed realignment starts curving southerly approximately 1,000 feet west of the existing CVSC levee at the Tyler Street intersection. It continues traversing across the CVSC at approximately 440 feet south of the existing Avenue 50 centerline. Two driveways are introduced to provide access to the existing Cabazon Band of Mission Indians tribal land to the north and properties to the south to avoid landlocked situations. The alignment continues routing across SR-86 and ties back into the existing centerline approximately 1,300 feet east of the existing SR-86 intersection.

Tyler Street

Within the project limits, Tyler Street will be designed as a collector with enhanced bicycle facilities, a 70-foot curb-to-curb roadway section with a 90-foot ROW width, and 2 through lanes in each direction with a paved median and outside shoulders. A 10-foot-wide sidewalk will be constructed for a distance of 200 feet on Tyler Street (north), and 200 feet on Tyler Street (south). The project includes realignment of Tyler Street on both the east and west sides of SR-86.

On the west side of the CVSC, the proposed Tyler Street realignment starts south of the Calle Mendoza intersection shifting westerly and bisects an agricultural parcel owned by the Peter Rabbit Farms (APN 778-170-011). It connects to the proposed realigned Avenue 50 with a new intersection. The project would maintain access to Sierra Vista Park by utilizing the existing Tyler Street pavement. A cul-de-sac would be created north of Calle Mendoza, with diagonal parking along the eastern side and parallel parking along both sides of the cul-de-sac street. A paved connection to CV Link will be constructed at the northerly terminus of the cul-de-sac.

On the east side of SR-86, the proposed Tyler Street realignment starts curving easterly approximately 1,400 feet north of the existing SR-86/Avenue 50 intersection. The realigned road then bisects an existing agricultural parcel owned by the Peter Rabbit Farms (APN 603-330-010) and aligns with the northbound ramps to form a standard four-legged intersection.

Northbound Off-Ramp

A new northbound off-ramp would be constructed. The new off-ramp would begin as a single exit lane that would widen to two lanes as it nears the intersection of Avenue 50, at which point the lane would terminate at a new traffic signal at Avenue 50. New expressway signage located at the northbound off-ramp divergence point would be installed to reflect the exit lane configuration. Expressway signage upstream of the ramp would also be constructed as needed to provide proper advance guidance.

Northbound Direct On-Ramp

A new northbound on-ramp would be constructed. This new two-lane direct on-ramp would be accessed from the westbound travel lane of Avenue 50. The two lanes would then merge prior

to converging with the SR-86 northbound mainline. Expressway signage east of the new interchange would be constructed as needed to provide proper advance guidance.

Northbound Loop On-Ramp

A northbound loop on-ramp would be constructed to accommodate the anticipated predominant eastbound-to-northbound movement of morning commute traffic. The project includes an auxiliary lane north of the northbound on-ramp convergence point to improve traffic operations. Adding an auxiliary lane would reduce rear-end collisions. Retaining walls would be constructed where required. New expressway signage located at the northbound loop on-ramp divergence point would be installed to reflect the entrance lane configuration. Expressway signage west of the interchange would also be constructed as needed to provide proper advance guidance.

Nonmotorized, Pedestrian, and Low Speed Electric Vehicle (LSEV) Features

CV Link. As discussed above, the project would accommodate the planned CV Link facility, which would be constructed by CVAG as part of a separate project. The proposed project would construct a 20-foot-wide concrete pathway, which would travel under the Avenue 50 bridge over the CVSC. Access ramps from Avenue 50 and Sierra Vista Park are proposed to be consistent with the access point locations identified in the CV Link Conceptual Master Plan.

Bike/LSEV Lane. As discussed above, the project would provide a bike/LSEV lane across the proposed Avenue 50 interchange. The bike/LSEV lane design is consistent with the following design standards/requirements:

- Caltrans Highway Design Manual (HDM) Index 1000.
- Manual on Uniform Traffic Control Devices (MUTCD), Part 9.
- CVAG Neighborhood Electric Vehicle Transportation Plan.
- In addition to bike/LSEV lanes, the project would comply with AB1581. All State projects are required to conform to AB 1581 by installing and maintaining traffic-actuated signal or replacement of the loop detector of a traffic-actuated signals to the extent feasible and in conformance with professional traffic engineering practice.

A 10-foot wide shoulder marked as bike/LSEV lane and striped as a Class II facility with no parking signage would be provided on Avenue 50 east of Tyler Street for a distance of 2,400 feet, and west of Tyler Street for a distance of 400 feet. At the intersections, a 7-foot-wide bike/LSEV lane would be provided between the through lanes and right-turn-only lanes. An 8-foot-wide shoulder marked as bike/LSEV lane with no parking signage would be provided on Tyler Street (north) for a distance of 2,500 feet, and on Tyler Street (south) for a distance of 1,600 feet. These features would improve mobility through the interchange for bicyclists and LSEV drivers.

Pedestrian Facilities. The CV Link pathway and sidewalks along Avenue 50 are designed to comply with the requirements of the ADA and DIB 82-06. Pedestrian and nonmotorized safety features are also proposed, including crosswalks, curb ramps, and signals.

Retaining Walls

One mechanically stabilized earth (MSE) wall is proposed in the northeast quadrant of Avenue 50 and Tyler Street for both Build Alternatives (east of SR-86). This new retaining wall would be a fill wall, approximately 750 feet in length, with a minimum height of 2 feet and a maximum height of 15 feet.

Avenue 50 Bridge Structure Over the CVSC

The project would replace the existing two-lane Avenue 50 low water crossing at the CVSC with a bridge structure. Built in 1970, the existing low water crossing is functionally deficient and does not meet safety standards because of flooding during storm events; CVSC swells well above the roadway surface during periods of heavy rainfall. The replacement bridge would include six lanes (three lanes in each direction) on an alignment south of the existing low water crossing. The bridge structure will be a 5-span structure measuring 605 feet long and 120 feet, 4 inches wide. Associated bridge abutments would also be constructed.

As noted above, the proposed project would provide approximately 1,700 linear feet of 20-foot-wide concrete pathway, which would travel under the new Avenue 50 overcrossing, which is intended to accommodate and connect to the future planned Segments 9 and 10 of the CV Link facility, and avoid reconstruction of the bridge in the future. The concrete pathway beneath the bridge would also serve as channel slope protection, immediately upstream and downstream of the bridge abutments, and accommodate CVWD maintenance vehicles.

In addition, the project would construct a restricted access road from Avenue 50 to the CVSC for maintenance vehicle access purposes by CVWD.

Traffic Signals

The existing traffic signal at the intersection of SR-86 and Avenue 50 would be removed and three new signals would be installed to accommodate the changes to intersection geometries and lane configurations. The following two new signals would be the same between both Build Alternatives (see Section 1.4.3 for the traffic signal details unique to the build alternatives):

- A new signal would be installed at the new intersection of Avenue 50 and Tyler Street, to the west of the new Avenue 50 bridge over CVSC. The new signal would accommodate westbound left turn movements and eastbound right turn movements from Tyler Street onto Avenue 50 and pedestrian crossings on the south, west, and north legs of the intersection.

- A new signal would be installed at the new intersection of Avenue 50 and the SR-86 northbound off-ramp and Tyler Street (to the east of the new Avenue 50 Overcrossing). The new signal would accommodate northbound turn movements onto Tyler Street as well as eastbound and westbound movements onto Avenue 50. Pedestrian crossings would be provided on the north and south legs of the intersection.

Utility Relocation

In accordance with Caltrans policy on longitudinal encroachments within controlled-access highway ROW, several existing utilities along Avenue 50 and Tyler Street would be relocated. Utilities along Avenue 50 and Tyler Street would be relocated per the City of Coachella Franchise Agreement. Existing facilities to be relocated include:

- Cable television (Charter Communications);
- Electric (Imperial Irrigation District);
- Gas (Southern California Gas);
- Agriculture/Irrigation/Tile Drain (Coachella Valley Water District);
- Sewer (Coachella Sanitary District);
- Telephone (Frontier Communications); and
- Water (City of Coachella).

Construction Phasing

As noted above, the project would be constructed in two phases. The first phase constructing the Avenue 50 bridge over CVSC is anticipated to take approximately 12 months. Since the proposed Avenue 50 and Tyler Street are constructed on new alignments, the existing Avenue 50 and Tyler Street would remain operational with exceptions of tie-in work conforming and joining existing pavements that need minimum traffic control. Therefore, construction-related delays are anticipated to be minimal. The first phase of the project would consist of the following key components:

- Construct the new Avenue 50 bridge over CVSC;
- Realign Avenue 50 and Tyler Street roadways west of CVSC;
- Construct a temporary road reestablishing the connectivity with the existing signalized intersection; and
- Construct access ramps connecting to the planned CV Link.

The second phase constructing the new SR-86/Avenue 50 interchange is anticipated to take approximately 15 months. The primary components for construction of the second phase include the following:

- Raise roadway embankment and pavement structure section;
- Construct the new overcrossing structure over SR-86;
- Construct on- and-off ramps and auxiliary lanes;
- Realign Tyler Street east of SR-86;
- Install new traffic signals; and
- Finish with highway planting, landscaping, and irrigation.

Full roadway and lane closures would be required during night times and on weekends to accommodate the following roadway and structure construction activities:

- Installation, moving and removal of k-rails;
- Striping and removal operations;
- Falsework erection and removal;
- Deck pouring;
- Placement of concrete pavement using rapid set concrete;
- Asphalt concrete pavement construction and overlay operations; and
- Utility work/traffic signal/lighting installations.

For the second phase of construction, the existing SR-86/Avenue 50 at-grade intersection would remain operational for the majority of the interchange construction process. However, in order to complete the construction of the southbound off-ramp and northbound on-ramp, short-term closure of access to SR-86 from Avenue 50 would be necessary for a period of up to 10 days.

Nonstandard Features

Both build alternatives would construct the following nonstandard features:

- A nonstandard 6 percent superelevation rate at the northbound on-ramp (standard is 10 percent);

- A nonstandard 7 percent superelevation rate at the northbound loop on-ramp (standard is 12 percent);

- A nonstandard 6 percent superelevation transition and runoff at the northbound loop on-ramp with all runoff occurring within the 140-foot radius curve (standard is two-thirds of the superelevation runoff should be on the tangent and one-third within the curve);

- A nonstandard ramp entrance of 14' at 700' for the northbound loop on-ramp (standard is 14' at 467.11'); the absence of the 3,000' radius curve at the entrance, and the nonstandard 700' distance between the inlet nose and the convergence point;

- A 100-foot distance between the northbound direct on-ramp (from westbound Avenue 50) to the new intersection of Avenue 50/Tyler Street/northbound off-ramp (standard is 400 feet);

- Absence of access control opposite the northbound off-ramp terminal at the new intersection of Avenue 50/Tyler Street/northbound off-ramp (standard is access rights on the opposite side of the local road from ramp terminals to preclude driveways or local roads within the ramp intersection); and

- A nonstandard grade of 0.22 percent in the gore area of the southbound on-ramp.

Project Features

This project contains a number of standardized project measures applicable to both 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.

- 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:

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

- Construction equipment fleets will be in compliance with Best Available Control Technology requirements.

- All engines or portable engine-driven equipment required to obtain permits will obtain either a CARB Portable Equipment Registration or a permit from SCAQMD.

- 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 p.m. to 6:00 a.m. 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.

- 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.

- Earthwork would be performed in accordance with Caltrans Standard Specifications, Section 19, which require standardized measures related to compacted fill, overexcavation and recompaction, and retaining walls, among other requirements.

- 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.

- Design pollution prevention Best Management Practices (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 will be implemented as part of the project.

- Design pollution prevention BMPs as required under the County of Riverside Whitewater River Watershed MS4 Permit for areas outside of State ROW that focus on reducing or eliminating runoff and controlling sources of pollutants will be implemented as part of the project.

- 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,

  - Section 14-11.12, Removal of Yellow Traffic Stripe and Pavement Marking with Hazardous Waste Residue,

  - Section 36-4, Residue Containing Lead from Paint and Thermoplastic, and

  - 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.

- During construction, solid waste would be disposed of as specified in Caltrans' Standard Specifications Section 14-10.01, General.

- During construction, dust palliatives would be used as specified in the Caltrans Standard Specifications Section 18-1.03A, General.

1.4.3 Unique Features of Build Alternatives

Build Alternative 7 (Modified Type L-9 Partial Cloverleaf with One Loop Ramp)

Southbound On-Ramp

In Build Alternative 7, a two-lane diamond-type ramp would be constructed. Pedestrian crossing along the south leg of the intersection with Avenue 50 would be provided. The southbound on-ramp would merge into one lane prior to converging with the SR-86 mainline. New expressway signage located at the southbound on-ramp divergence point would be installed to reflect the entrance lane configuration. Expressway signage along Avenue 50 would also be constructed as needed to provide proper advance guidance.

Southbound Off-Ramp

A new southbound off-ramp would be constructed. This new off-ramp would diverge to three lanes prior to intersecting with Avenue 50 at a new signalized intersection. The three lanes would encompass double right-turn lanes and one left-turn lane. New expressway signage located at the southbound off-ramp divergence point would be installed to reflect the exit lane configuration. Expressway signage upstream of the ramp would also be constructed as needed to provide proper advance guidance.

Avenue 50 Overcrossing

The Avenue 50 overcrossing structure for this alternative is slightly shorter than the structure required for Build Alternative 8, due to the proposed diamond-type ramp for the southbound on-ramp. The Avenue 50 overcrossing for this alternative is a 2-span structure measuring 286 feet, 3 inches long and 122 feet, 4 inches wide.

Traffic Signals

In addition to the two traffic signals discussed under similar project features above, one new signal would be installed at the new intersection of Avenue 50 and the SR-86 southbound on- and off-ramps. The new signal would accommodate westbound and eastbound movements onto Avenue 50 as well as turn movements onto the southbound on-ramp. Pedestrian crossing would be provided on the north and south legs of the intersection.

Retaining Walls

One Type 1 wall is proposed between the southbound SR-86 travel lanes and the southbound off-ramp. This new fill retaining wall would be approximately 440 feet in length, with a minimum height of 2 feet and a maximum height of 7 feet.

Cost

Table 1-13: Build Alternative 7 Project Cost Estimate Summary

Project Phase	Build Alternative 7 Costs
Construction Cost	
Roadway	$49,717,600
Structures	$32,003,559
Right of Way	$6,131,958
Support Cost	
PA/ED	$2,355,000
PS&E	$6,100,000
Right of Way	$458,000
Construction Management	$9,140,000
Total Project Cost	**$106,000,000**
Source: Draft Project Report, October 2018.	

Build Alternative 8 (Modified Type L-9 Partial Cloverleaf with Two Loop Ramps)

Southbound On-Ramp

In Build Alternative 8, a new two-lane loop on-ramp would be constructed. A pedestrian crossing at the north leg of the intersection with Avenue 50 would be constructed. The two lanes would merge into a single lane prior to converging with southbound SR-86. New expressway signage located at the southbound on-ramp divergence point would be installed to reflect the entrance lane configuration. Expressway signage along Avenue 50 would also be constructed as needed to provide proper advance guidance.

Southbound Off-Ramp

A new southbound off-ramp would be constructed. This new off-ramp would diverge to three lanes prior to intersecting with Avenue 50 at a new signalized intersection. The three lanes would encompass double right-turn lanes and one combined through- and left-turn lane. New expressway signage located at the southbound off-ramp divergence point would be installed to reflect the exit lane configuration. Expressway signage upstream of the ramp would also be constructed as needed to provide proper advance guidance.

Avenue 50 Overcrossing

The Avenue 50 overcrossing structure for this alternative is slightly longer than the structure required for Build Alternative 7 in order to accommodate the southbound loop on-ramp. The Avenue 50 overcrossing for this alternative is a 2-span structure measuring 326 feet long and 122 feet, 4 inches wide.

Traffic Signals

In addition to the two traffic signals discussed under similar project features above, one new traffic signal would be installed at the new intersection of Avenue 50 and the SR-86 southbound on- and off-ramps. The new signal would accommodate westbound and eastbound movements onto Avenue 50 as well as movements onto the southbound loop on-ramp. A pedestrian

crossing would be provided on the north leg along Avenue 50. A sidewalk would be accommodated along the length of the southbound side of Avenue 50.

Nonstandard Features

In addition to those nonstandard features discussed for both build alternatives, Build Alternative 8 would also construct the following nonstandard features:

- A nonstandard superelevation transition and runoff at the southbound loop on-ramp with all runoff occurring within the 120-foot radius curve; and

- Absence of access control opposite the southbound ramp terminals at the new intersection of Avenue 50/southbound ramps (standard is access rights on the opposite side of the local road from ramp terminals to preclude driveways or local roads within the ramp intersection).

Cost

Table 1-14: Build Alternative 8 Project Cost Estimate Summary

Project Phase	Build Alternative 8 Costs
Construction Cost	
Roadway	$47,691,500
Structures	$33,465,931
Right of Way	$5,581,493
Support Cost	
PR/ED	$2,355,000
PS&E	$6,100,000
Right of Way	$458,000
Construction Management	$9,140,000
Total Project Cost	**$105,000,000**
Source: Draft Project Report, October 2018.	

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 TSM measures have been incorporated into the build alternatives for this project:

- The project would provide a bike/LSEV lane along the proposed Avenue 50 through the SR-86 interchange. A 10-foot wide shoulder marked as bike/LSEV lane with no parking signage would be provided in both directions of Avenue 50. At the intersections, a 7-foot-wide bike/LSEV lane would be provided between the through lanes and right-turn-only lanes. These features would improve mobility through the interchange for bicyclists and LSEV drivers.

- Sidewalks would be constructed that would provide access through the interchange between the realigned Tyler Street, to the west of the CVSC, to Avenue 50 and the new SR-86 northbound off-ramp. A 10-foot-wide sidewalk for a distance of approximately 2,800 feet would be constructed on Avenue 50. A 10-foot-wide sidewalk would be constructed for a distance of 200 feet on Tyler Street (north), and 200 feet on the south side of Tyler Street (south). The sidewalk width on the bridge would be 6 feet, 2 inches. Sidewalks would be designed to comply with the requirements of the ADA and DIB 82-06. Pedestrian and nonmotorized safety features are also proposed as part of the project; these features include crosswalks, curb ramps, and signals.

1.4.5 Alternative 1 (No-Build Alternative)

Under the No-Build Alternative, no construction or improvements would be made to the existing at grade intersection of SR-86 and Avenue 50. There would be no capital costs associated with this alternative. This alternative does not provide additional capacity for ongoing and planned development within Coachella and the neighboring communities. The following elements would remain:

- The existing at-grade intersection of SR-86 and Avenue 50;
- The existing low water crossing and roadway alignment;
- Discontinuous sidewalks through the intersection;
- Lack of bicycle lanes through the intersection; and
- No right-of-way or connections to support the future CV Link project.

As a result, the No-Build Alternative is not consistent with the purpose and need of this project. The No Build Alternative is inconsistent with the City's General Plan Circulation Element, which identifies Avenue 50 as a six-lane major arterial with a new interchange at SR-86 to serve local and regional traffic needs. With the No Build Alternative, traffic volumes are expected to continue to grow with the planned residential and commercial development in the City and the surrounding low desert area.

The existing at grade intersection does not have adequate capacity to accommodate forecasted traffic volumes for year 2045, and it is expected to operate at an unacceptable LOS F in the future as existing capacity is exceeded. In addition, without the proposed project, the roadway segment of Avenue 50 between Tyler Street and SR-86 is expected to operate at LOS F for year 2045 traffic volumes. The Avenue 50/Tyler Street intersection west of the CVSC, which is stop-controlled, currently operates at an unacceptable LOS F. Traffic circulation within the City would deteriorate due to lack of traffic capacity on Avenue 50, which is designated as a major

east-west arterial serving the City. Traffic demand on the north-south corridors would eventually exceed capacity and cause congestion and delay for local and regional travelers. Last, the No Build Alternative would not accommodate direct and dependable access over the CVSC, such as removal of the low water crossing at the CVSC and construction of a new interchange on SR-86, eliminating cross traffic through SR-86.

1.4.6 Comparison of Alternatives

Alternatives 7 and 8 both satisfy the project purpose and need, and offer similar operational performance. Both propose a Modified Type L-9 Partial Cloverleaf that includes a loop on-ramp in the southeast quadrant of the interchange to accommodate the anticipated heavy eastbound-to-northbound movement of morning commute traffic. Most aspects of Build Alternative 8 are similar to Build Alternative 7, including similar realignments of Avenue 50 and Tyler Street, construction of a two-span structure over the existing SR-86, construction of a five-span structure over the CVSC, and associated signing and traffic signal controls. Alternative 8 includes a southbound loop on-ramp at the proposed interchange, which provides better operational performance than Alternative 7's diamond-type on-ramp.

ROW acquisition would be similar for both build alternatives. A total of 0.630 acres for Build Alternative 7 and 0.858 acres for Build Alternative 8 would be temporarily acquired during Phase 1 project construction. A total of 1.726 acres for Build Alternative 7 and 1.670 acres for Build Alternative 8 would be temporarily acquired during Phase 2 project construction. Refer to Tables 2.1.4-3 and 2.1.4-4. A total of 36.723 acres for Build Alternative 7 and 29.095 acres for Build Alternative 8 would be permanently acquired during Phase 1 project construction. A total of 21.680 acres for Build Alternative 7 and 21.677 acres for Build Alternative 8 would be permanently acquired during Phase 2 project construction. Refer to Tables 2.1.4-5 and 2.1.4-6. Build Alternative 7 would require permanent partial acquisition of approximately 35.77 acres and permanent full acquisition of 19.12 acres, for a total of 54.89 acres. Build Alternative 8 would require permanent partial acquisition of approximately 42.62 acres and permanent full acquisition of 4.63 acres, for a total of 47.25 acres. Implementation of the Build Alternatives would result in a single residential relocation during Phase 2 of the project. This parcel has three structures on it. Build Alternative 7 would require acquisition of two of the three structures and Build Alternative 8 would require acquisition of one of the three structures.

Table 1-15 provides a summary comparison between the two Build Alternatives and the No-Build Alternative, which have been studied in conjunction with development of the proposed new interchange project.

Table 1-15: Alternatives Comparison

Evaluation Criteria	No-Build Alternative	Build Alternative 7	Build Alternative 8
Project Features and Design Standards			
Traffic Operations – Roadway Segments	As shown in Table 1-2, by the year 2040 the following roadway segments are projected to have an LOS of D or worse: • LOS F for Avenue 50 Bridge (between Tyler Street and SR-86)	As shown in Table 1-4, by the year 2045 the following roadway segments are projected to have an LOS of D or worse: • LOS D for Avenue 50 (between Leoco Lane and Peter Rabbit Lane)	As shown in Table 1-4, by the year 2045 the following roadway segments are projected to have an LOS of D or worse: • LOS D for Avenue 50 (between Leoco Lane and Peter Rabbit Lane)

Table 1-15: Alternatives Comparison [continued]

Traffic Operations – Intersections	As shown in Table 1-6, by the year 2040 the following locations are projected to have an LOS of D or worse: • LOS F at Avenue 50/Tyler Street • LOS F at Avenue 50/SR-86 Ramps	As shown in Table 1-7, by the year 2045 the following locations are projected to have an LOS of D or worse: No intersections are projected to have an LOS of D or worse.	As shown in Table 1-7, by the year 2045 the following locations are projected to have an LOS of D or worse: No intersections are projected to have an LOS of D or worse.
Traffic Operations – Freeway Segments	Not Applicable	As shown in Table 1-10, by the year 2045 all expressway segments are projected to have an LOS of D or better.	As shown in Table 1-10, by the year 2045 all expressway segments are projected to have an LOS of D or better.
Number of Signalized Intersections	1	3	3
Temporary Construction Easements	None	10 APNs for TCEs	11 APNs for TCEs
Total Project Cost	None	$**106,000,000**	$**105,000,000**

Table 1-16: Environmental Impacts

Evaluation Criteria	No-Build Alternative	Build Alternative 7	Build Alternative 8
Farmlands	No impact.	Project implementation would bisect two agricultural parcels resulting in indirect conversion of 13.35 acres of remnant portions of agricultural parcels and direct conversion of 44.47 acres of farmland, with a total acreage of permanently impacted farmland of 57.82 acres. All agricultural land that is converted to non-agricultural use will be addressed at a 1:1 ratio. 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.	Project implementation would bisect two agricultural parcels resulting in indirect conversion of 13.35 acres of remnant portions of agricultural parcels and direct conversion of 44.47 acres of farmland, with a total acreage of permanently impacted farmland of 57.82 acres. All agricultural land that is converted to non-agricultural use will be addressed at a 1:1 ratio. 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.
Relocations and Real Property Acquisition	No impact.	Temporary ROW acquisition of 2.356 acres and permanent ROW acquisition of 58.40 acres. One permanent residential relocation would occur during Phase 2 of the project. 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.	Temporary ROW acquisition of 2.528 acres and permanent ROW acquisition of 50.772 acres. One permanent residential relocation would occur during Phase 2 of the project. 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.

Table 1-16: Environmental Impacts [continued]

Hydrology and Floodplains	Existing Avenue 50 low water crossing will continue to be subject to flooding during storm events; CVSC swells well above the roadway surface during periods of heavy rainfall.	A localized rise in the water surface elevation at the CVSC would occur. The allowable change in water surface elevation is a cumulative 1-foot rise over the base flood elevation for Zone A floodplains. The project would not involve changes to the 100-year water surface elevation in CVSC which would exceed the allowable 1-foot rise prescribed by the FEMA regulations. A Conditional Letter of Map Revision (CLOMR) is therefore not required. Build Alternative 7 would not introduce additional risk for traffic disruptions or loss of life and property and does not support incompatible floodplain development.	A localized rise in the water surface elevation at the CVSC would occur. The allowable change in water surface elevation is a cumulative 1-foot rise over the base flood elevation for Zone A floodplains. The project would not involve changes to the 100-year water surface elevation in CVSC which would exceed the allowable 1-foot rise prescribed by the FEMA regulations. A Conditional Letter of Map Revision (CLOMR) is therefore not required. Build Alternative 8 would not introduce additional risk for traffic disruptions or loss of life and property and does not support incompatible floodplain development.
Wetlands and Other Jurisdictional Waters	No impact.	Temporary impacts to 0.95-acre (0.08 of non-wetland waters and 0.87 of wetland) of United States Army Corps of Engineers (USACE) and Regional Water Quality Control Board (RWQCB) jurisdiction, and 1.88-acre (0.87 of vegetated streambed and 0.99 of unvegetated streambed) of California Department of Fish and Wildlife (CDFW) jurisdiction. Measure WET-1 would require impacts to jurisdictional waters of the U.S. and State be mitigated at a minimum 1:1 ratio at an approved mitigation bank, applicant-sponsored mitigation area, or on-site. The project will include a restoration plan that will provide requirements for site selection, implementation, monitoring, long-term maintenance, and performance standards, in consultation with the resource agencies. Measure WET-2 would require a delineated no work buffer around riparian and riverine communities and installation of ESA fencing and silt fence barriers. Permanent impacts to 0.02-acre of wetland associated with CVSC, which is under USACE and RWQCB jurisdiction. Permanent impacts to 3.23-acres (0.02-acre of vegetated streambed and 3.23-acres of non-vegetated streambed) of streambeds associated with CVSC, which are under CDFW jurisdiction. The City will obtain the required USACE 404 Permit, Colorado River Basin Regional Water Quality Control Board (Colorado River Basin RWQCB) 401 Water Quality Certification, and CDFW 1602 SAA, satisfying all associated requirements, prior to completion of final design. Anticipated potential impacts to jurisdictional waters of the U.S. and State will be addressed at a minimum 1:1 ratio, which may involve purchase of land or land credits and/or a restoration plan.	Temporary impacts to 0.95-acre (0.08 of non-wetland waters and 0.87 of wetland) of United States Army Corps of Engineers (USACE) Regional Water Quality Control Board (RWQCB) jurisdiction and 1.88-acre (0.87 of vegetated streambed and 0.99 of unvegetated streambed) of California Department of Fish and Wildlife (CDFW) jurisdiction. Measure WET-1 would require impacts to jurisdictional waters of the U.S. and State be mitigated at a minimum 1:1 ratio at an approved mitigation bank, applicant-sponsored mitigation area, or on-site. The project will include a restoration plan that will provide requirements for site selection, implementation, monitoring, long-term maintenance, and performance standards, in consultation with the resource agencies. Measure WET-2 would require a delineated no work buffer around riparian and riverine communities and installation of ESA fencing and silt fence barriers. Permanent impacts to 0.02-acre of wetland associated with CVSC, which is under USACE and RWQCB jurisdiction. Permanent impacts to 3.23-acres (0.02-acre of vegetated streambed and 3.23-acres of non-vegetated streambed) of streambeds associated with CVSC, which are under CDFW jurisdiction. The City will obtain the required USACE 404 Permit, Colorado River Basin Regional Water Quality Control Board (Colorado River Basin RWQCB) 401 Water Quality Certification, and CDFW 1602 SAA, satisfying all associated requirements, prior to completion of final design. Anticipated potential impacts to jurisdictional waters of the U.S. and State will be addressed at a minimum 1:1 ratio, which may involve purchase of land or land credits and/or a restoration plan.

The following factors will be considered in conjunction with identification of the preferred alternative: project cost, improvement to roadway operations, and environmental impacts.

After the public circulation period, all comments will be considered, and Caltrans will select a preferred alternative and make the final determination of the project's effect on the environment. Under the California Environmental Quality Act (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 the Federal Highway Administration (FHWA), determines the National Environmental Policy Act (NEPA) action does not significantly impact the environment, Caltrans will issue a Finding of No Significant Impact (FONSI).

1.4.7 Value Analysis (VA) Study

A Value Analysis (VA) Study was conducted for the project from November 29 through December 1, 2016. The objective of the VA study was to conduct an early review of the project design to identify value improving alternatives. Specifically, the VA objectives included the following:

- Review Avenue 50 alignments;
- Review project impacts with a goal to reduce impacts; and
- Explore traffic operation improving options.

A number of analytical tools and techniques were applied to develop a better understanding of the baseline concept. A major component of this analysis was Value Metrics, which seeks to assess the elements of cost, performance, time, and risk as they relate to project value. Value Metrics provides a standardized means of identifying, defining, evaluating, and measuring performance. The performance attributes included traffic operations, sustainability, ROW impacts, and schedule impacts. During the course of the VA Study, the alternatives were developed, assessed, and rated using these tools, techniques, and performance attributes. Accordingly, four options were considered, but rejected as part of the Avenue 50 Realignment Study. Also, a No Build Alternative and a build alternative (Alternative 2) were studied and presented in a Project Study Report/Project Development Support (PSR/PDS; EA 0C970K) that was approved by Caltrans on August 8, 2005. These two PSR/PDS alternatives are now termed as No-Build Alternative 1 and Build Alternative 2. In addition to these two PSR/PDS alternatives, seven other alternatives (Build Alternatives 3, 4, 5, 6A, 6B, 7, and 8) were developed and discussed.

Since the start of the Project Approval and Environmental Document (PA/ED) phase of the project, reviews and discussions during monthly Project Development Team (PDT) meetings have screened these eight conceptual build alternatives to just two viable build alternatives (Build Alternatives 7 and 8). The other alternatives were determined to be nonviable based on a combination of cost, safety, operational, and/or environmental constraints and were eliminated from further study. These alternatives that were considered, but rejected, are further discussed below.

1.4.8 Alternatives Considered but Eliminated from Further Discussion

1.4.8.1 Reversible Lanes

Assembly Bill 2542 amended California Streets and Highways code to require, effective January 1, 2017, that Caltrans 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). As Avenue 50 is an existing two-lane roadway without a median, implementing a reversible lane would require that Avenue 50 become a one-way street during peak hours. Since two-way traffic is required along Avenue 50 at all times, reversible lanes are not considered feasible and are not proposed as part of the project.

1.4.8.2 Realignment Study Option A1 – Avenue 50 Existing Centerline (Baseline Alignment)

This baseline alternative utilized the existing centerline tangent alignment. The PDT cited the following reasons for eliminating this alternative from further consideration:

- Southbound off-ramp and northbound on-ramp would encroach into tribal land.
- Virtually zero spacing between southbound off-ramp intersection and driveways (immediately east of CVSC).
- Short southbound off-ramp (approximately 800 feet) would require a number of design exceptions.
- The 45-degree skew angle would require the longest bridges, which significantly increase the overall construction cost. It also would result in an undesirable intersection skew angle at the on- and off-ramp intersections.
- Large retaining walls.

1.4.8.3 Realignment Study Option A2 – Avenue 50 Realignment (Hybrid Alignment)

Similar to Build Alternatives 7 and 8 (up to the easterly abutment of the proposed Avenue 50 bridge over CVSC), this alignment would have continued and crossed SR-86 at approximately 90 degrees, then curved northerly (to avoid the existing radio towers located at the radio tower station) and tied back into the existing Avenue 50 centerline approximately 3,000 feet east of the proposed northbound ramp intersection.

The PDT cited the following reasons for eliminating this alternative from further consideration:

- Southbound off-ramp and northbound on-ramp would encroach into tribal land.
- Longest realignment among Avenue 50 realignment alternatives, resulting in significant environmental and ROW impacts. It also increases project costs.

1.4.8.4 Realignment Study Option A3 – Avenue 50 Realignment (Centerline Alignment at the CVSC Bridge)

The proposed improvements for this alternative utilized the existing centerline alignment up to the easterly abutment of the proposed Avenue 50 bridge over CVSC. This alignment then curved to the north and crossed SR-86 at approximately 70 degrees, then curved northerly (to avoid the existing radio towers located at the radio tower station) and tied back into the existing Avenue 50 centerline approximately 3,000 feet east of the proposed northbound ramp intersection, similar to Avenue 50 realignment Alternative 2 (discussed below).

The PDT cited the following reasons for eliminating this alternative from further consideration:

- Southbound off-ramp and northbound on-ramp would encroach into tribal land.

- Require the longest bridge over CVSC.
- Long realignment resulting in environmental and ROW impacts. It also increases project costs.

1.4.8.5 Realignment Study Option A4 – Avenue 50 Realignment (North Alignment)

This proposed alignment started by curving northerly at the westerly bridge terminus across the CVSC. It continued and crossed SR-86 at approximately 85 degrees, then curved northerly (to avoid the existing radio towers located at the radio tower station) and tied back into the existing Avenue 50 centerline approximately 3,000 feet east of the proposed northbound ramp intersection, similar to Avenue 50 realignment Alternatives 2 and 3 (discussed below). This alignment required substantial ROW easement takes from tribal land. This would result in a lengthy approval process with the Cabazon Band of Mission Indians tribal members and council, and would require close coordination and agreement with the Bureau of Indian Affairs (BIA).

The PDT cited the following reasons for eliminating this alternative from further consideration:

- Substantial ROW impacts to tribal land.
- Avoid sensitive cultural resources.

1.4.8.6 Alternative 2 – Spread Diamond Interchange (From PSR-PDS)

Alternative 2 proposed a spread diamond interchange with an option to convert to a partial cloverleaf interchange to accommodate future growth and traffic demands. Avenue 50 would be realigned approximately 45 degrees in a northeasterly direction to accommodate the new interchange, perpendicular across SR-86. Tyler Street would also be realigned to maintain traffic circulation and route continuity.

The Avenue 50 overcrossing for this alternative was an approximately 60-foot-wide, 2-span structure to accommodate one through lane in each direction and two left-turn pockets for both directions. The bridge over the CVSC was a 5-span structure supported on multi-column bents.

The PDT cited the following reasons for eliminating this alternative from further consideration:

- This alternative would result in a segmented Avenue 50 (not a continuous east-west corridor), which is inconsistent with the Circulation Element of the City's General Plan;
- Impacts to Cabazon Band of Mission Indians Tribal Lands;
- Landlocked adjacent parcels (APNs 603-300-024, 603-330-011, 778-170-013, 763-020-010, 763-020-021, 763-042-022, 763-030-007, and 763-020-027); and
- Substantial impacts to KNWZ Radio Towers resulting a full acquisition and relocations of the radio transmission towers, as well as lengthy consultations with Federal Communications Commission and additional permit compliance.

1.4.8.7 Alternative 3 – Diverging Diamond Interchange (DDI)

Diverging Diamond Interchange (DDI) is an innovative, proven solution for improving safety and mobility at interchanges. Alternative 3 proposed a DDI utilizing a twin bridge layout and took advantage of reduced speeds of 25 to 35 miles per hour (mph) through the interchange. The realignment of Avenue 50 and Tyler Street on the west side of SR-86 would be similar to Build Alternatives 7 and 8. This alternative would meet the physical site constraints and provided the following benefits:

- Reduced overall ROW impacts;
- Improved skew angle, compared to other alternatives;
- Shortest Avenue 50 Overcrossing bridge length;
- Operational benefits:
  - Two phase signals reduce lost time at interchange;
  - Free-flow left turns onto expressway;
  - Increased capacity; and
- Lowest costs.

The PDT cited the following reasons for eliminating this alternative from further consideration:

- Lack of feasible options for reestablishing the Tyler Street connection to Avenue 50 on the east side of SR-86;
- Potential driver unfamiliarity;
- Safety concerns:
  - Potential for wrong-way maneuvers at crossovers; and
  - Unusual sight distance considerations.

1.4.8.8 Alternative 4 – Diamond Interchange with Roundabout Intersection Control

Alternative 4 proposed a Type L-1 Diamond interchange at Avenue 50 with the realignment of Avenue 50 and Tyler Street similar to Build Alternatives 7 and 8. Roundabouts were proposed to provide traffic ROW controls at the ramp intersections. A two-span structure was proposed for the Avenue 50 Overcrossing to accommodate three through lanes in each direction. This alternative would provide the following benefits:

- No traffic signals, which reduce lost time at interchange;
- Fewer number of overall conflict points and no left turn conflicts; and
- Reduced crash severity.

Alternative 4 was also consistent with the requirements stated in the Traffic Operations Policy Directive (TOPD) 13-02: Intersection Control Evaluation (ICE).

The PDT cited the following reasons for eliminating this alternative from further consideration:

- An undesirable 6-leg roundabout would be required on the west side of SR-86 to maintain access to the Cabazon Band of Mission Indians tribal land to the north and properties to the south.
- Three through-lane roundabouts would be required to accommodate the Avenue 50 corridor. Signing and striping on a 3-lane roundabout is complex and could lead to confusion for motorists. Currently, neither Caltrans nor FHWA has design guidelines for a three-lane roundabout.
- Due to the elevated Avenue 50 Overcrossing structure and limited space between the Avenue 50 bridge over CVSC and the southbound ramp intersection, the roundabouts would require significant fill material resulting in higher costs.
- This alternative also had safety concerns pertaining to pedestrians with vision impairment, as such persons would find it difficult to maneuver the roundabouts.

1.4.8.9 Alternative 5 – Single Point Interchange (SPUI)

A two-span structure was proposed for the Avenue 50 Overcrossing to accommodate three through lanes and two left-turn pockets for each direction of travel. This alternative would provide the following benefits:

- Improved operational efficiency and safety;
- Single traffic signal, ideal for balanced traffic volumes; and
- Wider turn radii eases movement for large vehicles.

Following the project alternative screening during ongoing PDT meetings and evaluation during the VA study session, the project team rejected this alternative. The PDT cited the following reasons for eliminating this alternative from further consideration:

- Safety Concerns:
  - Per Single Point Interchange Planning, Design, and Operations Guidelines, intersection skew angle should not exceed 15 degrees from normal;
  - Driver unfamiliarity;
- Wider bridge and extensive retaining walls resulting in substantially greater construction costs; and
- Difficult for future expansion.

1.4.8.10 Alternative 6A/6B – Modified Type L-9 Partial Cloverleaf

Alternative 6A/6B proposed a Modified Type L-9 Partial Cloverleaf interchange at SR-86 similar to Build Alternative 7 with the exception of the northbound ramp configuration. For Alternative 6A, the off-ramp aligns with the on-ramp to form a four-legged intersection with standard access control. For Alternative 6B, an innovative slip on-ramp design was proposed to comply with ADA requirements and minimize ROW impacts. Although both Alternatives 6A and 6B meet the purpose and need of the project, they do not provide feasible options for reestablishing the Tyler Street connection to Avenue 50 on the east side of SR-86.

Following the project alternative screening during ongoing PDT meetings and evaluation during the VA study session, the project team rejected this alternative. The PDT cited lack of feasible options for reestablishing the Tyler Street connection to Avenue 50 on the east side of SR-86 as the reason for eliminating these two alternatives from further consideration.

1.5 Permits and Approvals Needed

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

PLAC	Agency	Status
Clean Water Act Section 401 Water Quality Certification	Colorado River Basin Regional Water Quality Control Board (RWQCB)	Application for certification will be submitted to CRBRWQCB after approval of the final Environmental Document. Certificate will be acquired prior to completion of final design.
Clean Water Act Section 404 Standard Individual Permit	United States Army Corps of Engineers (USACE)	Application for permit will be submitted to USACE after approval of the final Environmental Document. Permit will be acquired prior to completion of final design.
California Fish and Game Code Section 1602 Streambed Alteration Agreement	California Department of Fish and Wildlife (CDFW)	Application for permit will be submitted to CDFW after approval of the final Environmental Document. Permit will be acquired prior to completion of final design.
Air Quality Conformity Determination	Federal Highway Administration (FHWA)	FHWA's air quality conformity analysis determination letter will be obtained prior to approval of the final environmental document for the project.

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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.

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2.1 HUMAN ENVIRONMENT

2.1.1 Land Use

The proposed project is located in the central portion of the City of Coachella. The land use analysis is based predominately on information contained in the City of Coachella General Plan Update (General Plan), adopted April 22, 2015. Please refer to Section 2.1.2, Farmlands, for information pertaining to agricultural land use designations and zoning consistencies.

2.1.1.1 Affected Environment

2.1.1.1.1 Existing Land Use

East of SR-86, existing land uses are predominately agricultural and residential. West of SR-86, existing land uses are predominately residential, commercial, agricultural, institutional, and open space.

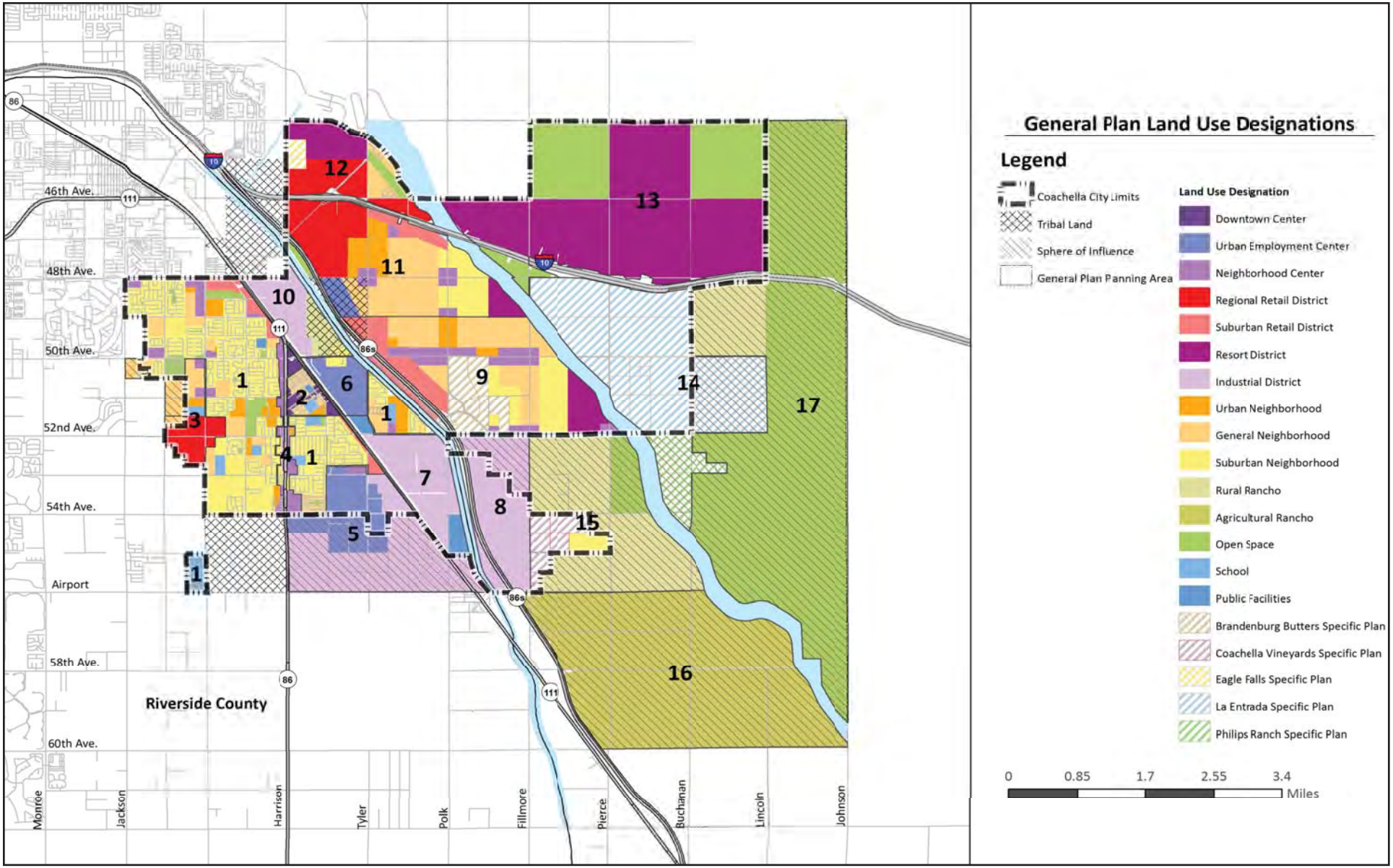
2.1.1.1.2 Future Land Use

Land use designations adjacent to the project site, as shown in the City's General Plan Figure 4-23, General Plan Designation Map, include Suburban Neighborhood, Open Space, Urban Employment Center, Suburban Retail District, Neighborhood Center, and Urban Neighborhood; refer to Figure 2.1.1-1, Coachella General Plan Land Use Designations. Areas north and west of the interchange are also identified as Tribal Land (Cabazon Band of Mission Indians). Based on the General Plan Figure 4-24, General Plan Subareas Map, existing subareas adjacent to the project site include Subarea 1 (West Coachella Neighborhoods), Subarea 6 (Downtown Expansion), Subarea 10 (North Employment District), and Subarea 9 (Central Coachella Neighborhoods); refer to Figure 2.1.1-2, Coachella General Plan Subareas.

According to the City of Coachella Official Zoning Map (2013), included as Figure 2.1.1-3, Coachella Zoning Map, the SR-86/Avenue 50 New Interchange and adjacent land uses have zoning designations of Residential Single Family (R-S), Agricultural Reserve (A-R), Open Space (O-S), Agricultural Transition (A-T), and Commercial Tourist Planned Unit Development (C-T, PUD) under the City's Zoning Code (Zoning Code). Single family residential uses to the south of Avenue 50 and west of the CVSC are specifically identified as Residential Estate (R-E). Land north of Avenue 50 and west of Tyler Street are identified as Tribal Land.

Multiple land development and transportation infrastructure projects are planned within and adjacent to the study area for future development. The locations of these projects are depicted on Figure 2.1.1-4, Planned Projects in the City of Coachella. According to the General Plan, Coachella's vision is to transform the City from a small town to a medium-sized, full-service city, and to diversify its economic activity and job opportunities. As a result, development within the City has been robust in recent years, and a substantial amount of new development is anticipated to continue throughout the City's planning horizon. Recent development trends in the City include multiple large specific plans, as well as commercial and public facilities and infrastructure that would be necessary to support the additional population that would result with implementation of these specific plans.

As shown on Figure 2.1.1-4, a portion of one specific plan (Brandenburg Butters Specific Plan) is located within the project vicinity. Further away, there are two other large specific plans located in the eastern portion of the City that would potentially utilize the proposed new



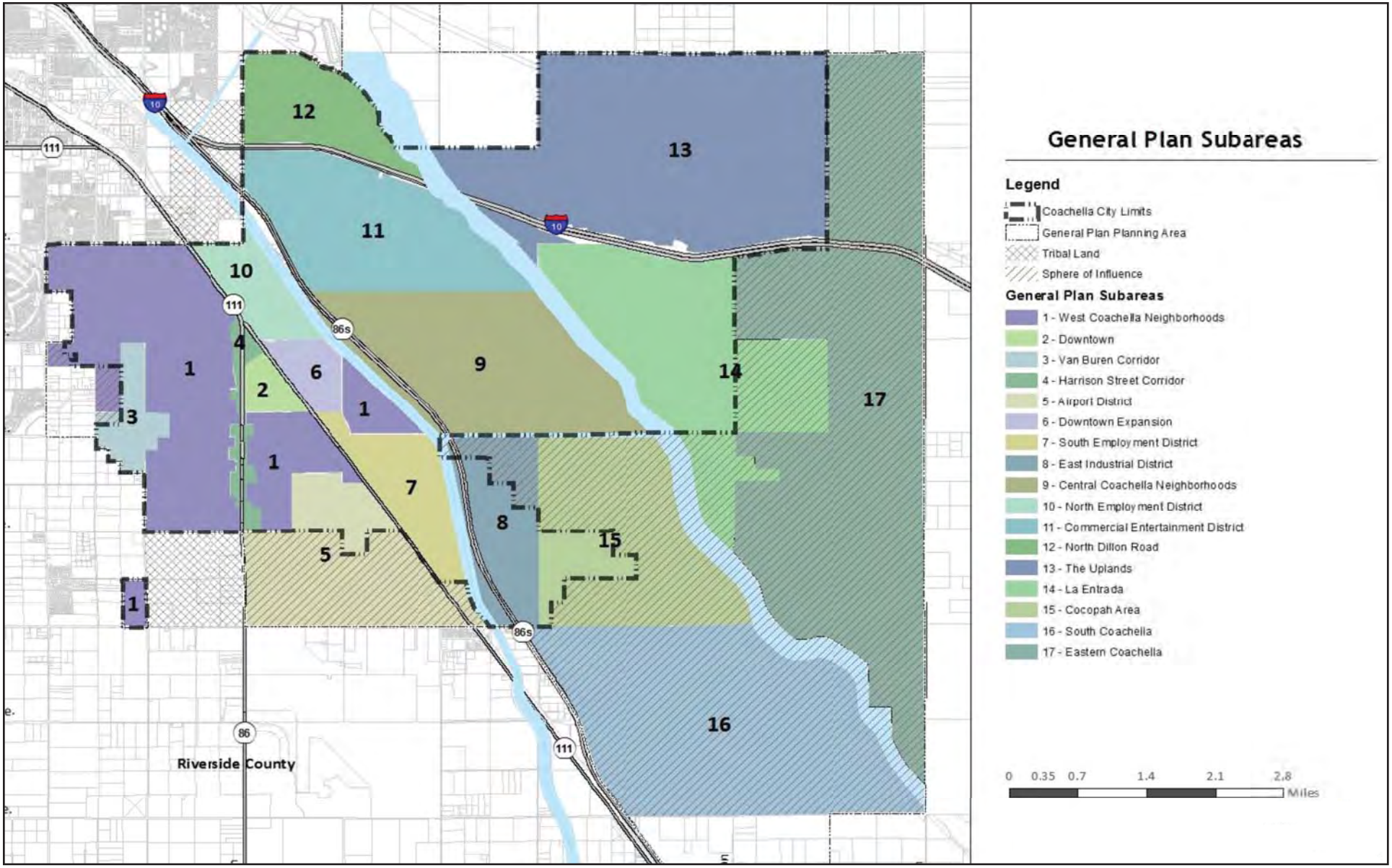
Source: City of Coachella General Plan Update 2035, January 2014.

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Coachella General Plan Land Use Designations

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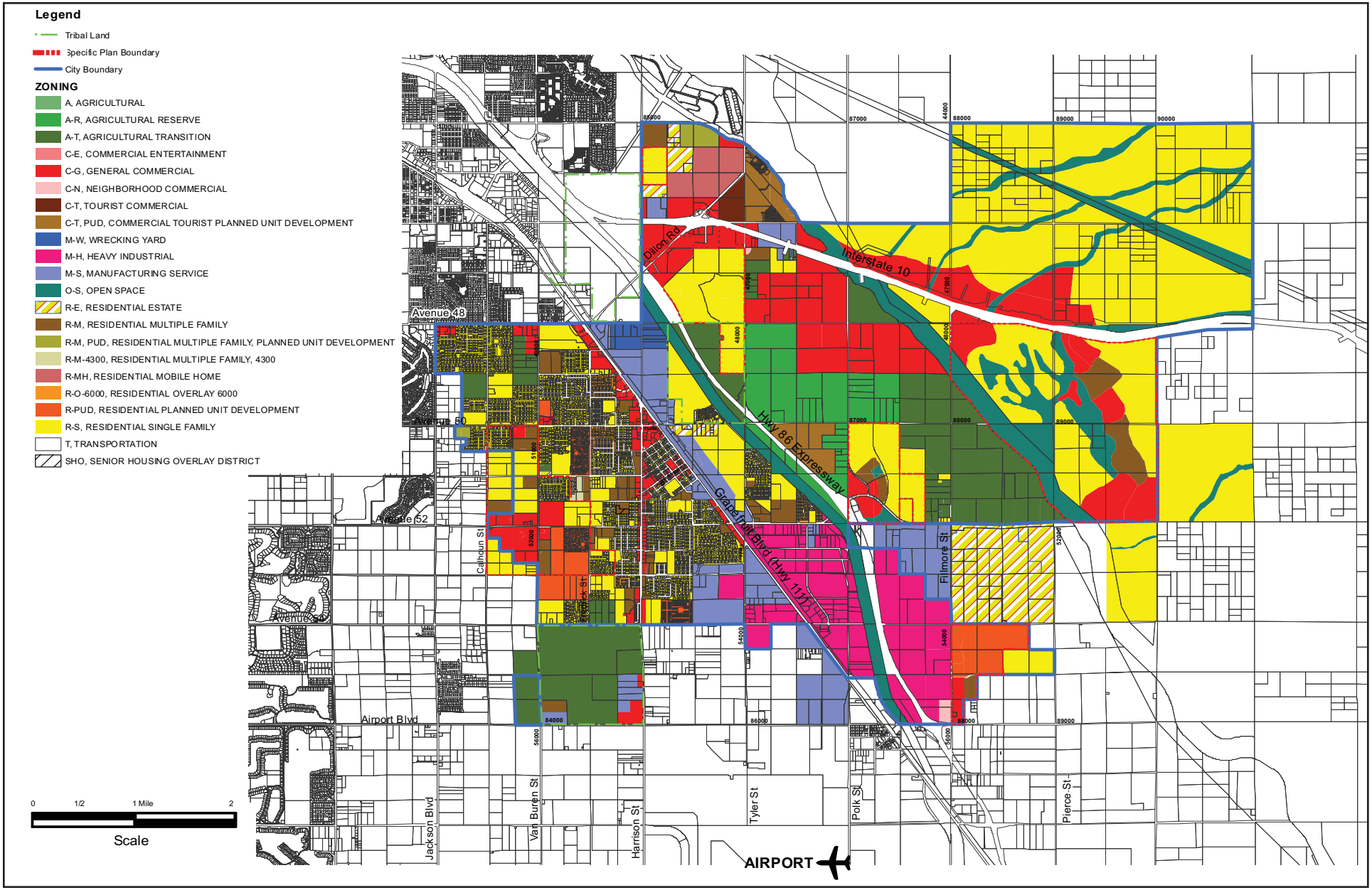
Figure 2.1.1-1



Source: City of Coachella General Plan Update 2035, January 2014.

Coachella General Plan Subareas

Figure 2.1.1-2

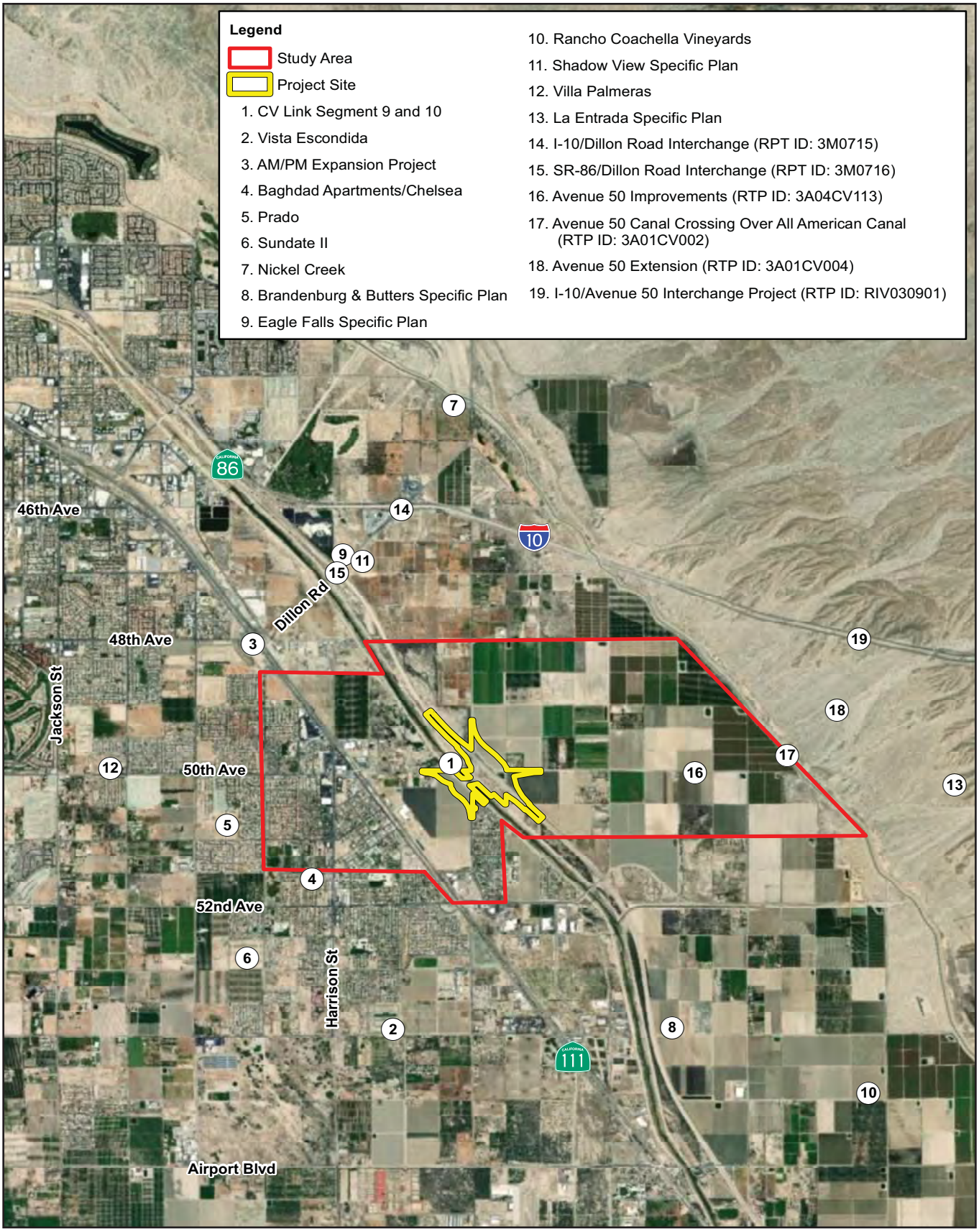


INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Coachella Zoning Map

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Figure 2.1.1-3



INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Planned Projects in the City of Coachella

11/18 | JN 159814

Figure 2.1.1-4

interchange at SR-86/Avenue 50 and new Avenue 50 bridge over the CVSC. These specific plans and other approved land development and transportation infrastructure projects under consideration by the City are listed in Table 2.1.1-1, Planned Projects and are identified on Figure 2.1.1-4.

Table 2.1.1-1: Planned Projects in the City of Coachella

Map ID*	Project Name	Project Description	Location	Status
1	CV Link Segments 9 and 10	3.5 miles of the total 50-mile CV Link alignment	Taylor Street to Airport Boulevard (Avenue 56)	First phase completed in Palm Springs, second phase commencing in La Quinta 2019.
2	Vista Escondida	282 single-family unit subdivision on 46.64 acres.	Northwest corner of Shady Lane and Avenue 54, Coachella.	25 percent of homes built; park and off-site improvements complete. Future phases to begin construction in 2019.
3	AM/PM Expansion Project	Construct new carwash, drive-thru restaurant, and retail buildings on 4.85 acres.	Southwest corner of Avenue 48 and Grapefruit Boulevard, Coachella.	Under construction. Phase 1 and 2 complete. Expected completion in 2020.
4	Baghdad Apartments/ Chelsea	General plan amendment from low-density residential; architectural review for 144-unit apartments and parcel map modification.	Southwest corner Calle Avila and Bagdad Avenue, Coachella.	First phase complete (56 units); off-site improvements complete. Second phase completed June 2018.
5	Prado	232 single-family unit subdivision.	West of Frederick Street between Avenue 50 and Avenue 51, Coachella.	65 homes built; all off-site improvements complete. Next phase of construction expected in 2018.
6	Sundate II	169 single-family unit subdivision.	Northwest corner Avenue 53 and Frederick Street, Coachella.	Tentative map revision approved. First phase of construction expected in 2020.
7	Nickel Creek	322 single-family unit subdivision on 64.64 acres.	Avenue 44, West of Dillon Road, Coachella.	Tentative map approved. Construction expected in 2020 or later.
8	Brandenburg & Butters Specific Plan	Revised Plan includes 212 single-family unit subdivision.	North of Avenue 54, between Fillmore Street and Polk Street, Coachella.	Tentative map approved. Construction expected in 2020 or later.
9	Eagle Falls Specific Plan	295 single-family unit subdivision on more than 90 acres.	North of I-10 West of Harrison Place, Coachella.	Tentative map approved. Construction expected in 2020 or later.
10	Rancho Coachella Vineyards	272 single-family unit subdivision 80 acres.	Northwest corner Avenue 55 and Pierce Street, Coachella.	Tentative map approved. Time extension granted. Construction expected in 2020 or later.
11	Shadow View Specific Plan	1,600 single-family unit subdivision on 368 acres.	Southeast of Dillon Road between I-10 and SR-86 Expressway, Coachella.	Tentative maps expired. Construction expected in 2020 or later.
12	Villa Palmeras	111 single-family attached and detached residential units on 11.58 acres.	South side of Avenue 50 between Jackson Street and Calhoun Street, Coachella.	Tentative map approved. Construction expected in 2020 or later.
13	La Entrada Specific Plan	7,800 residential units; mixed uses including high-density residential, commercial, public facilities, and other non-residential uses; three elementary schools and one middle school; 345 acres of parks/ recreation uses, including multi- purpose trails; 112 acres of roadway uses; and 557 acres of open space.	South of I-10 and east of All American Canal.	Specific Plan, environmental document, and Development Agreement approved. First phase of construction expected by 2020.
14	I-10/Dillon Road Interchange (RTP ID: 3M0715)			PSR approved in 2010.
15	SR-86/Dillon Road Interchange (RTP ID: 3M0716)			PSR approved in 2010.
16	Avenue 50 Improvements (RTP ID: 3A04CV113)			Final design.
17	Avenue 50 Canal Crossing over All American Canal (RTP ID: 3A01CV002)			Final design.
18	Avenue 50 Extension (RTP ID: 3A01CV004)			Final design.
19	I-10/Avenue 50 New Interchange Project (RTP ID: RIV030901)			Final design.

*Mapping ID Nos. correspond to those identified in Figure 2.1.1-4, Planned Projects in the City of Coachella.

Source: SR-86/Avenue 50 New Interchange Project Community Impact Assessment, dated September 2018.

The project site also includes a planned future alignment of the planned Coachella Valley (CV) Link project. CV Link is a 50 mile multi-modal transportation path proposed by Coachella Valley Association of Governments (CVAG) that would extend from the City of Palm Springs on the west to the City of Coachella on the east. The route is generally proposed along the levees of the CVSC and on local streets. CV Link is designed to accommodate the widest possible range of users, including pedestrians, bicyclists, low-speed electric vehicles (LSEVs), and mobility device users (wheelchairs and electric scooters). LSEVs include golf carts and neighborhood electric vehicles (NEVs). The project would accommodate a segment of the CV Link project along the south bank of the CVSC within the project limits.

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

Southern California Association of Governments (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): A Plan for Mobility, Accessibility, Sustainability, and a High Quality of Life

The 2016-2040 RTP/SCS provides a vision for transportation investments throughout the region. Using growth forecasts and economic trends that project out over a 20-year period, the RTP considers the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future, identifying regional transportation strategies to address our mobility needs. The RTP seeks to identify regional solutions to transportation issues in Southern California. This comprehensive approach to regional planning is imperative to maintaining the unique social, environmental, cultural, and economic vitality for the tens of millions of people who would live, work, and play in Southern California. Federal and State regulations require SCAG, as the Regional Transportation Planning Agency (RTPA) and Metropolitan Planning Organization (MPO), to develop an RTP every four years in order for the region's transportation projects to qualify for federal and State funding. The RTP is updated to reflect changes in trends, progress made on projects, and to adjust the growth forecast for population changes. The 2016 RTP was adopted by SCAG's Regional Council on April 7, 2016, which subsequently received the required conformity determination letter from the FHWA and the Federal Transit Administration (FTA) on June 1, 2016.

SCAG's 2016 RTP provides the basic policy and program framework for long-term investment in the regional transportation system. Transportation investments in the SCAG region that receive State or federal transportation funds must be consistent with the RTP and must be included in the FTIP (see below) when ready for funding. The proposed project is included in SCAG's 2016-2040 RTP/SCS (as RTP IDs RIV061159 and RIV110825).

Southern California Association of Governments (SCAG) 2017 Federal Transportation Improvement Program (FTIP)

The FTIP, formerly referred to as the Regional Transportation Improvement Program (RTIP), 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. In the SCAG region, a biennial FTIP update is produced on an even-year cycle. The FTIP is prepared to implement projects and programs listed in the RTP and developed in compliance with State and federal requirements. County Transportation Commissions have the responsibility under State law of proposing county projects, using the current RTP's policies, programs, and projects as a guide, from among submittals by cities and local agencies. The locally prioritized lists of projects are forwarded to SCAG for review. From this list, SCAG

develops the FTIP based on consistency with the current RTP, inter-county connectivity, financial constraint, and conformity satisfaction.

The proposed project is listed in SCAG's 2017 FTIP (approved June 2016, including Amendments 1-20) as a State Highway project (Project IDs RIV110825 and RIV061159). The project entry identifies the following scope of work:

- *RIV110825* – In the City of Coachella, Avenue 50 over Coachella Stormwater Channel: Replacement of a 2-lane low water crossing (Bridge No. 00L0055) with a 6-lane (3 lanes in each direction) bridge from 300-ft west of Apache Trail to SR-86 south intersection. Other improvements include bike lanes/trails, sidewalks, reconstruct traffic signal/driveways, channel scour protection, and removal of low water crossing and culverts (EA: 0C970).

- *RIV061159* – At SR-86/Avenue 50: Widen and construct new 6-through lane interchange from east of Coachella Stormwater Channel Bridge to east of Tyler Street. Improvements include: extended ramp acceleration/deceleration lanes, relocate/realign Avenue 50 and Tyler Street, bike lanes, sidewalks, and reconstruct traffic signals (SAFETEA LU 1702, CA583, #2543) (EA: 0C970).

The project will also be included in the SCAG 2019 FTIP.

Coachella Valley Multiple Species Habitat Conservation Plan

The Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) is a comprehensive, multi-jurisdictional habitat conservation plan focusing on preservation of species and their associated habitats within the Coachella Valley region of Riverside County. The primary goal of the CVMSHCP is to maintain and enhance biological diversity and ecosystem processes within the region while allowing the opportunity for future economic growth. The CVMSHCP covers 27 sensitive plant and wildlife species ("covered species") as well as 27 natural communities. Covered species include both listed and non-listed species that are sufficiently conserved by the CVMSHCP. The overall provisions for the plan are subdivided according to specific resource conservation goals that have been organized based on geographic areas defined as Conservation Areas. These areas are identified as Core, Essential, or Other Conserved Habitat for sensitive plant, invertebrate, amphibian, reptile, bird, and mammal species; Essential Ecological Process Areas; and Biological Corridors and Linkages. Each Conservation Area has specific Conservation Objectives that must be satisfied.

The CVMSHCP was prepared for the entire Coachella Valley and surrounding mountains to address current and potential future State and Federal Endangered Species Act issues in the Plan Area. A Memorandum of Understanding ("Planning Agreement") was developed to govern the preparation of the CVMSHCP. In late 1995 and early 1996, under the auspices of CVAG, the cities of Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage; County of Riverside; USFWS; California Department of Fish and Wildlife (CDFW); Bureau of Land Management; U.S. Forest Service; and National Park Service signed the Planning Agreement to initiate the planning effort. Subsequently, Caltrans, Coachella Valley Water District (CVWD), Imperial Irrigation District (IID), Riverside County Flood Control and Water Conservation District (County Flood Control), Riverside County Regional Park and Open Space District, Riverside County Waste Resources Management District, California Department of Parks and Recreation, and Coachella Valley Mountain Conservancy decided to participate in the CVMSHCP. Local Permittees would be required to ensure future development is consistent with the MSHCP.

The CVMSHCP balances environmental protection and economic development objectives in the plan area and simplifies compliance with endangered species related laws. The CVMSHCP is intended to satisfy the legal requirements for the issuance of permits that would allow the Take of species covered by the plan in the course of otherwise lawful activities. The CVMSHCP would, to the maximum extent practicable, minimize and mitigate the impacts of "Take" and provide for Conservation of the Covered Species. Implementation of the MSHCP would be overseen and administered by the Coachella Valley Conservation Commission (CVCC), a joint powers authority formed by the Local Permittees pursuant to the requirements of the California Government Code and other appropriate legal authorities. Each participating Permittee or local jurisdiction within the Coachella Valley region would impose a development mitigation fee for new development projects within its jurisdiction. With payment of the mitigation fee and compliance with the requirements of the CVMSHCP, full mitigation compliance with CEQA, the NEPA, California Endangered Species Act (CESA), and Federal Endangered Species Act (FESA) would be granted.

The CDFW issued the Natural Community Conservation Plan permit for the CVMSHCP on September 9, 2008, and the USFWS issued the final permit for the CVMSHCP on October 1, 2008. The MSHCP "balances environmental protection and economic development objectives in the plan area and simplifies compliance with endangered species related laws" (CVAG 2007). It currently covers 27 species; a Reserve System would be established within 21 Conservation Areas based on occurrences of 27 natural communities that provide habitat for the Covered Species. The Biological Study Area (BSA) associated with the proposed project is located in the CVMSHCP Area, but is located outside of all associated Conservation Areas (Natural Environment Study [NES], May 2018).

City of Coachella General Plan

The City of Coachella's General Plan was adopted on April 22, 2015, and it establishes a comprehensive framework through which the City manages its growth and development.

Mobility Element

The Mobility Element addresses both automobile travel as well as the movement of bicycles, pedestrians, and transit users. Rather than prioritize one mode of travel as compared to another, the goals and policies outlined are focused on creating a balanced transportation system in which all modes of travel are treated equally. Relevant mobility-related goals and policies in the General Plan are described below.

ME Goal 1 – Complete Streets. A balanced transportation system that accommodates all modes of travel safely and efficiently without prioritizing automobile travel at the expense of other modes.

ME Policy 1.1 – Complete streets for new construction. Require that the planning, design and construction of all new transportation projects consider the needs of all modes of travel to create safe, livable and inviting environments for pedestrians, bicyclists, motorists and public transit users of all ages and abilities.

ME Policy 1.2 – Complete streets for existing roadways. Require that the planning, design and reconstruction of any existing transportation projects consider the needs of all travel modes to the extent feasible.

ME Policy 1.6 – Pedestrian and cyclist safety. Balance the safety concerns of pedestrians and cyclists with motor vehicles and emergency response to ensure that the safety of all users of the transportation system is considered.

ME Policy 1.7 – Street Beautification: Require that the City maintain consistency among landscape and streetscape elements along roadway projects to create a more uniform approach to these items throughout the City.

ME Goal 3 – Pedestrian Network. A safe pedestrian network that provides direct connections between residences, employment, shopping and civic uses.

ME Policy 3.3 – Sidewalks for roadways. Require that the City provide wide sidewalks along all roadways which are built or reconstructed in the City except in those instances in which there is insufficient right-of-way or other physical limitations.

ME Goal 4 – Bicycle Trail Network. A bicycle and multi-use trail network that facilitates bicycling for commuting, school, shopping and recreational trips.

ME Policy 4.1 – Bicycle networks. Require that the City provide additional bicycle facilities along all roadways in the City which are built or reconstructed in the City except in those instances in which there is insufficient right-of-way or other physical limitations.

ME Goal 6 – Sustainable Transportation. A sustainable transportation system that can be built, operated, and maintained within the City's existing and future resource limitations.

ME Policy 6.5 – Sustainable Landscaping. Promote the use of sustainable landscape and streetscape elements along roadways and other transportation facilities as they are constructed or reconstructed.

Land Use and Community Character Element

The Land Use and Community Character Element provides a long-term vision, goals, and policies for land use and development in Coachella over the next 20 to 30 years. Over this time, Coachella is expected to grow significantly and transform from a small town to a medium sized city. The goals and policies in the Land Use and Community Character Element are critical to the overall development of the City. In addition to regulating land use and development intensity, this element also regulates the form and character of development that would occur and the connections between development projects. Relevant land use-related goals and policies in the General Plan are described below.

LU Policy 3.3 – Pedestrian barriers. Discourage physical barriers to walking and bicycling between and within neighborhoods and neighborhood centers. If physical barriers are unavoidable, provide safe and comfortable crossings for pedestrians and cyclists. Physical barriers may include arterial streets with speed limits above 35 mph, transit or utility rights-of-way, very long blocks without through-streets, and sound walls, among others.

LU Goal 9 – Corridors and Connectivity. A network of transportation and open space corridors throughout the City that provides a high level of connectivity for vehicles, cyclists and pedestrians.

LU Policy 9.4 – Transportation corridors. Plan and reserve transportation corridors in coordination with land use.

- Avenues 50 and 52. Establish Avenues 50 and 52 as important cross-town corridors that connect Coachella, serve as transitions between neighborhoods, provide opportunities for local-serving retail and balance the needs of multiple transport modes.

2.1.1.2 Environmental Consequences

Alternative 1 (No-Build Alternative)

The No-Build Alternative is not consistent with State and regional plans and programs, or the City's General Plan for this area. Refer to Table 2.1.1-2, Consistency with State, Regional, and Local Plans and Programs.

Alternatives 7 and 8 (Build Alternatives)

While permanent ROW acquisition would be required, conversion of these vacant, residential, agricultural, and commercial (radio tower station) uses to a roadway use would not trigger a new land use requiring an amendment to the City's General Plan Land Use Element for both Build Alternatives 7 and 8. Relocation of the one residential use would occur within a comparable land use area in the City, which would not necessitate a General Plan Amendment. Therefore, no permanent land use impacts would occur.

As outlined above, the proposed project is a planned project per the City's General Plan Mobility Element. Build Alternatives 7 and 8 would be consistent with State, regional, and local plans and programs, as identified in Table 2.1.1-2.

Table 2.1.1-2: Consistency with State, Regional, and Local Plans and Programs

Policy	No-Build Alternative	Build Alternatives 7 and 8
Regional Plans and Programs		
Southern California Association of Governments (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)	**Not Consistent.** The project is included in SCAG's 2016-2040 RTP/SCS as RTP IDs RIV061159 and RIV110825. As such, implementation of the No-Build Alternative would not be consistent with the 2016-2040 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 2016-2040 RTP/SCS as RTP IDs RIV061159 and RIV110825. As such, implementation of Build Alternatives 7 and 8 would be consistent with the 2016-2040 RTP/SCS since the transportation improvements that would be provided by the project would be constructed under Build Alternatives 7 and 8.
Southern California Association of Governments (SCAG) 2017 Federal Transportation Improvement Program (FTIP)	**Not Consistent.** The project is included in SCAG's 2017 FTIP as Project ID RIV061159 and RIV110825. As such, implementation of the No-Build Alternative would not be consistent with the 2017 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 2017 FTIP as Project ID RIV061159 and RIV110825. As such, implementation of the Alternative 7 or Alternative 8 would be consistent with the 2017 FTIP since the transportation improvements that would be provided by the project would be constructed under the project.

Table 2.1.1-2: Consistency with State, Regional, and Local Plans and Programs [continued]

Policy	No-Build Alternative	Build Alternatives 7 and 8
Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP)	**Not Consistent.** The proposed project is recognized as a Covered Activity under the CVMSHCP. In developing the conservation goals and objectives of the CVMSHCP, the project was determined to be consistent with the biological goals and objectives of the CVMSHCP. The project is located within the boundaries of the CVMSHCP, although it is not located within any identified Conservation Areas. As the project is a Covered Activity, even though it is located outside designated Conservation Areas, because the project is an identified covered project, implementation of the No-Build Alternative would not be consistent with the CVMSHCP.	**Consistent.** As indicated in the CVMSHCP Table 7-3, CVAG Regional Road Projects, Caltrans and the City of Coachella are both agencies identified in conjunction with the State Route 86/Avenue 50 New Interchange Project. Implementing Agencies are obligated to acquire land and fund the Monitoring Program, the Management program, and Adaptive Management is described in Section 6.6.1 and Section 6.6.2 of the CVMSHCP. The proposed project is recognized as a Covered Activity under the CVMSHCP. In developing the conservation goals and objectives of the CVMSHCP, the project was determined to be consistent with the biological goals and objectives of the CVMSHCP. The project is located within the boundaries of the CVMSHCP, but is not located within any identified Conservation Areas. As such, no CVMSHCP Conservation Areas would be impacted from project implementation. Although the project is a Covered Activity located outside designated Conservation Areas, construction of the project is still expected to be consistent with the applicable avoidance, minimization, and mitigation measures set forth in Section 4.4 of the CVMSHCP. No further avoidance, minimization, and mitigation measures are required. See Section 2.3, "Biological Environment" in this chapter of this Environmental Document for more detailed discussion regarding the proposed project's consistency with the CVMSHCP.
Local Plans and Programs		
City of Coachella General Plan Mobility Element: Goal 1 - Complete Streets, Policies 1.1, Complete streets for new construction; 1.2, Complete streets for existing roadways; 1.6, Pedestrian and cyclist safety; and 1.7, Street Beautification	**Not Consistent.** Under the No-Build Alternative, no changes to the existing roadways would occur in the project area. This alternative would not improve interchange traffic operations, nor would it contribute to the achievement of the City's mobility goals, particularly those excerpted herein as part of the City of Coachella General Plan discussion.	**Consistent.** With implementation of the proposed Build Alternatives 7 and 8, the project would contribute to a balanced transportation system that accommodates all modes of travel safely and efficiently without prioritizing automobile travel at the expense of other modes. Through the proposed sidewalks, dedicated LSEV lanes, LSEV connections, and accommodation of the CV Link right-of-way, the project considers all modes of travel to create safe environments for pedestrians, bicyclists, motorists, and public transit users. Not only would the project accommodate these alternative modes of transportation, but would also increase connectivity of automobiles in the area, including emergency vehicle access. Further, all City General Plan goals and policies pertaining to street trees would be incorporated into the improvements proposed within City right-of-way, as part of the City's design review process.
Goal 4, Bicycle Trail Network, Policies 3.3, Sidewalks for roadways; and 4.1, Bicycle networks	**Not Consistent.** Under the No-Build Alternative, no changes to the existing roadways would occur in the project area. This alternative would not improve interchange traffic operations, nor would it contribute to the achievement of the City's mobility goals, particularly those excerpted herein as part of the City of Coachella General Plan discussion.	**Consistent.** Development of Build Alternatives 7 and 8 would provide wide sidewalks and bicycle lanes along all project roadways, removing the existing physical limitations imposed by the CVSC and SR-86.

Table 2.1.1-2: Consistency with State, Regional, and Local Plans and Programs [continued]

Policy	No-Build Alternative	Build Alternatives 7 and 8
Goal 6, Sustainable Transportation, Policy 6.5, Sustainable Landscaping	**Not Consistent.** Under the No-Build Alternative, no changes to the existing roadways would occur in the project area. This alternative would not improve interchange traffic operations, nor would it contribute to the achievement of the City's mobility goals, particularly those excerpted herein as part of the City of Coachella General Plan discussion.	**Consistent.** All City General Plan goals and policies pertaining to streetscape and sustainable landscape would be incorporated into the improvements proposed within City right-of-way, as part of the City's design review process.
City of Coachella General Plan Land Use and Community Character Element: Policy 3.3, Pedestrian barriers	**Not Consistent.** Under the No-Build Alternative, no changes to the existing roadways would occur in the project area. This alternative would not improve the physical barriers to pedestrians and bicyclists presented by the SR-86 corridor.	**Consistent.** Build Alternatives 7 and 8 support development patterns and urban design comprised of complete, walkable streets that support healthy and active lifestyles. Implementation of the project would encourage walkability by maximizing connectivity both to the future CV Link Project, as well as between the east and west sides of SR-86.
Goal 9, Corridors and Connectivity, Policy 9.4, Transportation corridors	**Not Consistent.** Under the No-Build Alternative, no changes to the existing roadways would occur in the project area. This alternative would not improve interchange traffic operations, nor would it contribute to the achievement of the City's mobility goals, particularly those excerpted herein as part of the City of Coachella General Plan discussion.	**Consistent.** The proposed project would enhance the City's network of transportation and open space corridors (particularly along Avenue 50, SR-86, and the CVSC), which provides a high level of connectivity for vehicles, bicyclists, and pedestrians in the project area. These proposed corridors would increase the City's green/open space network along, and to, the CVSC.

2.1.1.3 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.1.1.4 Parks and Recreational Facilities

2.1.1.4.1 Affected Environment

There is one public park located within 0.5-mile of the project site, as described below.

- Sierra Vista Park is a park that adjoins the project site in the southwest quadrant at 50-570 Calle Mendoza, in the City of Coachella. This 2.6-acre park includes one basketball court, and a playground and picnic tables. The facility is owned and operated by the City and is open to the public.

2.1.1.4.2 Environmental Consequences

Alternative 1 (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.

Alternatives 7 and 8 (Build Alternatives)

A detailed discussion of temporary, permanent, and indirect impacts of the Build Alternatives on the aforementioned parks/recreational facilities is provided in Appendix A to this Environmental Document.

Potential project effects related to the Sierra Vista Park are discussed below.

Sierra Vista Park

As discussed above, Sierra Vista Park is a park that adjoins the project site in the southwest quadrant at 50-570 Calle Mendoza, in the City of Coachella. This 2.6-acre park includes one basketball court, and a playground and picnic tables. The facility is owned and operated by the City and is open to the public. Thus, it is considered a Section 4(f) property under the provisions of Section 4(f).

There are a number of existing electrical power poles within Sierra Vista Park that would require removal as part of Phase 1 of project construction. Specifically, there are four power poles located within Sierra Vista Park that would be removed under construction of the Build Alternatives (pole numbers T-17671; T-17672; T-17673; and T-17674). Figure A-4 of Appendix A, Project Improvements Relative to Sierra Vista Park, shows the location of the affected power poles. Construction activities associated with the power pole relocation would be of short duration (approximately one week). During this brief period, the park may require closure for safety purposes. Measure PR-1 would ensure that closure information is received by the City a minimum of 60 days in advance, so that the City would be able to provide 30 days advance notice to the neighborhood from Calle Mendoza south to Avenue 52.

Upon completion of the power pole removal, full use of Sierra Vista Park would be restored and users of the park would continue to utilize the park facilities as they currently do. The removal of the power poles would represent a beneficial impact during long-term operations, since these existing obstructions would be removed.

Construction of the re-alignment of Tyler Street is expected to be completed within one to three months. Throughout the duration of construction of the re-alignment of Tyler Street, pedestrian access to Sierra Vista Park would be maintained (aside from the maximum of one week when power pole relocation in Sierra Vista Park occurs). Park users would be able to park along the streets located in the neighborhood immediately south of the park during the re-alignment of Tyler Street and construction of the cul-de-sac. Roadside parking within walking distance of the park would be available specifically on Calle Mendoza, Calle Pizano, Corte Olivia, and Las Flores Avenue, all of which are located less than 0.25-mile from the park. Additionally, a sidewalk is currently provided along the eastern side of Tyler Street. The sidewalk along Tyler Street would remain open throughout project construction.

A temporary loss of parking for users of the park would occur during Phase 1 of project construction. There are currently 11 parallel parking stalls located on the east side of Tyler Street along the park's western border; no parking is permitted along the west side of Tyler Street. Following project completion, access to Sierra Vista Park would be provided via a new driveway extending immediately north of Calle Mendoza. This driveway would include 11 diagonal parking spaces along the eastern side and three parallel parking spaces along each side of the roadway. A cul-de-sac would be provided at the end of the driveway. Refer to Figure A-4 of Appendix A for the location of proposed parking.

As summarized above, based on review of preliminary engineering efforts to-date for the proposed project, Caltrans anticipates concluding that the proposed project would result in no use of Sierra Vista Park, and that regarding Sierra Vista Park, the project satisfies the criteria for a Temporary Occupancy exception as set forth in 23 CFR 774.13(d). Written correspondence took place with Ms. Maritza Martinez**,** Public Works Director at the City of Coachella, in this regard and the City provided their agreement with the temporary occupancy exception determination.

As noted above, the removal of power poles from Sierra Vista Park would take a maximum of one week, and the realignment of Tyler Street would last from one to three months. The scope of work for the proposed project in relation to Sierra Vista Park would be minor and would result in beneficial impacts for park users after the poles are removed. This duration would be shorter than construction of Phase 1 of the project (12 months). Access to the park would be maintained continuously during the realignment of Tyler Street, and an increased amount of parking would be provided adjacent to Sierra Vista Park, as compared to existing conditions. Moreover, Measure PR-1 would require that the City of Coachella receive closure information a minimum of 60 days in advance so that the City would be able to provide 30 days advance notice to the neighborhood from Calle Mendoza south to Avenue 52. Accordingly, the project would not interfere with the protected activities, features, or attributes of the property. Additionally, there would be no change in ownership of any land associated with Sierra Vista Park.

Since the proposed project would result in no use of Sierra Vista Park, this facility meets the Section 4(f) exception requirements of 23 CFR 774.13(d). In addition, the project 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), such as access (discussed above), visual/aesthetics (refer to Section 2.1.7), air quality (refer to Section 2.2.6), and noise (refer to Section 2.2.7). As such, the project would not represent a use of this resource under the provisions of Section 4(f).

The above-referenced parks and recreational resources are shown on Figure A-1 in Appendix A. These resources were evaluated to assess whether they would trigger the requirements for protection under Section 4(f). As discussed in Appendix A, although there are Section 4(f) resources located within 0.5-mile of the project area, the project would not result in a use of these Section 4(f) resources. Refer to Appendix A for additional discussion regarding evaluation of the project under Section 4(f).

In California, public parks operated by public agencies are protected by the Park Preservation Act (California Public Resources Code [PRC] Sections 5400-5409). As defined by the Park Preservation Act, "public park" means any park operated by a public agency. The Park Preservation Act prohibits local and State agencies from acquiring any property that 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. Because neither of the Build Alternatives would result in the acquisition of land in use as a public park, the requirements of the Park Preservation Act do not apply to the proposed project.

2.1.1.4.3 Avoidance, Minimization, and/or Mitigation Measures

Refer to Appendix A, Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination. Measure PR-1 would ensure that closure information for Sierra Vista Park is received by the City a minimum of 60 days in advance, so that the City would be able to provide 30 days advance notice of closure to the neighborhood from Calle Mendoza south to Avenue 52.

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2.1.2 Farmland

2.1.2.1 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.

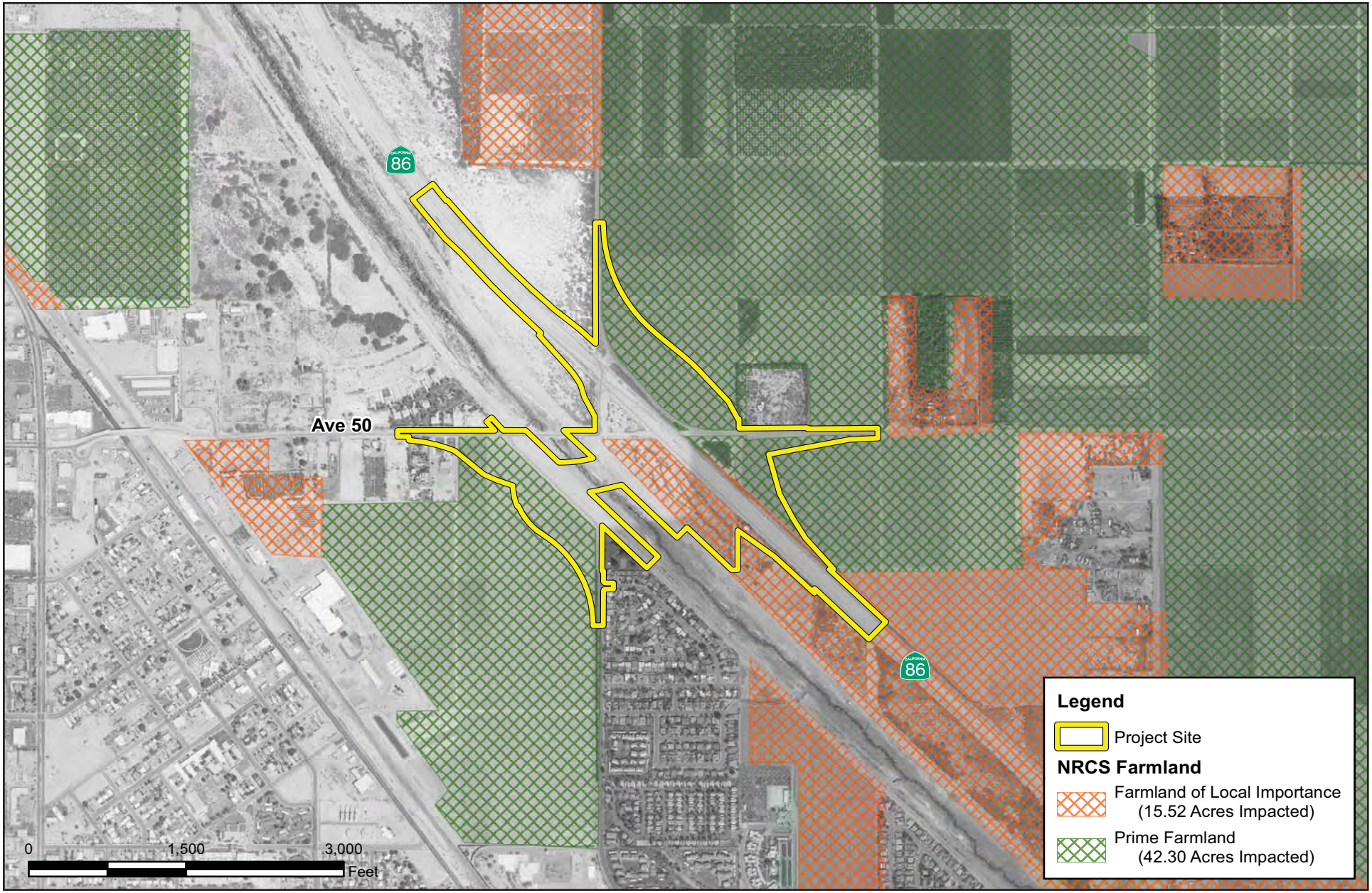
2.1.2.2 Affected Environment

Information in this section is based on the August 2018 Community Impact Assessment (CIA) 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.

Cultivated farmland, consisting of a variety of row crops, is located within both the northeast and southwest quadrants of the interchange. Row crops within the project area have historically included fruits and vegetables (lettuce, celery, broccoli, strawberries, etc.) but can vary widely due to seasonal demand and market conditions. The cultivated land in the southwest quadrant has been designated as Prime Farmland by the California Department of Conservation, DLRP. In the northeast quadrant, there are both Prime Farmland and Farmland of Local Importance designations for the cultivated land. None of these farmlands are currently committed to future development. Refer to Figure 2.1.2-1, Important Farmland Map.

There are no Williamson Act lands within the project area.



INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Important Farmland Map

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Figure 2.1.2-1

2.1.2.3 Environmental Consequences

2.1.2.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Since no construction or physical changes to the environment would occur under the No-Build Alternative, no conversion of farmland would result; therefore, no temporary impacts would occur under this alternative.

Alternatives 7 and 8 (Build Alternatives)

Potential impacts to farmland associated with Phase 1 and Phase 2 construction and operation of the Build Alternatives are considered permanent. Refer to Section 2.1.2.3.2, Permanent Impacts, below.

2.1.2.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

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

Alternatives 7 and 8 (Build Alternatives)

In the context of permanent impacts to farmland, the two agricultural parcels discussed below are owned by the same entity. Accordingly, the discussion of Alternatives 7 and 8, as well as the phasing of the project (Phase 1 and Phase 2), is combined into a single discussion since implementation of either Build Alternative and would result in similar impacts and impacts would be addressed as a single project.

Construction would occur in two phases and is anticipated to last approximately 27 months. Although grading and construction impacts would be temporary, it is expected that agricultural activities will not be restored in these areas, due to a lack of accessibility for agricultural equipment. As such, these impacts to agricultural lands are considered permanent impacts. Project implementation would bisect two agricultural parcels (Assessor's Parcel Number [APN]: 778-170-011 and 603-330-010), resulting in 13.35 acres of remnant portions of the parcels following construction of the project, considered to be an indirect conversion of farmland acreage. Either Build Alternative would directly convert 44.47 acres of farmland. The total acreage of permanently impacted farmland is 57.82 acres (refer to Table 2.1.2-1: Important Farmland Conversion, and Figure 2.1.2-1: Important Farmland Map). The project is subject to the FPPA, 7 USC 4201-4209; and its regulations, 7 CFR Part 658). The FPPA requires Federal agencies to "…coordinate with the Natural Resources Conservation Service (NRCS) to examine the effects of farmland conversion…" before they approve any activity that would convert farmland. According to the FPPA, Section 658.2, farmland does not include land already in or committed to urban development. 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 submitted to the NRCS for review. Documentation of coordination with NRCS is provided in Chapter 4.0 of this document, Comments and Coordination.

Both Build Alternatives rated the same combined score of 179 points on the land evaluation and site assessment portion 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. Refer to Appendix H, Farmland Impact Rating Form, of this document.

Table 2.1.2-1: Important Farmland Conversion

Alternative	Total Farmland Affected (acres)	Prime Farmland (acres)	Farmland of Local Importance (acres)	Direct Impact (acres)	Indirect Impact (acres)	Percent of Important Farmland in County	Farmland Conversion Impact Rating
Build Alternatives	57.82	42.30	15.52	44.47	13.35	0.006%	179

Although the Form AD-1006 threshold of 160 has been exceeded, Riverside County as a whole contains 419,835 acres of important farmland, meaning that the proposed project comprises a total of 0.006 percent of important farmland in Riverside County. Additionally, the City's General Plan does not assign an "agricultural" land use designation to these areas, but rather, residential and commercial land use designations. As stated in General Plan Policy 2.14, Reserve Development Areas, subareas 13, 15, and 16 will maintain their current land or agricultural use until the identified "High Priority Development Areas" are at least 60 percent developed with urban uses or preserved open spaces. Consistent with Policy 2.14, the project site is located in subareas 6, 9, and 10, which are areas identified as "High Priority Development Areas" in the General Plan. Refer to Figure 2.1.1-2: Coachella General Plan Subareas in Section 2.1.1, Land Use, in this IS/EA.

The western portion of the project site (west of the Coachella Valley Stormwater Channel [CVSC]) is zoned "residential single family," the CVSC is zoned "open space" and the eastern portion of the project site is zoned "PUD, commercial tourist planned unit development," "agricultural reserve," and "agricultural transition." However, as a roadway project, the Build Alternatives would not result in the creation of a new land use or development that would result in a zoning conflict resulting in the need for a zone change. Although the Build Alternatives would provide infrastructure that is intended to serve future planned growth, any future development project within agricultural areas of the City would be subject to a case-by-case zoning consistency review as part of its entitlement process.

Although the Build Alternatives have received a combined score of 179 on the Form AD-1006, exceeding the threshold where alternative actions should be considered, the NRCS data indicates that the prime and unique farmland to be converted to non-agricultural use comprises just 0.006 percent of farmland in the County jurisdiction. Accordingly, the measure which has been incorporated into the project, which 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.

2.1.2.4 Avoidance, Minimization, and/or Mitigation Measures

Implementation of minimization measure ROW-1 will appropriately address the project's acquisition of agricultural land for non-agricultural use.

2.1.3 Growth

2.1.3.1 Regulatory Setting

The Council on Environmental Quality (CEQ) regulations, which established the steps necessary to comply with the National Environmental Policy Act (NEPA) of 1969, 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…"

2.1.3.2 Affected Environment

Information for this section was derived from the Community Impact Assessment (August 2018) that was prepared for the project. The affected environment for growth effects includes the community impact study area boundaries shown in Figure 2.1.4-1, Community Impact Study Area, in Section 2.1.4, Community Impacts, of this IS/EA.

As discussed in Section 2.1.1, Land Use, of this IS/EA, development within the City has been robust in recent years, and a substantial amount of new development is anticipated to continue throughout the City's planning horizon. Recent development trends in the City include multiple large specific plans, as well as commercial and public facilities and infrastructure that would be necessary to support the additional population that would result with implementation of these specific plans.

Population Growth Rates. Table 2.1.3-1 below, shows the projected population, housing units, and employment figures for both the City of Coachella and the County of Riverside for year 2012 and future year 2040, according to the Growth Forecast Appendix of the *2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS),* adopted by the Southern California Association of Governments (SCAG) in June 2016. This data shows that population, housing unit, and employment growth in the City will dramatically increase in the next 20 years. In fact, the City's population is projected to more than triple from about 42,000 people, to just over 146,000 in 2040. This is a major contrast to the slower rate of growth projected in Riverside County. Overall, the County's population is expected to increase from 2.2 million people to approximately 3.2 million in 2040, an increase of 41.1 percent.

Table 2.1.3-1: Population, Housing Unit and Employment Projections for the City and County

Type	Location	2012	2040
Population	City of Coachella	42,400	146,300
	Riverside County	2,245,100	3,168,000
Housing Units	City of Coachella	9,200	40,100
	Riverside County	694,400	1,048,500
Employment	City of Coachella	8,500	34,400
	Riverside County	616,700	1,174,300

Source: Growth Forecast Appendix, 2016 RTP/SCS, SCAG, June 2016, Table 11.

Planned Land Use. For the purposes of planned land use organization, Coachella is divided into 17 distinct and unique subareas. The purpose of the subareas is to define an overall vision and specific policy direction that supplements the *General Plan* designations and the citywide goals and policies. Descriptions of each of the 17 subareas are included in the Land Use and Community Character Element of the General Plan.

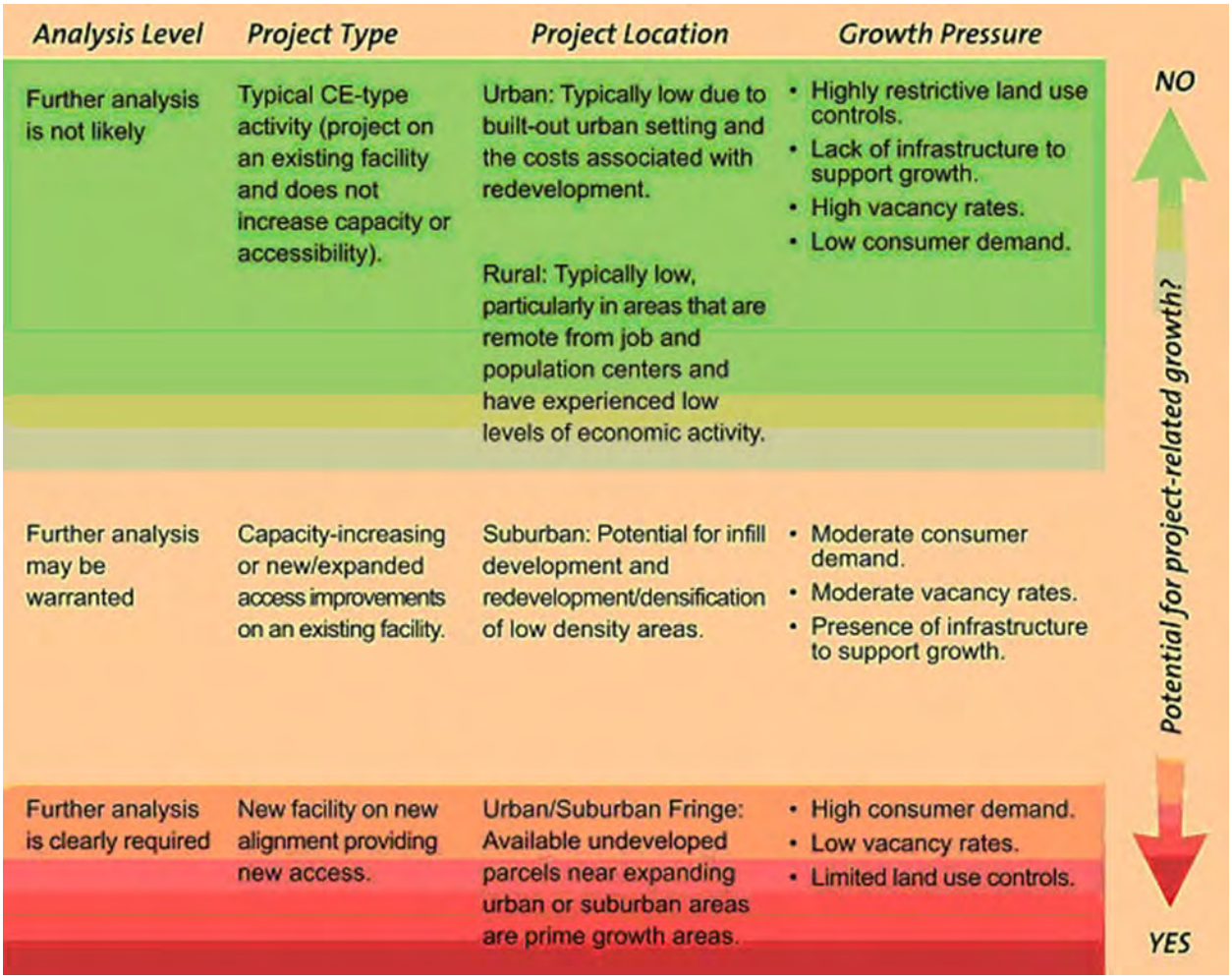
The study area encompasses seven (7) different subareas, as identified in the *General Plan.* As discussed in Section 2.1.1 of this IS/EA, the study area traverses subareas 1, 2, 4, 6, 9, 10 and 11; four out of five of which are designated as Priority Growth Areas in the General Plan, targeted for growth through City policies and actions, as described in the Land Use and Community Character Element Policy 2.12.

First-Cut Screening Methodology. According to the Caltrans guidance document titled *Guidance for Preparers of Growth-related, Indirect Impact Analyses* (May 2006), the first step in determining whether a project could potentially influence growth and development is to perform a "first-cut screening." The "first-cut screening" process evaluates the potential for growth-related effects and whether further analysis is required through addressing the following:

- How, if at all, does the project potentially change accessibility?
- How, if at all, does the project type, project location, and growth pressure potentially influence growth?
- Is project-related growth 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 2.1.3-1, 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).

Figure 2.1.3-1: Analysis Considerations Related to Determining Potential for Project-Related Growth



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

2.1.3.3 Environmental Consequences

The "first-cut screening" is presented below.

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

The project improvements include construction of a new interchange at an existing facility (SR-86) and new bridge on an existing facility (Avenue 50), spanning over the CVSC and replacing the existing low water crossing to eliminate flood-related hazards. Capacity associated with the existing SR-86 mainline would remain the same. Although the improvements would be implemented on existing roadway facilities, the improvements would increase local roadway capacity and provide enhanced connections to SR-86 and would subsequently also result in improved accessibility. However, no new roadways, and thus, no new access would result with project implementation. Therefore, the proposed project is likely to result in only a low-to-moderate change in accessibility.

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

The project type is a combination of replacing an existing low water crossing with a bridge and replacing an existing signalized intersection with an interchange. Since the project would construct a new interchange and new bridge on existing facilities, subsequently enhancing access (but not resulting in new access), the project type is considered to be one that has a low-to-moderate potential to influence growth.

The project location is in the eastern portion of the City, which currently retains a sparsely-populated rural character and consists of predominately agricultural production, some residential uses, and a park. Based on the planned land use designations (subareas), projected growth for the area, and planned projects in the area, growth in the region is anticipated to occur. However, construction of the proposed project would not influence this planned growth in the project area. Additionally, due to the lack of existing infrastructure to support the designed growth in the study area and low consumer demand, the growth pressure within the study area is considered to be low.

Is project-related growth reasonably foreseeable as defined by NEPA?

As discussed above, 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. Growth in the region is anticipated to occur whether or not the project is constructed. While the project would result in some improvements in accessibility due to the replacement of an existing low water crossing with a bridge and improvements in the operational performance of Avenue 50 in relation to SR-86, these improvements would not influence the attractiveness of some areas to development over others. 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 influence growth. No further analysis is required.

2.1.3.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.1.4 Community Impacts

Community Character and Cohesion

2.1.4.1 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.

2.1.4.2 Affected Environment

The information for this section is based upon the Community Impact Assessment (August 2018) that was prepared for the proposed project. The community impact study area, shown on Figure 2.1.4-1, Community Impact Study Area, is completely contained within the boundaries of the City of Coachella. The study area includes a total area of approximately 5.95 square miles and is generally bounded by Avenue 48 to the north; the All-American Branch of the Coachella Canal to the east; primarily Avenue 52 west of SR-86 and 51st Avenue east of SR-86 to the south; and Frederick Street to the west. SR-86 bisects the study area in a northwest-southeast orientation and the Coachella Valley Stormwater Channel (CVSC) follows the SR-86 alignment on the west side.

Population and Housing

Community character is generally reflected by such demographic factors as average age, ethnicity, race, income, employment, household size, and population growth trends that are found within the study area. This data provides a snapshot of residents living in the community and helps in developing a community profile, so 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.

Information from the U.S. Census Bureau was used to identify the demographic characteristics of the populations within the study area. The four census tract block groups that were selected to be analyzed were chosen because their boundaries most closely align with the community impact study area boundaries, although some of the area in these census tracts is located outside of the study area boundaries. The smaller-size block groups were chosen for analysis rather than entire census tracts because the census tracts in this area are relatively large in size and would include populations within a geographic distance that are not likely to be impacted by

project implementation. The total population within all the block groups is 7,470 residents. Refer to Figure 2.1.4-2, Study Area Census Tract Block Groups. The block groups and population of each block group include the following:

- Census Tract 456.09, Block Group 2 (population 1,140)
- Census Tract 457.06, Block Group 1 (population 3,667)
- Census Tract 457.06, Block Group 2 (population 1,128)
- Census Tract 457.07, Block Group 1 (population 1,535)

The portion of the study area east of SR-86 (Census Tract 456.09, Block Group 2) is located in a sparsely populated, rural area within the limits of the City of Coachella, whereas the portion of the study area west of SR-86 (Census Tract 457.06, Block Group 1; Census Tract 457.06, Block Group 2; and Census Tract 457.07, Block Group 1) is located within a more densely populated area that has cohesive residential neighborhoods in newer developments, as well as shopping centers with a downtown area, indicative of a high level of community activity.

General Demographics: Table 2.1.4-1, Regional, Local, and Study Area Demographics, shows general demographic information for the existing population within the study area census tract (CT) block groups (BG), the City, and the County. As shown in Table 2.1.4-1, the study area block groups share similar characteristics with the City, including average household size and median age. The block groups have a lower median household income than the City by a range of approximately $10,000 to $18,000, and they have a lower median household income than the County overall by a range of approximately $25,000 to $34,000. The low-income percentages for the block groups also tend to be higher than both the City and County, ranging from approximately 25 to 33 percent, whereas the City's low-income percentage is at nearly 28 percent and the County's low-income percentage is only 13 percent.

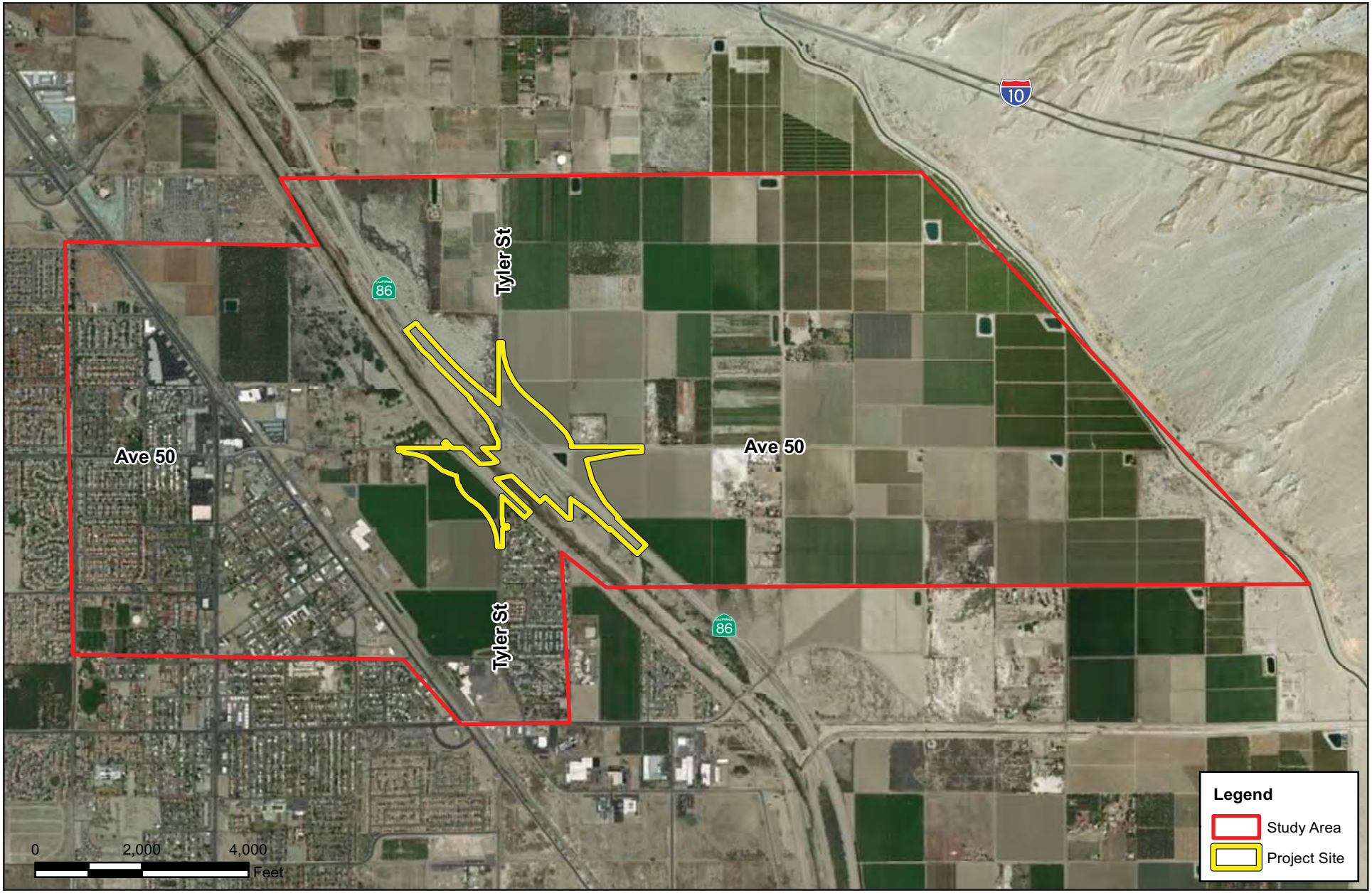
Table 2.1.4-1: Regional, Local, and Study Area Demographics

Demographics	BG 2 in CT 456.09	BG 1 in CT 457.06	BG 2 in CT 457.06	BG 1 in CT 457.07	City of Coachella	Riverside County
Total Population[1] (# of persons)	1,140	3,667	1,128	1,535	40,704	2,189,641
Average Household Size[1] (# of persons)	4.03	4.61	4.87	3.98	4.52	3.14
Median Age[1] (years)	34.6	25.4	35.4	28.7	24.5	33.7
Median Household Income[1] (dollars)	$22,656	$30,333	$30,964	$25,536	$40,423	$56,592
Low Income[1, 2] (percent)	25.4%	32.3%	31.5%	32.6%	27.9 %	13.1%

CT = Census Tract, BG = Block Group

Notes:
1. U.S. Census Bureau, 2015 American Community Survey 5-year estimates (2011-2015).
2. Percentage of families below poverty level.

Ethnic and Racial Composition: Table 2.1.4-2, Ethnic and Racial Composition, identifies the ethnic characteristics of the existing population within the study area block groups, the City, and the County. As shown in Table 2.1.4-2, the study area block groups have a similar ethnic and racial distribution to the City of Coachella. However, the study area block groups represent a dissimilar ethnic and racial distribution when compared to the County overall. In particular, the percentage of persons identifying as Hispanic or Latino in all the block groups, as well as the City, is more than double that of the County.

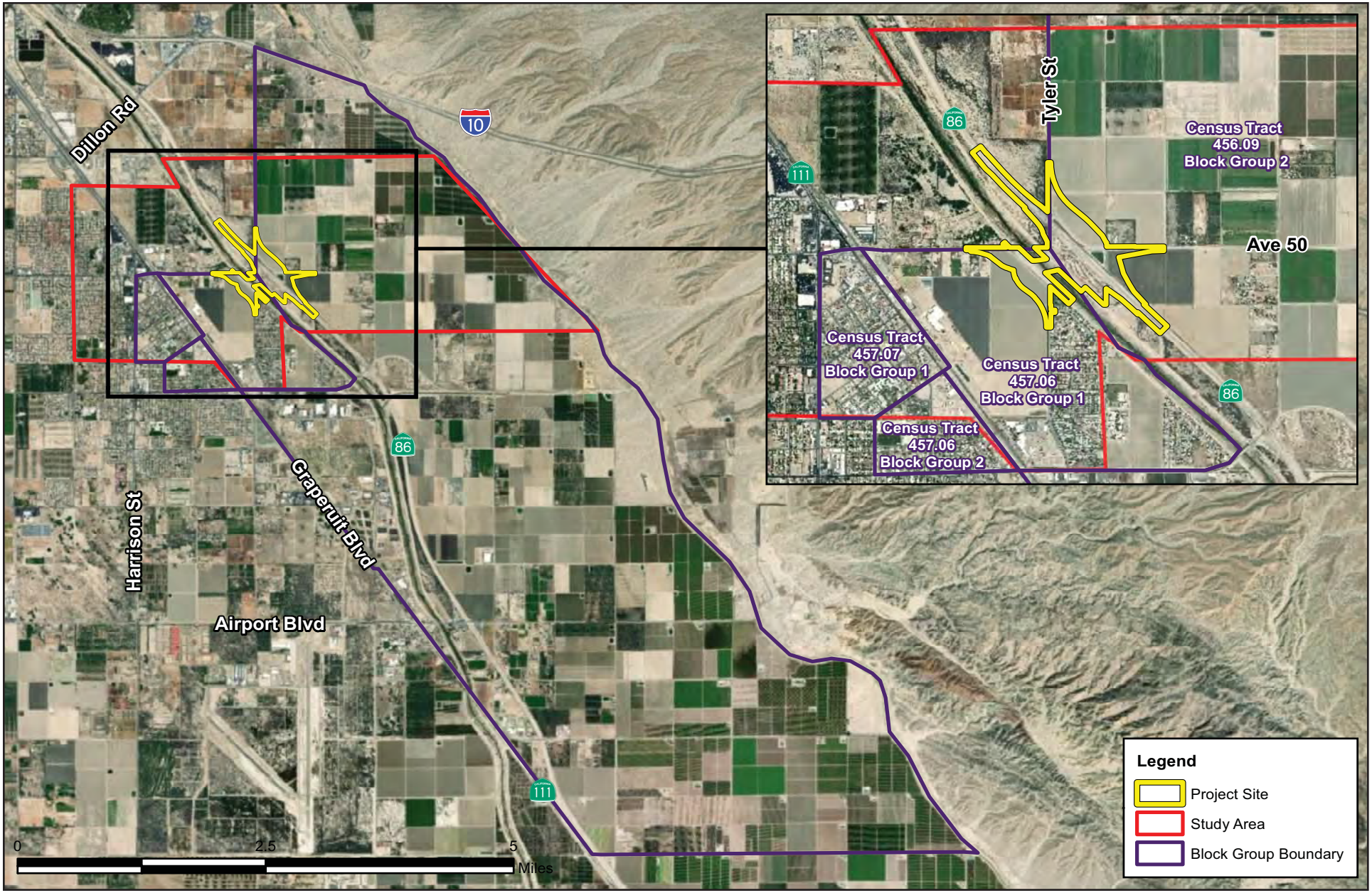


INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Community Impact Study Area

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Figure 2.1.4-1



INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Study Area Census Tract Block Groups

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Figure 2.1.4-2

Table 2.1.4-2: Ethnic and Racial Composition

Composition	BG 2 in CT 456.09	BG 1 in CT 457.06	BG 2 in CT 457.06	BG 1 in CT 457.07	City of Coachella	Riverside County
White Alone	41.8%	57.2%	45.5%	47.4%	48.1%	61.0%
Black or African American Alone	0.8%	0.7%	2.2%	0.6%	0.8%	6.4%
American Indian/Alaska Native Alone	1.0%	0.5%	1.0%	0.9%	0.7%	1.1%
Asian Alone	1.4%	0.4%	0.3%	0.0%	0.7%	6.0%
Native Hawaiian/Other Pacific Islander Alone	0.0%	0.1%	0.2%	0.3%	0.1%	0.3%
Some Other Race Alone	53.4%	38.2%	48.1%	47.2%	47.1%	20.5%
Two or More Races	1.5%	2.8%	2.7%	3.6%	2.6%	4.8%
Hispanic or Latino (any race)	96.5%	98.5%	98.1%	96.2%	96.4%	45.5%

CT: Census Tract, BG: Block Group

Note:
1. 2010 Decennial Census Data was used for this table because it is the Caltrans standard data set for discussion of minority populations.

Source: U.S. Census Bureau, 2010.

Housing: The City's General Plan Housing Element Technical Appendix contains a discussion of the City's housing stock characteristics. The proportion of units by housing type has remained stable over the last 20 years. Single-family units constitute the majority of the housing stock in the city. In 2000, 68 percent of the housing stock was single-family units, increasing to 73 percent in 2010. From the 2000 and 2010 US Census, structures with 5 or more units increased slightly; in 2000, when they represented 10 percent of the units, and in 2010, they represented 11 percent of the housing stock. From 2000 to 2010, the number of housing units in Coachella increased by 4,359.

From 2000 to 2010, there was a change in housing tenure (owner-occupied versus renter-occupied) within the City. Owner-occupied households outpaced renter-occupied households in Coachella, with 5,586 owner-occupied households and 3,412 renter-occupied households in 2010. Both renter and owner households have experienced numeric increases between 2000 and 2010. In comparison to Coachella, Riverside County has a higher proportion of owner households. Although both owners and renters continue to increase numerically, the proportion of owner households in the county continues to rise. Approximately 67 percent of county households were owners, while 62 percent of city households were owners.

Vacancy trends in housing are analyzed using a vacancy rate, which establishes the relationship between housing supply and demand. For example, if the demand for housing is greater than the available supply, then the vacancy rate is low and the price of housing will most likely increase. Additionally, the vacancy rate indicates whether or not Coachella has an adequate housing supply to provide choice and mobility. U.S. Department of Housing and Urban Development (HUD) standards indicate that a vacancy rate of five percent is sufficient to provide choice and mobility.

General existing housing stock conditions were also assessed based on an exterior survey of quality, condition and improvements needed. Each residential structure was scored according to structural criteria established by the California Department of Housing and Community Development in five categories: foundation, roofing, siding, windows and electrical. Based on scores assigned for each category, housing structures were rated as "sound," "dilapidated" or in need of minor, moderate or substantial repairs. Survey findings indicated that the majority of

units, 73 percent, were in sound condition or in need of minor repair, and approximately 27 percent of units were in need of moderate or substantial rehabilitation or were dilapidated.

The median housing unit value, based on the U.S. Census Bureau's most recent American Community Survey (2015), is $151,700. According to the General Plan Housing Element Technical Appendix, Coachella has remained relatively affordable as compared to other areas of the region in terms of housing costs. Based on the point-in-time analysis done for housing and rental costs, very low-income households have access to up to three-bedroom rental houses. Similarly, most of the houses currently for sale in the city are affordable to low-and moderate-income households.

Of the 9,903 existing housing units in Coachella, 197 units (2 percent) of the available housing units were vacant rental units. An additional 388 units (4 percent) were vacant for-sale units. The remaining 316 vacant housing units (3 percent) comprised rented and sold but unoccupied units, seasonal units or uncategorized units. Approximately 905 (9 percent) of the total housing units in the city were vacant in 2010. Based on the U.S. Census Bureau's most recent American Community Survey (2015) vacancy rate of 7.1% for the community,[1] it is anticipated that there will be sufficient single-family residences that are equal to or better than the displacement properties available for rent or purchase.

In addition, the City's Regional Housing Needs Allocation (RHNA) new construction goal is 6,771 housing units (2,614 of which are for lower-income households) in the 2014-2021 timeframe; a total of 4,795 units have been entitled.[2] The City has ample land to accommodate housing appropriate for households with a wide variety of needs and lifestyles, and has identified sites already approved for residential development as well as vacant parcels and underutilized sites that will be appropriate to meet the remaining lower-income RHNA for the current and previous planning cycles.

Economic Conditions

Jobs/Employment: Major employers in the study area include two schools, agricultural/produce processing facilities (all of which are located west of SR-86), and various commercial/retail, wholesale and food establishments in the downtown area as well as along the Harrison Street Corridor. Also located downtown within the study area are several city government agencies, a post office, and a public water agency (CVWD), located just to the southeast of downtown along Highway 111.

The number of jobs in the City overall has increased in the last decade. According to the Southern California Association of Governments' (SCAG) most recent city profile available for the City, in 2015, total jobs in the City numbered 12,222, an increase of 89.1 percent from 6,463 total jobs in 2007. The wholesale sector was the largest job sector, accounting for 22.8 percent of total jobs in the City. Other large sectors included education (13.7 percent), leisure (11.1 percent), and retail (9.7 percent). Agricultural jobs accounted for 9.0 percent, down from 29.1 percent in 2010.[3]

Unemployment Rates: Unemployment data from the U.S. Census Bureau are not available at the census tract or census block group level. Therefore, only City and County unemployment

[1] U.S. Census Bureau website, https://factfinder.census.gov/, accessed 8-22-17.

[2] City of Coachella General Plan Update 2035 Housing Element, January 2014, Chapter 11, *Housing,* p. B-36 through B-38.

[3] Southern California Association of Governments (SCAG) Profile of the City of Coachella, May 2017, p. 27.

data are included herein. According to the 2015 American Community Survey (ACS), the unemployment rate for the population age 16 and over in the City of Coachella in year 2015 was 17.9 percent, as compared to that of Riverside County at 12.9 percent. This represents an increase in the unemployment rate of 14.9 percent in year 2010 in the City, and 11.2 percent in the County, although the approximate 4 to 5 percent margin between the City and County remained similar.

Jobs/Housing Ratio: The jobs-housing ratio is a basic tool to measure whether the number of jobs and housing units within a community are roughly equivalent. According to the City's General Plan, the City's jobs-housing ratio was 0.65 (5,831 jobs ÷ 8,998 housing units) in 2010. The recommended standard for jobs-housing unit ratios is based on the assumption the average number of workers per household is approximately 1.5. As such, the City's jobs-housing ratio is significantly lower than the recommended standard, indicating the area is job-poor, requiring many of the workers to travel outside the jurisdiction to find employment.

The General Plan states that the City intends to attract employers to the area that will help diversify its employment base, while continuing employment growth through the existing base. In conjunction with implementation of the City's RHNA new home construction of 6,771 housing units in the 2014-2021 timeframe, improvement of the jobs-housing ratio is a goal the City intends to pursue.

Property Tax Revenue: The City of Coachella Comprehensive Annual Financial Report for Fiscal Year Ended June 30, 2017, provides a list of the top 25 principal property tax payers within the City, which include a variety of local businesses in several different industries including, but not limited to, agricultural producers, residential construction companies, real estate/land development companies, big-box retail establishments, combustible ordnance manufacturing, and others. In the 2016-17 fiscal year, the City estimated a total taxable property value of over $273 million for these principal property tax payers, which accounted for 16.42 percent of the total city taxable value.[4]

At the county level, the County of Riverside Assessor-County Clerk-Recorder 2017-18 Annual Report provides a breakdown of the annual assessment analysis for both secured and unsecured property, by land type. In 2017, the gross value of secured agricultural property in the County was nearly $3.3 billion with a 1.26 percent value percentage. The gross value of unsecured agricultural property in the County was approximately $99 million with a 1.18 percent value percentage.[5]

Property tax information for Peter Rabbit Farms and Cardinal Distributing Co. Inc. is currently unavailable. However, the Riverside County Assessor ParcelQuest website identifies a total land and improvement assessment value for year 2018 of $55,149 for Assessor's Parcel Number (APN) 778-170-011, and $165,631 for APN 603-330-010, for a total of assessment value of $220,780.[6] Of note, while several of the 25 principal property tax payers listed above are agricultural companies, Peter Rabbit Farms and Cardinal Distributing Co. Inc. are not included on the list.

[4] City of Coachella Comprehensive Annual Financial Report for Fiscal Year Ended June 30, 2017, p. 122.
[5] County of Riverside Assessor-County Clerk-Recorder 2017-18 Annual Report, pp. 10-11.
[6] County of Riverside Assessor-County Clerk-Recorder website, http://www.asrclkrec.com/Assessor/AssessorServices/PropertyInformationCenter.aspx, accessed 8-10-18.

Community Facilities

Community facilities are those 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 places serve the normal daily functions of a community or neighborhood; these can generally include—but are not limited to—schools, religious institutions and/or places of worship, medical institutions, senior centers and community centers. Existing community facilities located within the study area include two elementary schools, one library, and one place of worship as listed below.

- Cesar Chavez Elementary School located at 49601 Avenida De Oro (student population of 988 students);
- Palm View Elementary School located at 1390 7th Street (student population of 556 students);
- Coachella Library located at 1538 7th Street; and
- Islamic Society of Palm Springs located at 84650 Avenue 49.

Community facilities can also include parking facilities and bike paths/walkways because they also influence the character of a community. A separate discussion of these facilities is included in the "Transportation and Traffic/Pedestrian and Bicycle Facilities" discussion below.

Art in Public Places: The City has implemented its Art in Public Places Program as part of its effort to enhance the enrichment of the community through fine arts, visual arts, performing arts, arts education, historic preservation and cultural issues. Art in public places are intended to promote the general welfare of the public through the acquisition and installation of public art works (Municipal Code Chapter 4.48),[7] and include various paintings and murals located on walls throughout the City. There are several facilities containing art as part of this Program within the study area (although none exist within the project footprint), such as those located on walls along Vine Street and 6th Street in the downtown area. It should be noted that the Program is an important vehicle for integration of cultural affairs into the social and economic fabric of the City, and as such, would be considered a resource that is integral to the health of the existing community character.

Transportation and Traffic/Pedestrian and Bicycle Facilities

The complete streets goals and policies in the General Plan Mobility Element address both automobile travel as well as the movement of bicycles, pedestrians, and transit users to create a balanced transportation system in which all modes of travel are treated equally. This balance would enhance roadway operations and the wellbeing of the community. Currently, there are no existing bike lanes or sidewalks in the study area with the exception of a sidewalk along the eastern side of Tyler Street. Figure 2.1.4-3, Existing and Planned Transportation Facilities and Public Transportation, shows existing and reasonably foreseeable transportation facilities for motorized use (roadways) and non-motorized use (bicycle lanes and trails) related to the study area.

Public transportation in Coachella is operated by SunLine Transit Agency (SunLine), which enables commuters to travel within the City and adjacent cities with minimal transfers. Sunline

[7] City of Coachella website, accessed 3-3-16. http://www.coachella.org/residents/art-in-public-places.

operates one bus route within the study area, Line 95. The alignment of Line 95 within the study area (along Avenue 50 and Tyler Street) is shown on Figure 2.1.4-3.

2.1.4.3 Environmental Consequences

The project footprint for both Build Alternatives is similar; therefore, the discussion of Alternatives 7 and 8 below is combined into a single discussion of Build Alternatives, since implementation of either of the Build Alternatives would result in similar impacts.

Population and Housing

Temporary Impacts

Alternative 1 (No-Build Alternative)

Since no construction or physical changes to the environment would occur under the No-Build Alternative, no changes to the existing population characteristics or existing housing would result; therefore, no temporary impacts would occur under this alternative.

Alternatives 7 and 8 (Build Alternatives)

Phase 1 and 2 construction of the Build Alternatives would result in temporary noise and traffic impacts within the study area, which may affect existing populations residing in the study area. However, access to the neighborhoods within the study area would be maintained throughout the duration of construction, and a Transportation Management Plan (TMP) would be implemented during the Plans, Specifications, and Estimates (PS&E) phase. The Caltrans 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. Temporary impacts regarding population and housing would not be substantial.

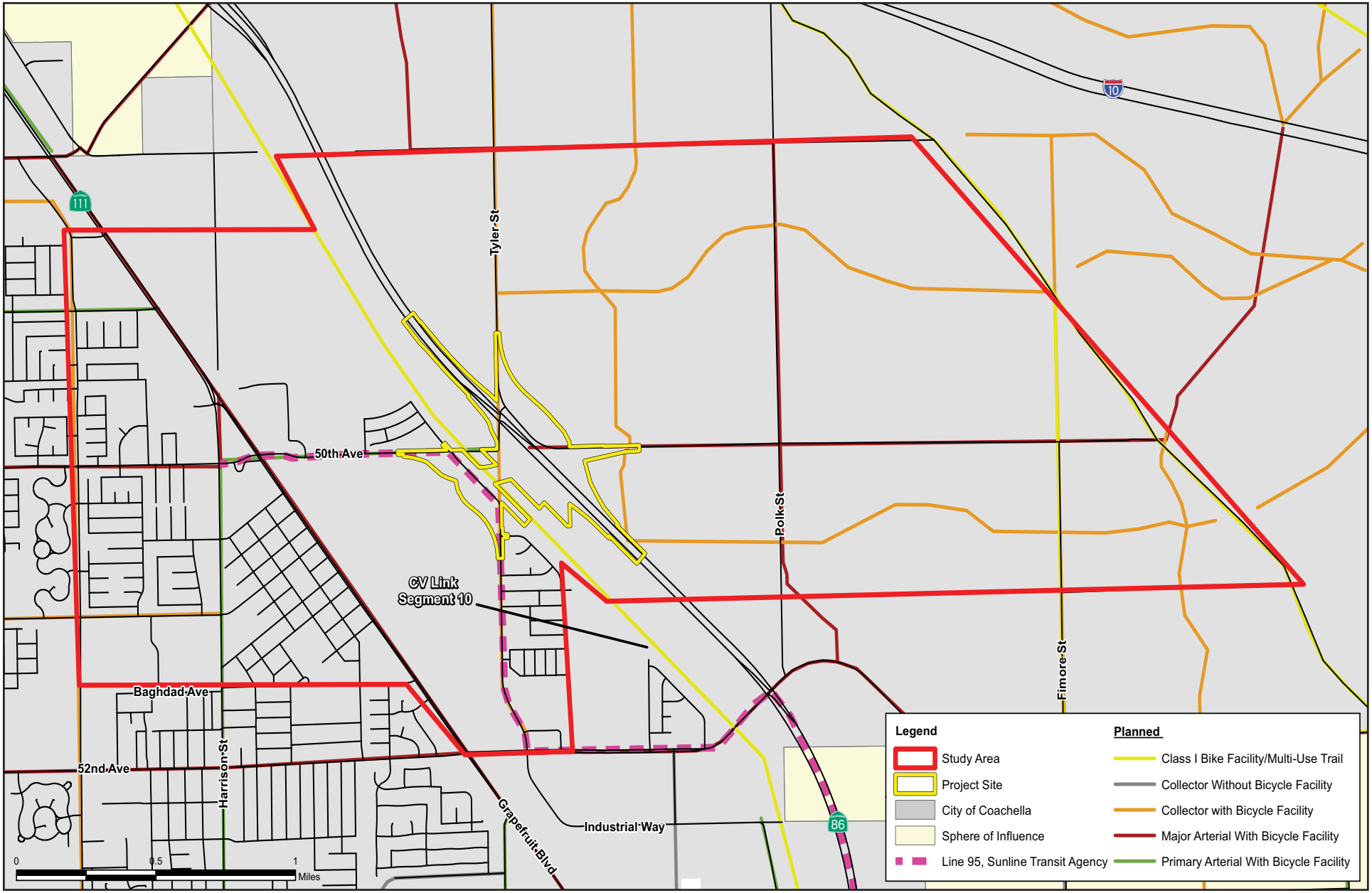
Permanent Impacts

Alternative 1 (No-Build Alternative)

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

Alternatives 7 and 8 (Build Alternatives)

The Build Alternatives would not result in impacts with regard to general demographics or ethnic and racial composition. The project would not divide neighborhoods, since the improvements would occur on existing roadways, nor would the project separate residences from any community facilities in the study area. It is not expected that the Build Alternatives would result in disproportionate effects to minority populations; refer to the “Environmental Justice” discussion below for further analysis regarding Environmental Justice.



Source: Coachella General Plan 2035.

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Existing and Planned Transportation Facilities and Public Transportation

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Figure 2.1.4-3

The Build Alternatives propose implementation of transportation infrastructure improvements and would not construct any new housing. One residence would be displaced under the Build Alternatives during Phase 2 of the project. According to the Draft Relocation Impact Memorandum (DRIM) that was prepared for the project, the City has sufficient replacement housing within its existing housing stock, and impacts related to housing under the Build Alternatives would be nominal. Refer to the "Relocations and Real Property Acquisition" discussion below for further analysis regarding relocations and real property acquisition.

Economic Conditions

Temporary Impacts

Alternative 1 (No-Build Alternative)

Since no construction would occur under the No-Build Alternative, existing economic conditions would remain and no impacts regarding economic conditions would occur under this alternative.

Alternatives 7 and 8 (Build Alternatives)

The Build Alternatives involve construction of transportation infrastructure improvements that would require expenditures on labor and materials. No fiscal impact analyses were prepared for the project to quantify potential economic impacts related to employment. However, proposed construction activities associated with both Phase 1 and Phase 2 of the Build Alternatives would provide minor temporary economic benefit to the region through these expenditures and through additional employment opportunities, but such effects would not be substantial given the small size of the development and the relatively large size and diversity of the local economy. Implementation of the Build Alternatives would not appreciably change the economic character or employment stability of the surrounding area.

Construction of the Build Alternatives is not anticipated to result in impacts to existing businesses in the project area regarding access to local businesses. As noted above, a TMP will be prepared during the PS&E phase. A component of the TMP will include ensuring access to business operations is maintained throughout the duration of construction.

Permanent Impacts

Alternative 1 (No-Build Alternative)

No permanent physical changes to the environment would be implemented under the No-Build Alternative and no impacts are anticipated.

Alternatives 7 and 8 (Build Alternatives)

Because the project involves transportation improvements and would not construct any residential or commercial uses or permanent employment opportunities, operation of the Build Alternatives is not expected to result in any change to the existing employment in the project area, and no impacts are anticipated.

Operation of the Build Alternatives is not anticipated to result in impacts with regard to jobs. Two agricultural/produce processing facilities located in the study area would be affected by real property acquisition in both Phase 1 and Phase 2 of the project, as discussed in the "Relocations and Real Property Acquisition" discussion below. These agricultural facilities

currently provide employment in the City. Although, based on preliminary engineering efforts, potential partial and full permanent acquisition of parcels associated with Peter Rabbit Farms and Cardinal Distributing Co. Inc. are anticipated under either of the Build Alternatives, these businesses would not be displaced as a result of project implementation and employment opportunities would continue. Additionally, the project would not otherwise result in changes to locations of employment centers, or new permanent employment opportunities. As such, the Build Alternatives are not expected to affect existing unemployment rates.

As a transportation project, the Build Alternatives are not expected to contribute to the need for new housing or employment and are therefore not expected to result in any change to the existing jobs/housing ratio in the City.

Operation of the Build Alternatives is not anticipated to result in substantial impacts with regard to property tax revenue in the City. Two agricultural/produce processing facilities located in the study area would be affected by real property acquisition in both Phase 1 and Phase 2 of the project, as discussed in the "Relocations and Real Property Acquisition" discussion below. As discussed above, the 2018 land and improvement assessment value for the agricultural lands that will be affected by the project was $220,780, according to the Riverside County Assessor. This represents a very minor percentage (0.0008 percent) of the City's total taxable property value of over $273 million for the top 25 principal property tax payers in the City. A formal land value appraisal for these agricultural lands will be conducted at a later phase of the project, however, based on the preliminary analysis discussed above, agricultural acquisitions associated with either of the Build Alternatives are not expected to result in a substantial loss of property tax revenue.

Community Facilities

Temporary Impacts

Alternative 1 (No-Build Alternative)

No temporary impacts regarding community facilities would occur with implementation of the No-Build Alternative since no construction activity would occur with this alternative.

Alternatives 7 and 8 (Build Alternatives)

There are no community facilities situated within the design footprint associated with the Build Alternatives. However, as noted above, there are a number of community facilities located in the study area. Access to community facilities in the study area will not be impacted during construction of the project.

Permanent Impacts

Alternative 1 (No-Build Alternative)

No permanent impacts regarding community facilities would result with implementation of the No-Build Alternative since no physical changes to the environment would occur under this alternative.

Alternatives 7 and 8 (Build Alternatives)

There are no community facilities located within the design footprint associated with the Build Alternatives. Existing community facilities located within the study area include two elementary schools, one library, and one place of worship. Operation of the Build Alternatives would not impact these facilities. The Build Alternatives would provide direct and dependable access over the CVSC by replacing the existing low water crossing with a new bridge, allowing uninterrupted travel to and out of Coachella when flooding and debris flows occur. The Build Alternatives would also improve operational efficiency by replacing the existing SR-86/Avenue 50 at grade intersection with a new grade separated overcrossing structure, which would eliminate conflicts between local cross traffic and mainline traffic streams. These would be considered beneficial impacts relative to community facilities and patrons traveling to such facilities.

There are no identified locations of art in public places within the project footprint, and the locations of art in public places that are located within the overall study area would not be affected by the Build Alternatives due to their distances from the project area.

Project Features That Will Avoid or Minimize Community Impacts

Transportation and Traffic/Pedestrian and Bicycle Facilities

Temporary Impacts

Phase 1

Alternative 1 (No-Build Alternative)

No temporary impacts regarding access, circulation and parking or public transit would occur with implementation of the No-Build Alternative since no construction activity would occur with this alternative.

Alternatives 7 and 8 (Build Alternatives)

All construction activity associated with Phase 1 of the project will occur west of SR-86 and will not include any work on SR-86. The Build Alternatives would result in temporary construction impacts that are anticipated to result in some instances of vehicular travel within the construction area being restricted and/or detoured; however, these disruptions are expected to be temporary, and would cease once construction of the project is complete. Construction-related detours will be finalized during the final design phase; however, construction of the proposed improvements have been examined relative to the existing transportation system and it has been determined that no long-term lane closures would be necessary. Refer to Figure 2.1.6-4, Phase 1 Detour Map, in Section 2.1.6 of this document. The current alignment Avenue 50 crossing the CVSC at ground level would remain open at all times during the construction of the proposed bridge crossing over the channel, maintaining access to the local street network west of SR-86. In conjunction with constructing the completion of the access to the new bridge across the CVSC from the existing portion of Avenue 50, which turns north and becomes Tyler Street, flagging will be used to manage travel through this area. The duration of this construction activity is anticipated to be approximately one week. Following completion of this work, it is anticipated local traffic will be able to utilize the new bridge across the CVSC.

The Build Alternatives would also accommodate the planned CV Link multi-modal pathway, that would extend along the western side of the CVSC within the project area.

Traveler information strategies will include Portable Changeable Message Signs to advise motorists to divert at remote advance decision points beginning approximately one week ahead of the start of construction, as well as announcement of lane closure locations and detours on the City's website. This is expected to ensure sufficient advance notice of lane closures is provided to local residents and businesses.

Construction of the Build Alternatives will include re-alignment of the portion of existing Tyler Street from just south of the Calle Mendoza/Tyler Street intersection, north, to where existing Tyler Street turns toward Avenue 50. There are currently 11 parallel parking stalls located on the east side of Tyler Street along the park's western border; no parking is permitted along the west side of Tyler Street. The re-alignment of this part of Tyler Street will result in the existing on-street parking available on Tyler Street, immediately adjacent to Sierra Vista Park, being replaced with a new cul-de-sac, that will be accessed from Calle Mendoza. The new cul-de-sac will be designed to provide angled parking for nine vehicles, plus angled parking for two dedicated (signed) handicap-access parking spaces, plus parallel parking spaces for six more vehicles. A temporary loss of parking for users of the Sierra Vista Park will occur during construction.

Construction of the re-alignment of Tyler Street is expected to be completed within one to three months. Throughout the duration of construction of the re-alignment of Tyler Street, pedestrian access to Sierra Vista Park will be maintained (aside from the maximum of one week when power pole relocation in Sierra Vista Park occurs). Park users would be able to park along the streets located in the neighborhood immediately south of the park during the re-alignment of Tyler Street and construction of the cul-de-sac. Roadside parking within walking distance of the park would be available specifically on Calle Mendoza, Calle Pizano, Corte Olivia, and Las Flores Avenue, all of which are located less than 0.25-mile from the park. Additionally, a sidewalk is currently provided along the eastern side of Tyler Street. The sidewalk along Tyler Street would remain open throughout project construction. Following project completion, access to Sierra Vista Park would be provided via a new driveway extending immediately north of Calle Mendoza. This driveway would include 11 diagonal parking spaces along the eastern side and six parallel parking spaces along both sides of the roadway. A cul-de-sac would be provided at the end of the driveway.

The existing sidewalk adjacent to Sierra Vista Park will be maintained, however, from the top of the cul-de-sac, a paved pedestrian/bicycle access ramp will be constructed to where a portion of the future CV Link will be constructed (on top of the embankment adjacent to the CVSC).

The City of Coachella would receive closure information related to Sierra Vista Park a minimum of 60 days in advance so that the City would be able to provide 30 days advance notice to the neighborhood from Calle Mendoza south to Avenue 52.

The components of the TMP that will be implemented during construction, will help to ensure that construction impacts to local traffic circulation are as minimal as possible. The TMP will be finalized during the PS&E phase associated with Phase 1 of the project.

Phase 1 construction of the Build Alternatives would not restrict accessibility for public transportation within the study area. The nearest bus stop is located approximately 0.25-mile to the southwest of the project site; there are no bus stops located within the project area. If road closures are required during construction, Line 95 would be temporarily diverted. Coordination with SunLine regarding potential bus route diversions during construction would occur throughout the construction phase and temporary impacts would not be substantial.

Phase 2

Alternative 1 (No-Build Alternative)

No temporary impacts regarding access, circulation, and parking or public transit would occur with implementation of the No-Build Alternative since no construction activity would occur with this alternative.

Alternatives 7 and 8 (Build Alternatives)

Most of the construction activity associated with Phase 2 of the project will occur east of SR-86, with the exception of the work necessary to complete the new on- and off-ramps to northbound and southbound SR-86. Construction of the new on- and off-ramps to northbound SR-86 will occur east of SR-86. Construction of the new on- and off-ramps to southbound SR-86 as well as related local access to the new SR-86/Avenue 50 interchange from the west, will occur west of SR-86. The Build Alternatives would result in temporary construction impacts that are anticipated to result in some instances of vehicular travel within the construction area being restricted and/or detoured, however these disruptions are expected to be temporary, and would cease once construction of the project was complete.

Construction of realigned Tyler Street to realigned Avenue 50 is expected to result in a 10-day full closure at the intersection of Tyler Street and Avenue 50. A temporary detour will be constructed in advance to manage traffic through this existing intersection during construction. Construction of new alignment of Avenue 50 to existing alignment of Avenue 50 at the eastern limits of the project with respect to Avenue 50, is expected to be accomplished through flagging only and is anticipated to be completed in 10 days. Completion of construction of the northbound on-ramp to SR-86, which will involve permanent removal of access to SR-86 via the existing Tyler Street/Avenue 50 intersection with northbound SR-86, is expected to be completed in one month. This part of Phase 2 construction will require a detour for traffic on Avenue 50 and for traffic on Tyler Street, to address access to northbound SR-86. Refer to Figure 2.1.6-5, Phase 2 Detour Map. Completion of construction of the southbound off-ramp to Avenue 50, which will involve permanent removal of access to SR-86 via the existing Tyler Street/Avenue 50 intersection with southbound SR-86, is expected to be completed in one month. This part of Phase 2 construction, which will coincide with the construction related to the northbound on-ramp, will require a detour for traffic on Avenue 50, to address access to southbound SR-86. The respective detours related to construction of the new on-ramp to northbound SR-86 and construction of the new off-ramp from southbound SR-86 will be in place until the new interchange is open for traffic.

Traveler information strategies will include Portable Changeable Message Signs to advise motorists to divert at remote advance decision points beginning approximately one week ahead of the start of construction, as well as announcement of lane closure locations and detours on the City's website. This is expected to ensure sufficient advance notice of lane closures is provided to local residents and businesses.

The portion of the project setting associated with Phase 2 currently includes no sidewalks or bicycle facility designations. As discussed in the "Permanent Impacts" discussion below, completion of Phase 2 of the project will result in construction of some new sidewalks and bicycle facilities. The bicycle facilities will involve usage of paved 10-foot shoulders and include "share the road" signage as well as "no parking" signage for regular motorized vehicles. The bicycle facilities will be shared and also signed for low-speed electric vehicles (LSEV).

Phase 2 construction of the Build Alternatives would not restrict accessibility for public transportation within the project area. The nearest bus stop is located approximately 0.25-mile to the southwest of the project site; there are no bus stops located within the project area. If road closures are required during construction, Line 95 would be temporarily diverted. Coordination with SunLine regarding potential bus route diversions during construction would occur throughout the construction phase and temporary impacts would not be substantial.

Permanent Impacts

Phase 1

Alternative 1 (No-Build Alternative)

Under the No-Build Alternative, improvements that would improve mobility and traffic operations would not be constructed.

Alternatives 7 and 8 (Build Alternatives)

Long-term operation of either of the Build Alternatives would replace an existing low water crossing of the CVSC with a bridge structure; and improve operational performance by replacing an existing at grade intersection with a new grade separated overcrossing structure. In addition, a multi-modal pathway is proposed along the alignment of Avenue 50, and along the CVSC alignment, as part of the CV Link Project. Regional benefits that are anticipated with implementation of the CV Link include alternative transportation resulting in a reduction in traffic congestion and air quality improvement, and the enhancement of safety.[8] The project would fully accommodate the CV Link project design features within the project area.

Implementation of Phase 1 of the project would not construct any improvements that would affect existing transit service or transit stops within the project area. Long-term operation of either of the Build Alternatives would not reduce transit service or alter access to transit stops within the project area, including SunLine bus service and stops located along the alignment of Line 95. Therefore, the Build Alternatives would not result in impacts to public transportation.

Phase 2

Alternative 1 (No-Build Alternative)

Under the No-Build Alternative, improvements that would improve traffic operations would not be constructed.

Alternatives 7 and 8 (Build Alternatives)

Long-term operation of either of the Build Alternatives is expected to result in beneficial traffic and transportation impacts. The proposed project would construct a new interchange on SR-86 with a new overcrossing structure and access ramps, which would accommodate traffic for existing and planned development in the area. The proposed project would also improve traffic operations by enhancing level of service (LOS) at local street intersections and adjacent interchanges. The proposed improvements also include realignment and widening of Avenue 50 from the existing two-lane roadway to a six-lane major arterial, and realignment of Tyler Street on both the east and west side of SR-86.

[8] Coachella Valley Association of Governments, *CV Link Master Plan*, January 2016.

As discussed in Section 2.1.1, Land Use, of this IS/EA, an increase of six parking stalls would be provided for Sierra Vista Park under the Build Alternatives, as compared to existing conditions. Therefore, the Build Alternatives would not result in the loss of any parking spaces for businesses or other facilities within the project area.

The project would result in beneficial changes to bicycle and pedestrian routes within the project area, as it would provide these facilities in areas where none currently exist. Refer to Figure 2.1.6-4, Proposed Typical Bicycle and Pedestrian Facilities, within Section 2.1.6 of this document, which shows a typical section of Avenue 50 and Tyler Street; Figure 2.1.6-5, Alternative 7 Proposed Bike Lanes, within Section 2.1.6 of this document; and Figure 2.1.6-6, Alternative 8 Proposed Bike Lanes, within Section 2.1.6 of this document, which shows the locations of proposed bike lanes. As such, transportation connectivity would be enhanced as a result of these improvements, as envisioned in the General Plan Land Use goals and policies. The Build Alternatives would be designed and constructed in compliance with regulations included in the 1990 Americans with Disabilities Act (ADA), as required for federal-aid projects. The Build Alternatives both include planned access and mobility of non-motorized vehicles and pedestrians. These accommodations are consistent with the General Plan, in which Avenue 50 within the project area is proposed as a "Major Arterial with Bicycle Facility." Design facilities for both Build Alternatives would be fully accessible as described in the Caltrans' Design Information Bulletin 82-03 "Pedestrian Accessibility Guidelines for Highway Projects," and allows Americans with Disabilities Act-compatible crossings.

Implementation of Phase 2 of the project would not construct any improvements that would affect existing transit service or transit stops within the project area. Long-term operation of either of the Build Alternatives would not reduce transit service or alter access to transit stops within the project area, including SunLine bus service and stops located along the alignment of Line 95. Therefore, the Build Alternatives would not result in impacts to public transportation.

2.1.4.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

Relocations and Real Property Acquisition

2.1.4.5 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.

2.1.4.6 Affected Environment

The information for this section is based upon the Draft Relocation Impact Memorandum (DRIM) (May 2018) that was prepared for the proposed project. Based on the DRIM, within the project area, temporary and permanent partial and full right-of-way (ROW) acquisition of parcels situated within the realignment of Avenue 50 and SR-86 would be required. There are three existing structures associated with the single-family residence located on APN 763-030-010, which is located on the south side of Avenue 50 in the southwest quadrant of the SR-86/Avenue 50 intersection. According to the Riverside County Assessor's Office, this 9.85-acre parcel is located within Tax Rate Area 012-009. The main residence structure was constructed in 1950, has 4 bedrooms and a total area of 2,371 square feet. The most recent assessed value of the residence includes the land at $279,193 and the structure at $126,906, for a total assessed value of $406,099.[9]

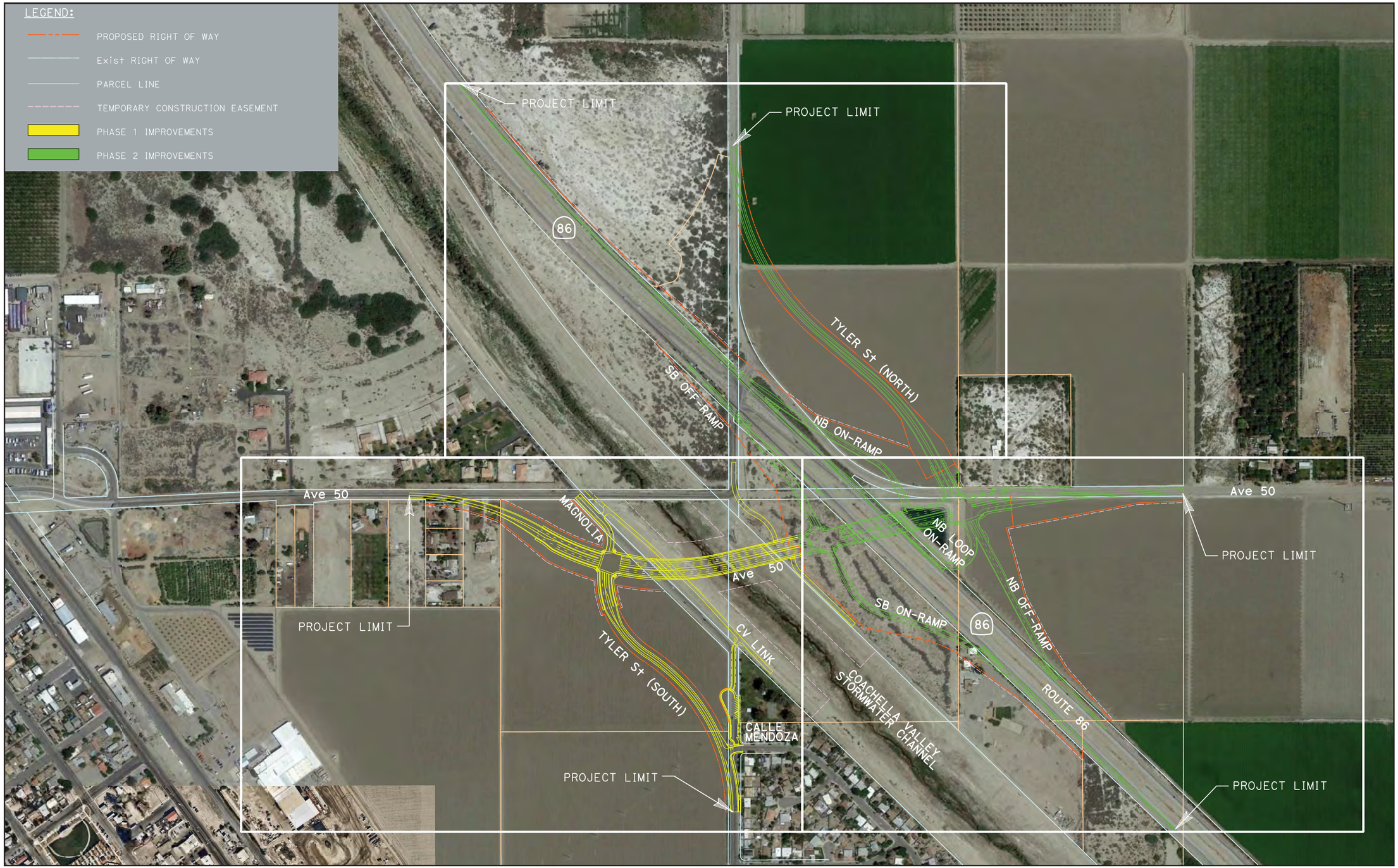
As discussed in Section 2.1.2, Farmlands, of this IS/EA, acquisition of existing agricultural lands would also occur under the Build Alternatives. Cultivated farmland, consisting of a variety of row crops, is located within both the northeast and southwest quadrants of the proposed interchange area. Row crops within the project area have historically included fruits and vegetables (lettuce, celery, broccoli, strawberries, etc.) but can vary widely due to seasonal demand and market conditions. The cultivated land in the southwest quadrant has been designated as Prime Farmland by the California Department of Conservation, Division of Land Resource Protection (DLRP). In the northeast quadrant, there are both Prime Farmland and Farmland of Local Importance designations for the cultivated land. None of these farmlands are currently committed to future development.

2.1.4.7 Environmental Consequences

A detailed profile of all parcels that would be potentially affected by temporary and permanent ROW acquisition associated with the Build Alternatives, including APNs, acreages, property owners, relocation status, and land uses, are shown in Table 2.1.4-3, Phase 1 Potential Temporary ROW Acquisitions and Relocations, Table 2.1.4-4, Phase 2 Potential Temporary ROW Acquisitions and Relocations, Table 2.1.4-5, Phase 1 Potential Permanent ROW Acquisitions and Relocations, and Table 2.1.6-6, Phase 2 Potential Permanent ROW Acquisitions and Relocations below. In addition, Figures 2.1.4-4a through 2.1.4-4d, Alternative 7 Potential ROW Acquisition and Figures 2.1.4-5a through 2.1.4-5d, Alternative 8 Potential ROW Acquisition, show the areas of potential temporary and permanent ROW acquisition.

It should be noted that there is an acreage difference between the ROW acquisition acreages discussed in Section 2.1.2, Farmlands, of this IS/EA, and the ROW acquisition acreages discussed in this section. The acreages obtained for this section are the result of the use of the detailed grading/roadway design plans as the basis; refer to Figures 2.1.4-4a through 2.1.4-4d and 2.1.4-5a through 2.1.4-5d. The acreages obtained for Section 2.1.2 are the result of the use of a project footprint polygon developed in GIS as the basis for all technical studies prepared for the project and disclosed on the Farmland Conversion Impact Rating Form (Form AD-1006), which was submitted to the Natural Resources Conservation Service (NRCS). Areas within State ROW have been identified as farmlands due to underlying soil conditions per FMMP data.

[9] County of Riverside Assessor-County Clerk-Recorder website, http://www.asrclkrec.com/, accessed 8-22-17.



NOT TO SCALE

11/18 | JN 159814

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Alternative 7 Potential ROW Acquisition Key Map

Figure 2.1.4-4a

Back of 11x17 figure.



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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Alternative 7 Potential ROW Acquisition – Sheet 1

Figure 2.1.4-4b

Back of 11x17 figure.



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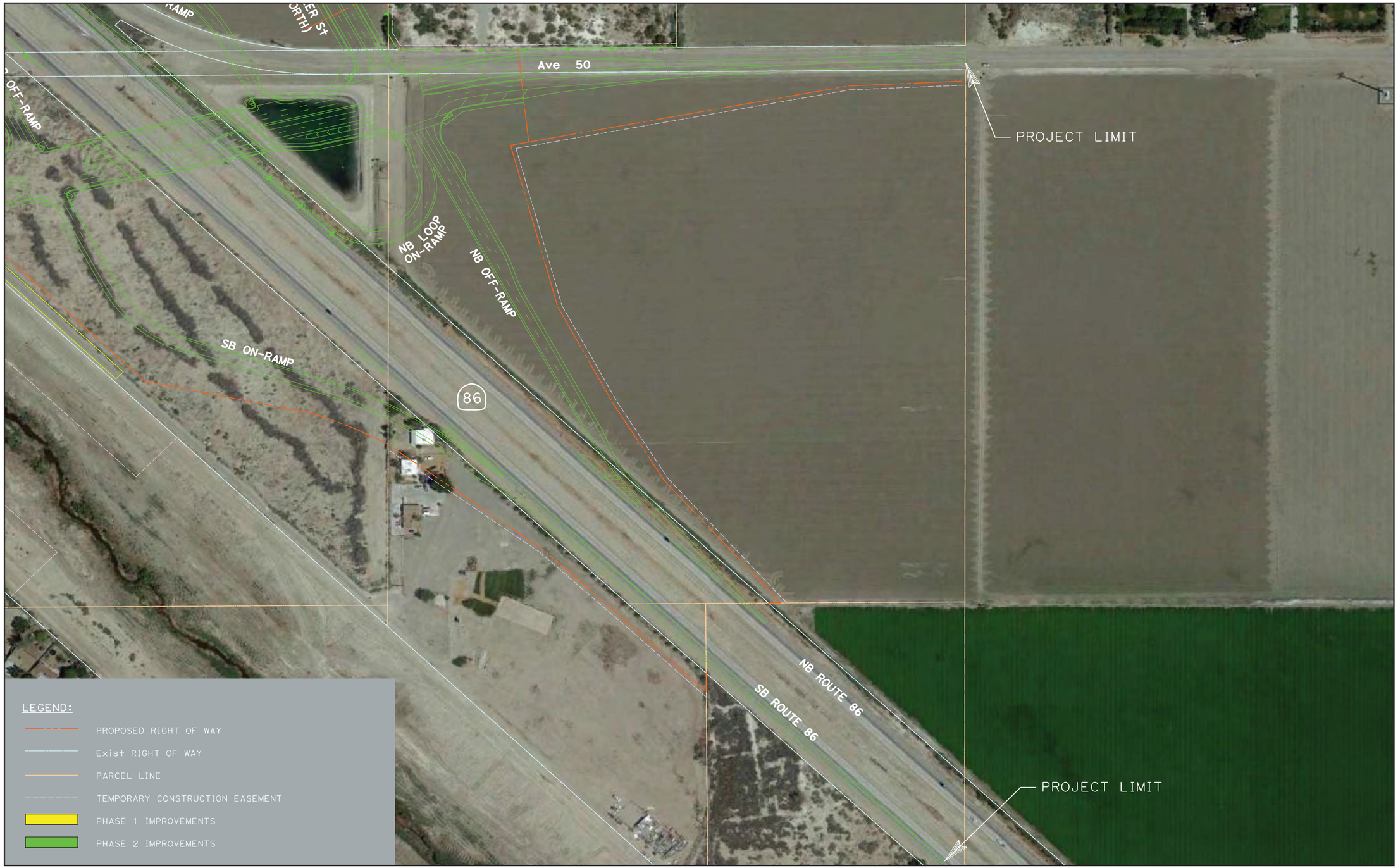
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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Alternative 7 Potential ROW Acquisition – Sheet 2

Figure 2.1.4-4c

Back of 11x17 figure.



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11/18 | JN 159814

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Alternative 7 Potential ROW Acquisition – Sheet 3

Figure 2.1.4-4d

Back of 11x17 figure.

LEGEND:

- PROPOSED RIGHT OF WAY
- Exist RIGHT OF WAY
- PARCEL LINE
- TEMPORARY CONSTRUCTION EASEMENT
- PHASE 1 IMPROVEMENTS
- PHASE 2 IMPROVEMENTS

PROJECT LIMIT
PROJECT LIMIT
86
TYLER St (NORTH)
SB OFF-RAMP
NB ON-RAMP
Ave 50
MAGNOLIA
Ave 50
NB LOOP ON-RAMP
PROJECT LIMIT
SB LOOP ON-RAMP
NB OFF-RAMP
86
PROJECT LIMIT
PROJECT LIMIT
CV LINK
TYLER St (SOUTH)
COACHELLA VALLEY STORMWATER CHANNEL
ROUTE 86
CALLE MENDOZA
PROJECT LIMIT

NOT TO SCALE

11/18 | JN 159814

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Alternative 8 Potential ROW Acquisition Key Map

Figure 2.1.4-5a

Back of 11x17 figure.



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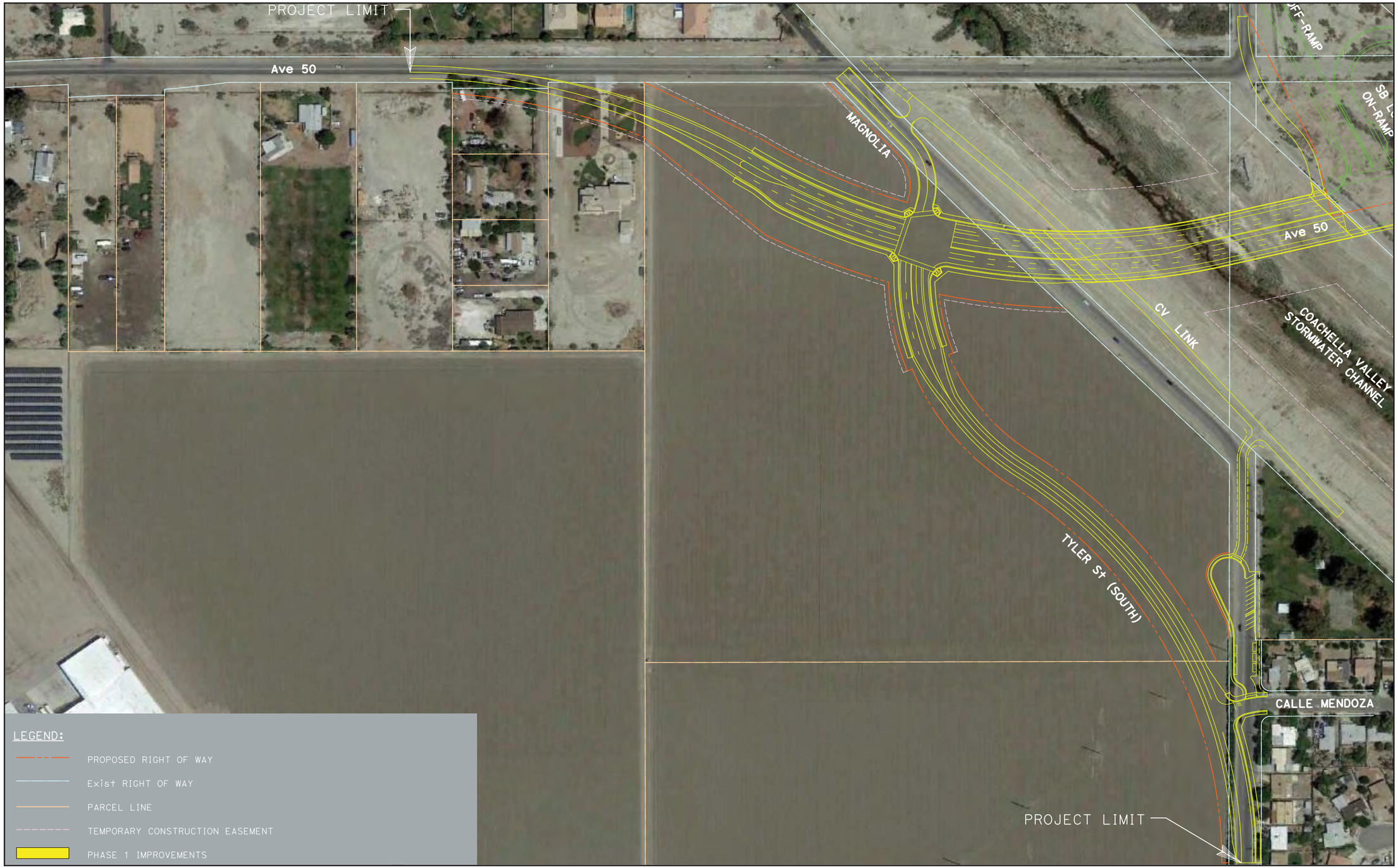
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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Alternative 8 Potential ROW Acquisition – Sheet 1

Figure 2.1.4-5b

Back of 11x17 figure.



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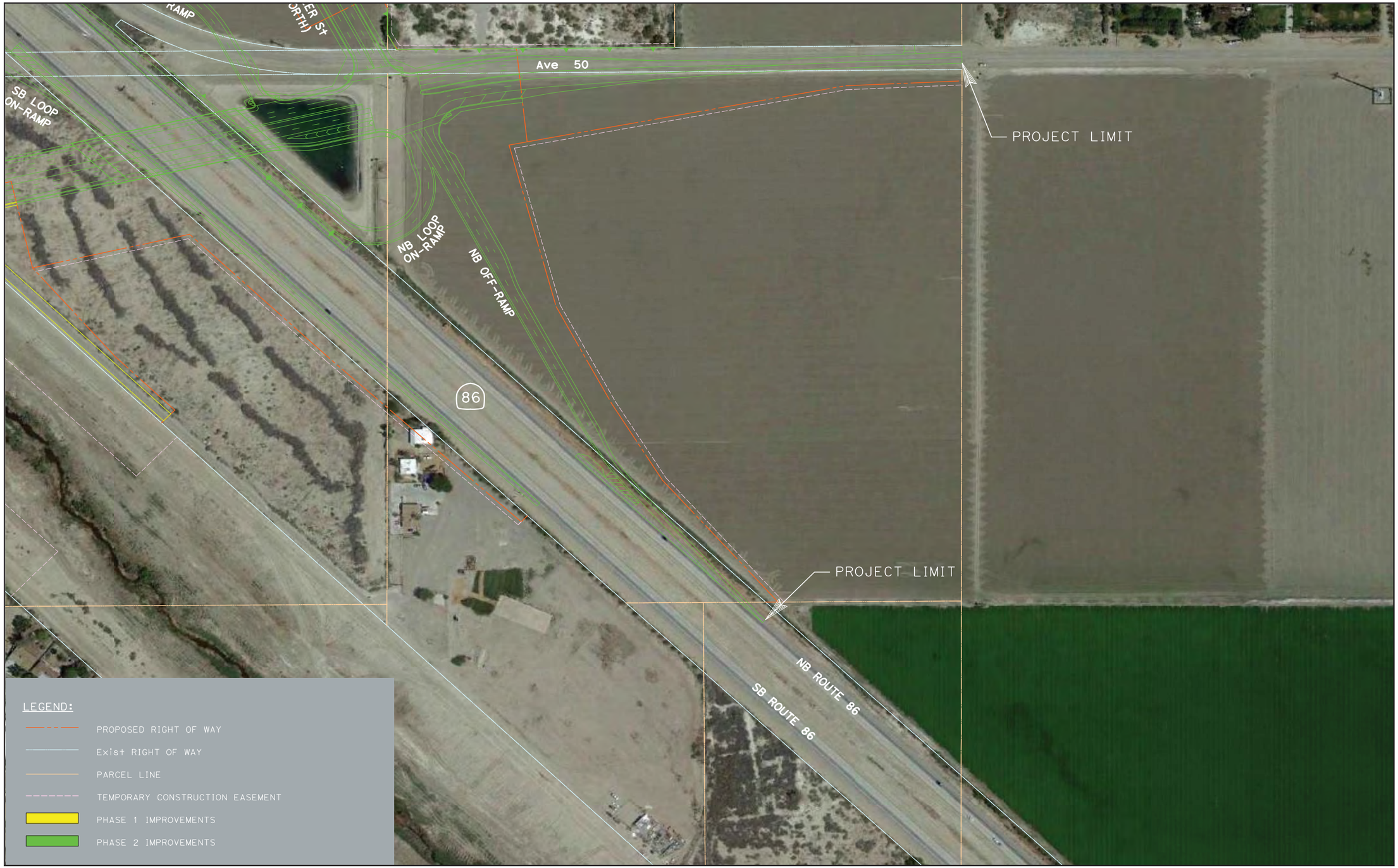
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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Alternative 8 Potential ROW Acquisition – Sheet 2

Figure 2.1.4-5c

Back of 11x17 figure.



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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Alternative 8 Potential ROW Acquisition – Sheet 3

Figure 2.1.4-5d

Back of 11x17 figure.

Temporary Impacts

Alternative 1 (No-Build Alternative)

No temporary relocations or real property acquisition impacts would occur with implementation of the No-Build Alternative since no construction activity would occur.

Alternatives 7 and 8 (Build Alternatives)

It is expected that Temporary Construction Easement (TCE) areas will be required for the Build Alternatives. Construction would occur in two phases and is anticipated to last approximately 27 months. Tables 2.1.4-3 and 2.1.4-4 below show the potential temporary ROW acquisitions that may occur under the Build Alternatives. A total of 0.630 acres for Build Alternative 7 and 0.858 acres for Build Alternative 8 would be temporarily acquired during Phase 1 project construction. A total of 1.726 acres for Build Alternative 7 and 1.670 acres for Build Alternative 8 would be temporarily acquired during Phase 2 project construction.

Table 2.1.4-3: Phase 1 Potential Temporary ROW Acquisitions and Relocations

APN	Address	Alternative 7 Impacts (Acres)	Alternative 8 Impacts (Acres)	Relocation	Current Land Use
763-020-021	No address reported	--	0.228	No	Vacant Land
778-170-005	85701 Avenue 50	0.051	0.051	No	Single-Family Residential
778-170-009	85751 Avenue 50	0.053	0.053	No	Single-Family Residential
778-170-011	No address reported	0.526	0.526	No	Agricultural
Totals		**0.630**	**0.858**		
Source: RealQuest Property Data, accessed May 30, 2017.					

Table 2.1.4-4: Phase 2 Potential Temporary ROW Acquisitions and Relocations

APN	Address	Alternative 7 Impacts (Acres)	Alternative 8 Impacts (Acres)	Relocation	Current Land Use
603-300-024	No address reported	0.150	0.218	No	Vacant Land
603-300-027	No address reported	0.126	0.126	No	Vacant Land
603-300-028	No address reported	0.334	0.334	No	Vacant Land
603-330-003	No address reported	0.170	0.170	No	Vacant Land
603-330-010	No address reported	0.185	0.185	No	Agricultural
763-020-023	No address reported	0.542	0.542	No	Agricultural
763-030-010	86275 Avenue 50	0.219	0.095	Yes	Single-Family Residential
Totals		**1.726**	**1.670**		
Source: RealQuest Property Data, accessed May 30, 2017.					

Permanent Impacts

Alternative 1 (No-Build Alternative)

Under the No-Build Alternative, the existing SR-86 and Avenue 50 roadways, and surrounding transportation network would be maintained. No relocations or permanent property acquisition would occur.

Alternatives 7 and 8 (Build Alternatives)

Construction would occur in two phases and is anticipated to last approximately 27 months. Tables 2.1.4-5 and 2.1.4-6 below show the potential permanent ROW acquisitions that may occur under the Build Alternatives. A total of 36.723 acres for Build Alternative 7 and 29.095 acres for Build Alternative 8 would be permanently acquired during Phase 1 project construction. A total of 21.680 acres for Build Alternative 7 and 21.677 acres for Build Alternative 8 would be permanently acquired during Phase 2 project construction.

Table 2.1.4-5: Phase 1 Potential Permanent ROW Acquisition and Relocations

APN	Address	Alternative 7 Impacts (Acres)	Alternative 8 Impacts (Acres)	Relocation	Current Land Use
603-330-011	No address reported	1.805 (full)	1.805 (full)	No	Agricultural
763-020-019	No address reported	7.044 (partial)	7.044 (partial)	No	Vacant Land
763-020-021	No address reported	14.478 (full)	6.850 (partial)	No	Vacant Land
778-170-005	85701 Avenue 50	0.130 (partial)	0.130 (partial)	No	Single-Family Residential
778-170-009	85751 Avenue 50	0.460 (partial)	0.460 (partial)	No	Single-Family Residential
778-170-011	No address reported	6.489 (partial)	6.489 (partial)	No	Agricultural
778-170-012	No address reported	5.714 (partial)	5.714 (partial)	No	Vacant Land
778-170-013	No address reported	0.029 (full)	0.029 (full)	No	Agricultural
778-180-004	No address reported	0.574 (partial)	0.574 (partial)	No	Agricultural
Totals		**36.723**	**29.095**		

Source: RealQuest Property Data, accessed May 30, 2017.

Table 2.1.4-6: Phase 2 Potential Permanent ROW Acquisition and Relocations

APN	Address	Alternative 7 Impacts (Acres)	Alternative 8 Impacts (Acres)	Relocation	Current Land Use
603-300-024	No address reported	0.373 (partial)	1.266 (partial)	No	Vacant Land
603-300-027	No address reported	0.512 (partial)	0.512 (partial)	No	Vacant Land
603-300-028	No address reported	0.291 (partial)	0.291 (partial)	No	Vacant Land
603-330-003	No address reported	0.009 (partial)	0.009 (partial)	No	Vacant Land
603-330-010	No address reported	8.180 (partial)	8.180 (partial)	No	Agricultural
603-330-012	No address reported	0.099 (full)	0.099 (full)	No	Agricultural
763-020-020	No address reported	2.720 (full)	2.720 (full)	No	Agricultural
763-020-023	No address reported	8.349 (partial)	8.349 (partial)	No	Agricultural
763-030-010	86275 Avenue 50	1.147 (partial)	0.251 (partial)	Yes	Single-Family Residential
Totals		**21.680**	**21.677**		

Source: RealQuest Property Data, accessed May 30, 2017.

According to the DRIM, Build Alternative 7 would require permanent partial acquisition of approximately 35.77 acres and permanent full acquisition of 19.12 acres, for a total of 54.89 acres. Build Alternative 8 would require permanent partial acquisition of approximately 42.62 acres and permanent full acquisition of 4.63 acres, for a total of 47.25 acres. Implementation of the Build Alternatives would result in a single residential relocation during Phase 2 of the project. As mentioned above, this parcel has three structures on it. Build Alternative 7 would

require acquisition of two of the three structures and Build Alternative 8 would require acquisition of one of the three structures.

Although agricultural land is being acquired as described above, no business relocations would occur as a result of either of the Build Alternatives.

As shown in the tables above, there would be one permanent residential relocation that would occur during Phase 2 of the project, under either of the Build Alternatives. According to the DRIM, 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. Implementation of Minimization Measure ROW-1, below, would reduce potential relocation impacts and impacts would not be substantial.

No business relocations would occur under either of the Build Alternatives. Although partial and full permanent acquisition of parcels associated with Peter Rabbit Farms and Cardinal Distributing Co. Inc. would occur under the Build Alternatives, these businesses would not be displaced as a result of project implementation.

2.1.4.8 Avoidance, Minimization, and/or Mitigation Measures

ROW-1 Right-of-way 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.

Environmental Justice

2.1.4.9 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 2018, this was $25,100 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.

2.1.4.10 Affected Environment

Demographic information from the U.S. Census Bureau was used to identify minority and low-income populations in the project area. The same four census tract block groups that were used for general demographics were used for this Environmental Justice analysis; refer to the "Community Character and Cohesion" discussion and the corresponding Figure 2.1.4-2, Study Area Census Tract Block Groups above.

Racial and Ethnic Characteristics: Table 2.1.4-7, Racial and Ethnic Demographics, shows the minority population for the City, the County and the study area block groups. Three out of the four block groups (CT 456.09, BG 2; CT 457.06, BG 1; and CT 457.06, BG 2) have similar percentages of White populations, at 49.0 percent, 46.0 percent, and 48.0 percent, respectively, whereas CT 457.07, BG 1 has a lower White percentage of 24.5 percent. A similar trend occurs for the Black population in the block groups. Three out of the four block groups (CT 456.09, BG 2; CT 457.06, BG 1; and CT 457.07, BG 1) have Black populations of 1.8 percent, 1.0 percent, and 0.0 percent, respectively, whereas CT 457.06, BG 2 shows a Black population of 10.0 percent.

The City's White percentage is higher than CT 457.07, BG 1 at 31.0 percent, but lower than the rest of the block groups, whereas the County's White percentage is higher than all other areas included in the study area at 64.6 percent. The City's Black percentage of 1.3 percent is similar to those of CT 456.09, BG 2; CT 457.06, BG 1; and CT 457.07, BG 1. The County has a Black population percentage of 6.3 percent.

All four block groups included in the study area show a high percentage of Hispanic or Latino populations, ranging from 90.0 percent to 99.3 percent. The City's Hispanic percentage is similar to the block groups at 97.5 percent, whereas the County's Hispanic population is lower than all other areas included in the study area at 47.0 percent. All four block groups also showed an absence of any American Indian and Alaska Native, Asian, and Native Hawaiian/Other Pacific Islander populations. The City also shows a very low percentage of these populations, with a 0.5 percent American Indian and Alaska Native population, a 0.1 percent Asian population, and a 0.1 percent Native Hawaiian/Other Pacific Islander population. All four block groups and the City have fairly high percentages of Some Other Race populations, ranging from 49.3 percent to 74.1 percent. The City's Some Other Race population percentage is 66.6 percent, and the County's Some Other Race population percentage is lower than all the other areas in the study area at 17.5 percent.

Table 2.1.4-7: Racial and Ethnic Demographics

Demographic	BG 2 in CT 456.09	BG 1 in CT 457.06	BG 2 in CT 457.06	BG 1 in CT 457.07	City of Coachella	Riverside County
White Alone, Non-Hispanic %	558 (49.0%)	1,674 (46.0%)	541 (48.0%)	376 (24.5%)	13,443 (31.0%)	1,484,768 (64.6%)
Black or African American Alone, Non-Hispanic %	20 (1.8%)	36 (1.0%)	112 (10.0%)	0 (0%)	549 (1.3%)	143,976 (6.3%)
American Indian and Alaska Native Alone, Non-Hispanic %	0 (0%)	0 (0%)	0 (0%)	0 (0%)	209 (0.5%)	21,535 (0.9%)
Asian Alone, Non-Hispanic %	0 (0%)	0 (0%)	0 (0%)	0 (0%)	24 (0.1%)	142,136 (6.2%)
Native Hawaiian and Other Pacific Islander Alone, Non-Hispanic %	0 (0%)	0 (0%)	0 (0%)	0 (0%)	18 (0.1%)	6,601 (0.3%)
Some Other Race Alone, Non-Hispanic %	562 (49.3%)	1,947 (53.1%)	475 (42.1%)	1,137 (74.1%)	28,849 (66.6%)	401,152 (17.5%)
Two or More Races, Non-Hispanic %	0 (0%)	10 (0.3%)	0 (0%)	22 (1.4%)	216 (0.5%)	97,864 (4.3%)
Hispanic/Latino (any race) %	1,021 (90.0%)	3,621 (99.0%)	1,037 (92.0%)	1,524 (99.3%)	42,220 (97.5%)	1,079,778 (47.0%)
Total Population	**1,140**	**3,667**	**1,128**	**1,535**	**43,308**	**2,298,032**

Source: U.S. Census Bureau, 2015 American Community Survey 2011-2015.

Poverty/Low-Income 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 $24,858 in 2017 (the most recent year for which this data is available).[10] Low income is defined based on the Department of Health and Human Services (DHHS) poverty guidelines. According to the DHHS 2018 Poverty Guidelines, the poverty threshold for a family of four in the State of California is $25,100.[11] There is a nominal difference of $242 between the Census Bureau and DHHS poverty thresholds.

Table 2.1.4-8, Regional, Local, and Project Area Income and Poverty Levels, shows the percentage of families living below the poverty level (low income) for the City, the County, and the study area block groups. As shown, the figures between the City and four study area block groups are consistent, ranging from a low of 25.4 percent in Census Tract 456.09, Block Group 2, to a high of 32.3 percent in Census Tract 457.06, Block Group 1. The City's low-income population percentage is 27.9 percent, which is more than double that of the County overall. However, the variance of the number of families living below the poverty level within the study area is not considered to be substantial.

Table 2.1.4-8: Regional, Local, and Project Area Income and Poverty Levels

Demographic	City of Coachella	Riverside County	BG 2 in CT 456.09	BG 1 in CT 457.06	BG 2 in CT 457.06	BG 1 in CT 457.07
Total Population	40,704	2,189,641	1,140	3,667	1,128	1,535
Median Household Income	$40,423	$56,592	$22,656	$30,333	$30,964	$25,536
Families living below the poverty level	27.9%	13.1%	25.4%	32.3%	31.5%	32.6%

Notes:
1. CT: Census Tract, BG: Block Group.
2. 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, 2015 American Community Survey 2011-2015.

2.1.4.11 Environmental Consequences

Temporary Impacts

To determine whether the project will have a "disproportionately high and adverse impact" on minority and low-income populations, various factors were considered, including potential beneficial and adverse impacts, both temporary and permanent, and mitigation measures that will be incorporated into the project, and offsetting benefits. Temporary impacts are those impacts resulting from construction of the project. Permanent impacts are those impacts resulting from operation of the project. Potential permanent beneficial and adverse impacts were evaluated in regard to traffic and transportation, air quality, noise and vibration, and community character and cohesion.

[10] U.S. Census Bureau website, accessed 8-8-18. https://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html.

[11] U.S. Department of Health and Human Services (DHHS) website, accessed 8-3-18. https://aspe.hhs.gov/20185-poverty-guidelines.

Alternative 1 (No-Build Alternative)

No temporary impacts regarding environmental justice populations would occur with implementation of the No-Build Alternative since no construction activity would occur with this alternative.

Alternatives 7 and 8 (Build Alternatives)

Traffic and Transportation: The Build Alternatives may result in traffic congestion in the project area as a result of construction-related activities during the construction phases. Adverse construction-related impacts to traffic would occur with respect to the general public as a whole and would not be confined to minority or low-income populations, and these impacts would cease upon completion of the project. As discussed in Section 2.1.6 of this IS/EA, temporary traffic congestion would be addressed with implementation of a TMP, which would serve to minimize disruption to local traffic for all populations impacted during project construction. Any temporary lane closures would be publicized through a public awareness campaign and portable changeable message signs within the project limits. Access to properties in the project area would be maintained during project construction. Therefore, construction of the project would not result in disproportionate or adverse traffic impacts to low-income or minority populations in the project area.

Air Quality: The Build Alternatives may result in adverse air quality in the project area as a result of construction-related activities during the construction phase. Adverse construction-related impacts to air quality would occur with respect to the general public as a whole and would not be confined to minority or low-income populations, and these impacts would cease upon completion of the project. As discussed in Section 2.2.6 of this IS/EA, temporary air quality impacts would be addressed with implementation of standardized measures, which would reduce construction-related air emissions for all populations impacted during project construction. Therefore, construction of the project would not result in disproportionate or adverse air quality impacts to low-income or minority populations in the project area.

Noise: The Build Alternatives may result in adverse noise and vibration impacts in the project area as a result of construction-related activities during the construction phase. Adverse construction-related noise and vibration impacts would occur with respect to the general public as a whole and would not be confined to minority or low-income populations, and these impacts would cease upon completion of the project. As discussed in Section 2.2.7 of this IS/EA, temporary noise impacts would be addressed with implementation of standardized measures, which would reduce construction-related noise and vibration for all populations impacted during project construction. Therefore, construction of the project would not result in disproportionate or adverse noise and vibration impacts to low-income or minority populations in the project area.

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 project construction are not anticipated.

Permanent Impacts

Technical studies and analyses have been reviewed to determine whether the Build Alternatives would have any adverse effects on all segments of the population, including minority and low-income population groups. The technical studies addressing traffic and transportation, air quality, noise and vibration, and community character and cohesion, indicate that some

potential adverse effects are expected as a result of the Build Alternatives. However, these impacts are either temporary, or will be mitigated to levels that are below significance. In addition, potential beneficial operational impacts that may result from implementation of the Build Alternatives are also addressed. Thus, no permanent effects are expected to disproportionately affect the minority and low-income populations within the Environmental Justice study area.

The following discussions summarize the impacts identified in these technical reports and the measures to avoid or reduce the impacts.

Alternative 1 (No-Build Alternative)

Traffic and Transportation: Under the No-Build Alternative, the existing roadway configuration would be maintained and neither the new bridge over Avenue 50 nor the new SR-86/Avenue 50 interchange would be constructed. As discussed in Section 2.1.6 of this IS/EA, long-term operational traffic impacts would occur under the No-Build Alternative. By the design horizon (2045) year, the Avenue 50 low water crossing between Tyler Street and SR-86 would operate at LOS F. In addition, the Avenue 50/Tyler Street intersection would remain as stop-controlled and operate at an unacceptable LOS F during both AM and PM peak hours, and the SR-86/Avenue 50 intersection would remain as an at-grade signal and operate at LOS F during both AM and 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.

Air Quality: As discussed in Section 2.2.6 of this IS/EA, the project would not result in a significant increase in truck average daily traffic (ADT) volumes between the No-Build and Build Alternative scenarios. The highest opening year No-Build average daily traffic (ADT) volumes would be 42,520, which include truck volumes of 8,249 ADT, which is slightly less than the highest opening year Build conditions ADT volumes of 43,130, which include truck volumes of 8,367 ADT. Horizon Year No-Build ADT volumes range from 15,370 to 61,180, which include truck volumes that range from 830 to 11,869 ADT, as compared to Build conditions, in which ADTs would range from 1,060 to 62,140, and truck volumes would range from 355 to 12,055 ADT. Therefore, the difference in air emissions between the No-Build Alternative and the Build Alternatives is not substantial and the No-Build Alternative is not anticipated to result in substantial air quality impacts. No permanent adverse air quality impacts to minority and low-income population groups would occur, and no long-term avoidance, minimization, and/or mitigation measures are required.

Noise: As discussed in Section 2.2.7 of this IS/EA, under the No-Build Alternative, none of the proposed project improvements would be implemented; therefore, no operational noise impacts would occur. The No-Build Alternative would not result in permanent adverse noise impacts to minority and low-income population groups, and no long-term avoidance, minimization, and/or mitigation measures are required.

Community Character and Cohesion: As discussed above, it is unlikely that adverse community character and cohesion impacts would occur with regard to regional and local demographics or housing characteristics under the No-Build Alternative. However, in the absence of the transportation infrastructure proposed as part of the project, improvements that would provide direct and dependable access of the CVSC would not be constructed.

Alternatives 7 and 8 (Build Alternatives)

Traffic and Transportation: As discussed in Section 2.1.6 of this IS/EA, traffic operations in the study area would maintain existing LOS or experience improved LOS under the Build Alternatives. Specifically, the SR-86 mainline and ramps would operate at an acceptable LOS (LOS D or better) under the Build Alternatives in the design horizon year (2045) during both the AM and PM peak hours. In addition, the Build Alternatives would also substantially improve the Avenue 50/Tyler Street and SR-86/Avenue 50 intersections from an unacceptable LOS F without the project to an acceptable LOS C or better conditions.

In addition to improving levels of service, the Build Alternatives would also replace an existing low water crossing of the CVSC with a bridge structure; and improve operational performance by replacing an existing at grade intersection with a new grade separated overcrossing structure. These improvements are expected to reduce flood hazards along Avenue 50 with the provision of a bridge over the existing low-water crossing and eliminate cross traffic with the new SR-86/Avenue 50 interchange.

The beneficial traffic conditions under the Build Alternatives would occur with respect to the general public as a whole. Therefore, operation of the project would not result in disproportionate or adverse traffic impacts to low-income or minority populations in the project area.

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

Noise: As discussed in Section 2.2.7 of this IS/EA, the Build Alternatives will not cause permanent significant noise and vibration impacts during its operation in the project area. Noise levels under either Build Alternative would not approach or exceed the NAC of 67 dBA L_{eq}(h) for Category B or C land uses or result in a substantial increase in noise. In fact, future noise levels at several modeled receptors would experience lower noise levels under design-year with project conditions as compared to existing conditions due to an increase in distance between the roadway and receptors. Therefore, there will be no disproportionate impact to minority and low-income population groups.

Community Character and Cohesion: As discussed above, there are substantial numbers of minority populations located within the census tract block groups that were analyzed for potential project impacts. The Build Alternatives would have a beneficial impact of improving access and circulation within the study area for the general public. Potential 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 project will not physically divide, or create barriers within, any such communities in the project area. In addition, the project will reduce flood hazards along Avenue 50 and improve the operational performance of roadways for all users of the roadways within the project area.

2.1.4.12 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.

2.1.5 Utilities/Emergency Services

2.1.5.1 Affected Environment

Utilities

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

Imperial Irrigation District (IID) – overhead transmission lines, transformers, and power poles:

- An overhead 92-kilovolt (kV) transmission line, running north-south, crosses the Coachella Valley Stormwater Channel (CVSC) and SR-86 within the project limits.
- An overhead 7.2/12.5- kV line running in the east-west direction along the existing Avenue 50 branches into two lines: One heading east crossing SR-86 and running along Avenue 50 on the eastside of SR-86 and the other heading north and crossing SR-86 at the existing intersection.
- A joint overhead of a 7.2/12.5-kV line and runs along the existing Tyler Street on the west side of SR-86.
- An overhead of a 7.2/12.5-kV line and runs in the north-south direction on the east side of the proposed interchange.

Southern California Gas Company – distribution pipelines:

- An 8” gas line running along the existing Avenue 50/Tyler Street on the west side of the CVSC crosses the channel, turns to the north and crosses SR-86 at the existing intersection.

City of Coachella – water service lines:

- A 16” waterline running along the existing Avenue 50 on the west side of the CVSC crosses the channel, turns to the north and crosses SR-86 at the existing intersection.
- A 12” waterline branching off from the 16” waterline at the existing Avenue 50/Tyler Street intersection runs along the existing Tyler Street.

Coachella Valley Water District (CVWD) – underground agricultural/irrigation/tile drains:

- A 14” Irrigation Lateral 105.7-1.9 is located within the project limits and is part of the Coachella Valley irrigation distribution system.
- A 12” Tyler 0.25 drain runs in the north-south direction on the east side of the proposed interchange and discharges into the CVSC.
- A 24” Avenue 50 drain runs along the existing Avenue 50 west of the CVSC and discharges into the CVSC.
- A number of tile drains exist within the project area farmlands.

Coachella Sanitary District – underground sewer lines:

- A 24" sewer line along the existing Avenue 50 on the eastside of SR-86.

Frontier Communications – telecommunication cable:

- A telephone line running along the north side of the existing Avenue 50 branches into two lines: One heading east crossing SR-86 and running along Avenue 50 on the eastside of SR-86 and the other heading north and crossing SR-86 at the existing intersection.

Charter Communications – telecommunication cable:

- An overhead cable runs along the existing Avenue 50 and Tyler Street on the west side of the CVSC.

Emergency Services

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

Police

Police protection services are provided through a contract with the City of Coachella and the Riverside County Sheriff's Department. The Coachella Police Department is located at 86625 Airport Boulevard in Thermal. The police department includes Administration, Traffic, Patrols, Investigations, Crime Stoppers, Crime Prevention, Forensics, and an Explorer Program.

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 and emergency medical services in the study area are provided by the Coachella Fire Department through a contract with the County of Riverside Fire Department. The fire department provides these services to the City as part of the regional and integrated fire protection system provided via a cooperative agreement with the Riverside County Fire Department and Cal Fire. This contract includes fire suppression, fire prevention, emergency medical response, hazardous materials response team, urban search and rescue response team, and other related public services.

The nearest fire station to the project site is Fire Station #79, located at 1377 Sixth Street. The fire department operates with one fire engine and is staffed with one firefighter, one paramedic firefighter, one engineer, and one captain. The existing goal of the fire department is to provide service to all areas of the City using a 1.5-mile service radius with a response time of approximately five minutes or less, 90 percent of the time.

2.1.5.2 Environmental Consequences

2.1.5.2.1 Temporary Impacts

Utilities

Alternative 1 (No-Build Alternative)

Under the No-Build Alternative, no construction would occur; therefore, temporary construction impacts to utilities would not occur.

Alternatives 7 and 8 (Build Alternatives)

The project's final design process (Plans, Specifications, and Estimates [PS&E] phase) will address all potential utility relocation that may be required for project implementation. An updated utility search will be conducted during final design to determine any utility conflicts requiring attention. Coordination with the identified utility companies will be carried out during the PS&E and construction phases. No service disruptions will occur to any of the utilities during construction. Accordingly, no impacts to utilities during construction of the project are anticipated.

Emergency Services

Alternative 1 (No-Build Alternative)

Under the No-Build Alternative, no construction would occur; therefore, temporary construction impacts to emergency services would not occur.

Alternatives 7 and 8 (Build Alternatives)

Access to developed areas in proximity to the project may potentially be constrained intermittently during construction. As noted in Chapter 1.0 of the IS/EA, a Transportation Management Plan (TMP) has been included as a project feature to minimize potential traffic-related impacts during construction of the project. Travel through the project area will 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, adverse effects would not occur in this regard.

2.1.5.2.2 Permanent Impacts

Utilities

Alternative 1 (No-Build Alternative)

Under the No-Build Alternative, SR-86, Avenue 50, and the surrounding transportation network would be maintained; therefore, no permanent changes or impacts to existing utilities in the project area would occur.

Alternatives 7 and 8 (Build Alternatives)

Permanent impacts to utilities under the Build Alternatives would include multiple relocations as described in Table 2.1.5-1 below.

Table 2.1.5-1: Utility Relocations

Affected Utility		Relocation Information
Electrical Service	An overhead 92-kV transmission line, running north-south, crosses the Coachella Valley Stormwater Channel (CVSC) and SR-86 within the project limits.	Approximately 3 poles relocation (2 poles within State right of way).
	An overhead 7.2/12.5-kilovolt (kV) line running in the east-west direction along the existing Avenue 50 branches into two lines: One heading east crossing SR-86 and running along Avenue 50 on the eastside of SR-86 and the other heading north and crossing SR-86 at the existing intersection.	Approximately 12 poles relocation (2 poles within State right of way).
	A joint overhead of a 7.2/12.5-kV line and runs along the existing Tyler Street on the west side of SR-86.	Approximately 5 poles relocation.
	An overhead of a 7.2/12.5-kV line and runs in the north-south direction on the east side of the proposed interchange.	Approximately 5 poles relocation (2 poles within State right of way).
Natural Gas	An 8" gas line running along the existing Avenue 50/Tyler Street on the west side of the CVSC crosses the channel, turns to the north and crosses SR-86 at the existing intersection.	Approximately 3,500 linear feet (LF) relocation (350 LF within State right of way).
Water	A 16" waterline running along the existing Avenue 50 on the west side of the CVSC crosses the channel, turns to the north and crosses SR-86 at the existing intersection.	Approximately 3,300 LF relocation (350 LF within State right of way).
	A 12" waterline branching off from the 16" waterline at the existing Avenue 50/Tyler Street intersection runs along the existing Tyler Street.	Approximately 2,100 LF relocation.
Agricultural	A 14" Irrigation Lateral 105.7-1.9 is located within the project limits and is part of the Coachella Valley irrigation distribution system.	Approximately 3,900 LF relocation (1,000 LF within State right of way).
	A 12" Tyler 0.25 drain runs in the north-south direction on the east side of the proposed interchange and discharges into the CVSC.	Approximately 1,600 LF relocation (320 LF within State right of way).
	A 24" Avenue 50 drain runs along the existing Avenue 50 west of the CVSC and discharges into the CVSC.	It is not anticipated that this facility will require relocation.
	A number of tile drains exist within the project area farmlands.	Relocations will be required for tile drains.
Sewer Service	A 24" sewer line along the existing Avenue 50 on the eastside of SR-86.	Approximately 3,300 LF relocation.
Telephone Service	A telephone line running along the north side of the existing Avenue 50 branches into two lines: One heading east crossing SR-86 and running along Avenue 50 on the eastside of SR-86 and the other heading north and crossing SR-86 at the existing intersection.	Approximately 5,800 LF relocation (700 LF within State right of way).
Cable Service	An overhead cable runs along the existing Avenue 50 and Tyler Street on the west side of the CVSC.	Approximately 3,300 LF relocation.

Prior to the completion of final design, coordination with any affected utility providers in the vicinity of the proposed SR-86/Avenue 50 new interchange project will be completed, to verify that the project will not disrupt services. For any utilities affected, all required coordination will be completed to establish exact procedures and specifications for addressing facilities impacted by the project, and as necessary, additional analysis will be completed, and any measures identified in conjunction with the completion of additional analysis will be implemented. Any required relocations of utilities will be completed prior to any project-related construction. Accordingly, no permanent impacts to utilities are anticipated.

Emergency Services

Alternative 1 (No-Build Alternative)

Under the No-Build Alternative, SR-86, Avenue 50, and the surrounding transportation network would be maintained; therefore, no changes to the provision of emergency services in the project area would occur.

Alternatives 7 and 8 (Build Alternatives)

Alternatives 7 and 8 would improve mobility by providing direct and dependable access over SR-86 and CVSC, which would improve emergency vehicle response times during storm events; therefore, a beneficial impact is anticipated to occur with regard to emergency services in the long-term. Following completion, traffic operations are expected to improve. In conjunction with the construction of the bridge over the CVSC, emergency service providers would be able to travel through the project area more efficiently. Permanent impacts related to emergency services would not occur under the Build Alternatives.

2.1.5.3 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

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2.1.6 Traffic and Transportation/Pedestrian and Bicycle Facilities

2.1.6.1 Regulatory Setting

Caltrans, 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.

2.1.6.2 Affected Environment

This section is based on the State Route 86/Avenue 50 New Interchange Project Final Traffic Operations Report (Traffic Report), dated November 2017.

2.1.6.2.1 Existing Facilities

Roadway Facilities

Key travel routes in the study area include SR-86, Avenue 50, and Tyler Street. SR-86 is a regional highway that extends north-south in the City of Coachella. It begins at Interstate 10 (I-10), north of the City, maintaining access control until reaching Avenue 50/Tyler Street. South of Avenue 50/Tyler Street, it operates as a divided arterial with two lanes in each direction with an open median. The posted speed limit on SR-86 is 55 miles per hour throughout the length of the City. SR-86 is a major regional highway that provides access to I-10 to the north and continues south to the Salton Sea and City of Imperial, near the United States border with Mexico. The segment of SR-86 within the study area is an at-grade facility with two travel lanes in each direction. Based on Caltrans 2015 Traffic Data, the annual average daily traffic (AADT) volume of SR-86 in the study area is approximately 20,500.

Avenue 50 traverses the City in an east-west direction from the western city limits, and currently terminates west of the Coachella Branch of the All-American Canal at Fillmore Street. Avenue 50 within the project limits is currently a 2-lane roadway with a low water crossing through Coachella Valley Stormwater Channel (CVSC) and is classified in the City's General Plan Update as a "Major Arterial with Bicycle Facility." The existing Avenue 50 low water crossing is approximately 700 feet long and 32 feet wide and provides two 12-foot vehicle lanes. The existing Avenue 50 crossing is equipped with two 72-inch culverts conveying CVSC flows from north to south. The capacity of these culverts is often exceeded, resulting in roadway flooding during heavy storm events. Currently, State Route 86 (SR-86) and Avenue 50 is an at-grade

signalized intersection with a dedicated left-turn lane and right-turn lane in the northbound and southbound direction along SR-86.

Tyler Street is a two-lane north/south roadway that is a segmented and discontinuous collector street within the project limits. In a south to north direction, Tyler street follows the northeasterly boundary of Peter Rabbit farms and terminates at Avenue 50. Tyler Street re-starts where Avenue 50 turns to the north; it continues to a "T" intersection with the easterly segment of Avenue 50 east of SR-86. Tyler Street continues to the north of the intersection and Avenue 50 continues to the east of the intersection. The posted speed limit on Tyler Street is 40 miles per hour.

Unimproved roads include Cabazon Road (trending in a north to south direction) and two unnamed maintenance roads that serve the CVSC.

Pedestrian and Bicycle Facilities

Within site boundaries, a sidewalk exists along the easterly side of Tyler Street, immediately south of CVSC, adjacent to existing residences and Sierra Vista Park. No other pedestrian/ bicycle facilities occur along Tyler Street and Avenue 50, within the project limits. Bicycles are not permitted along SR-86 within the project limits.

2.1.6.2.2 Existing General Plan Designations

Based on the General Plan Mobility Element Figure 5-1, Future Roadway Network, within the project limits, Avenue 50 is designated as a Primary Arterial With Bicycle Facility west of Tyler Street and Major Arterial With Bicycle Facility east of Tyler Street; Tyler Street is designated as a Collector With Bicycle Facility, and the intersections of Avenue 50 with Tyler Street and SR-86 are designated as Freeway Interchange. It is acknowledged that the planned CV Link alignment, located parallel to, and west of, SR-86, is designated as a Class I Bicycle Facility/Multi-Use Trail. Per the General Plan Mobility Element Table 5-1, Street Typologies, descriptions for these identified street types are as follows:

- *Primary Arterial With Enhanced Bicycle Facilities* – These facilities provide superior accommodations for bicyclists as compared to regular arterials. In-street Bicycle lanes (Class II) facilities are provided. The bicycle lanes can vary from 5 to 6 feet. The travel lanes can vary from 11 to 12 feet.

- *Major Arterial With Enhanced Bicycle Facilities* – These facilities provide for all modes of travel, but they acknowledge that the arterial is a primary link in the City's vehicular transportation system. Major arterials have six travel lanes and can have right-of-way (ROW) up to 132 feet. Travel lanes can vary from 11 to 12 feet.

- *Collector With Enhanced Bicycle Facilities* – Collectors are meant to serve as intermediate facilities, connecting local areas to regional mobility corridors. Collectors prioritize bicycles and pedestrians through facility design and speed management. Bus and shuttle transit services can be provided on collectors, and vehicles use them for accessibility (but these modes are not prioritized in the corridor). This specific designation includes in-street bicycle lanes.

2.1.6.2.3 Study Area

The study area consists of study intersections along Avenue 50 (between Leoco Lane and SR-86), the SR-86 mainline segment between Dillon Road and Avenue 52, and SR-86 ramp intersections at Dillon Road and Avenue 52; refer to Figure 2.1.6-1. The Avenue 50/Harrison Street intersection (Study Intersection No. 1) has been removed from the study area analysis as this intersection will become a standalone project. Operations of this intersection will be analyzed in a separate study, which is anticipated to be completed in approximately one year. 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. Figure 2.1.6-1, Traffic Study Area, depicts the traffic study area associated with the project.

Study Intersections

2. Avenue 50/Leoco Lane
3. Avenue 50/Peter Rabbit Lane
4. Avenue 50/Tyler Street
5. Avenue 50/Southbound SR-86 Ramps
6. Avenue 50/Northbound SR-86 Ramps
7. Dillon Road/Southbound SR-86 Ramps
8. Dillon Road/Northbound SR-86 Ramps
9. Avenue 52/Southbound SR-86 Ramps
10. Avenue 52/Northbound SR-86 Ramps/Tyler Street
11. Tyler Street/Calle Mendoza

SR-86 Mainline Segments

1. Northbound and Southbound SR-86: between Dillon Road and Avenue 50
2. Northbound and Southbound SR-86: between Avenue 50 and Avenue 52

SR-86 Ramp Junctions

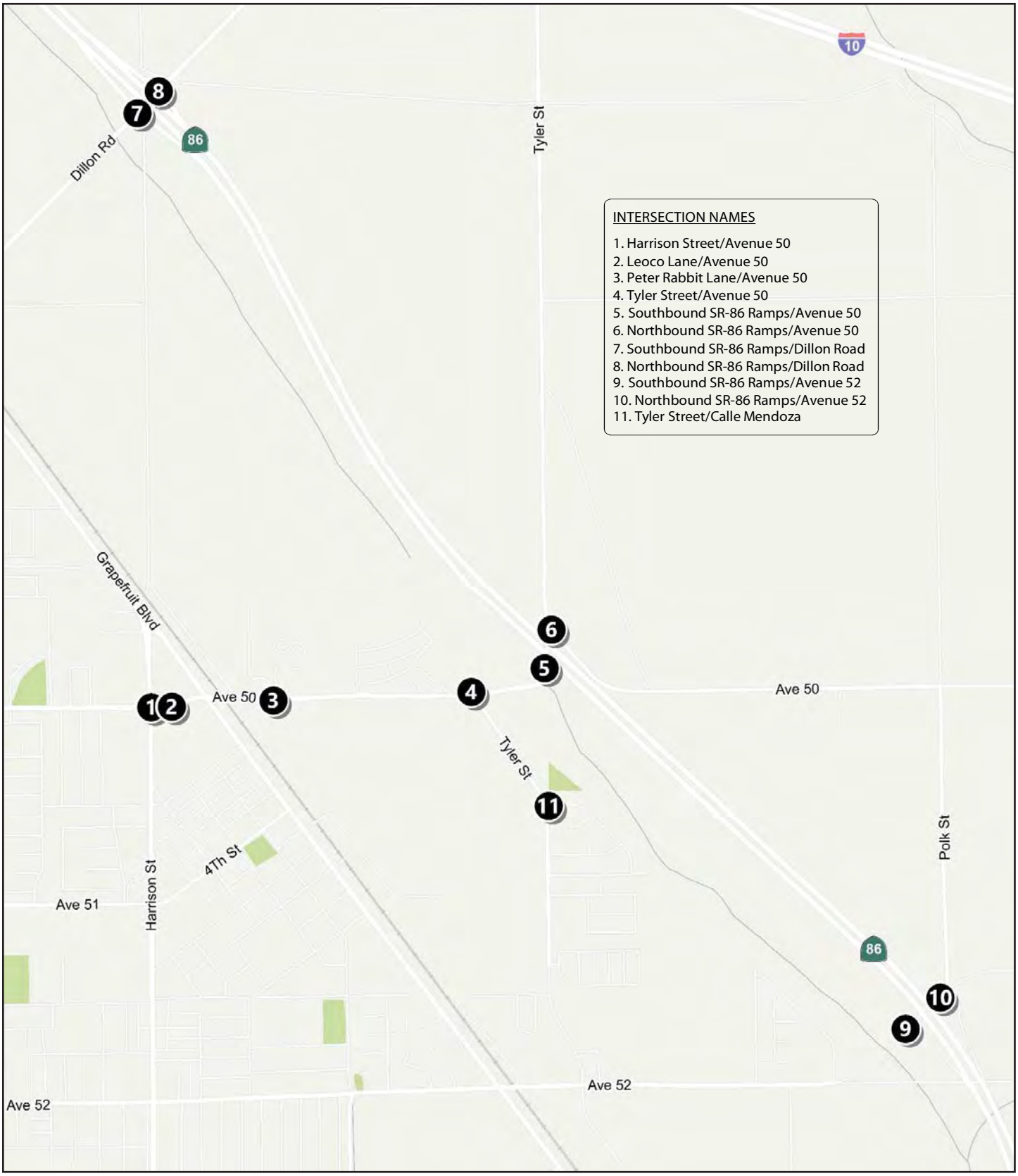
1. Northbound SR-86 Off-ramp to Avenue 50 (future)
2. Northbound SR-86 On-ramp from Avenue 50 (future)
3. Southbound SR-86 Off-ramp to Avenue 50 (future)
4. Southbound SR-86 On-ramp from Avenue 50 (future)

Study Roadway Segments

1. Avenue 50 Bridge: between Tyler Street and SR-86
2. Avenue 50: between Leoco Lane and Peter Rabbit Lane
3. Avenue 50: west of Harrison Street

2.1.6.2.4 Study Scenarios

The proposed project includes two phases which have different opening years. Phase 1 of the proposed project includes the Avenue 50 Bridge, which is expected to complete construction and be open to traffic by Year 2021. Phase 2 of the proposed project includes the SR-86/Avenue 50 new interchange, which is expected to complete construction and be open to traffic by Year 2025. Two Build Alternatives are being analyzed for the proposed project. Therefore, the following study scenarios are analyzed:



Source: State Route 86/Avenue 50 New Interchange Project Final Traffic Operations Report, November 2017.

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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Traffic Study Area

Figure 2.1.6-1

1. Existing (2015) Conditions
2. Opening Year 2021 No Build Conditions
3. Opening Year 2021 With Phase 1 (One Build Alternative for Avenue 50 Bridge)
4. Opening Year 2025 No Build Conditions
5. Opening Year 2025 With Phase 2 (Two Build Alternatives for SR-86/Avenue 50 Interchange)
6. Design Year 2045 No Build Conditions
7. Design Year 2045 With Phase 1 & Phase 2 combined (Two Build Alternatives for SR-86/Avenue 50 Interchange)

The study locations also vary by scenario. All the study locations listed above are analyzed under existing and Design Year 2045 conditions. Under Opening Year 2021, completion of Phase 1 (Avenue 50 Bridge) is not anticipated to result in significant traffic addition to the SR-86 mainline and adjacent ramps at Dillon Road and Avenue 52. Therefore, the study area under Phase 1 Opening Year 2021 consists of the six study intersections (accordingly, the tables include intersections 2 through 6 and 11) and three roadway segments along Avenue 50. None of the SR-86 mainline/ramp junctions or adjacent ramp intersections at Dillon Road and Avenue 52 are evaluated under Year 2021. Similarly, the study area under Phase 2 (SR-86/Avenue 50 Interchange) Opening Year 2025 consists of the SR-86 mainline/ramp junctions and ramp intersections at Dillon Road, Avenue 50, and Avenue 52. Other local intersections and roadway segments along Avenue 50 west of SR-86 are not analyzed under Year 2025.

2.1.6.2.5 Methodology

Traffic Forecasting Methodology

Traffic forecasts were developed using the Coachella Valley Model, which was developed in 2012 for the *General Plan Update* based on the Riverside County Traffic Analysis Model (RivTAM). The Coachella Valley Model assumed the build-out Socio-Economic Data (SED) for the City of Coachella and reflected a more refined roadway network in the Coachella Area. The Coachella Valley Model was updated to include the 2040 land use assumptions consistent with the SCAG's 2016 RTP (since this data reflects the most updated population and employment growth projections for the City of Coachella and the entire Coachella Valley Association of Governments [CVAG] region), and the updated model was used to develop traffic forecasts for the proposed project.

Separate future year models were developed to forecast traffic volumes with and without the proposed project. Future traffic forecasts at the study intersections and roadway segments under the Opening Year and Design Year were developed using the difference methodology, which is consistent with methodologies delineated in the National Cooperative Highway Research Program Report (NCHRP) 255 published by the Transportation Research Board (TRB): Highway Traffic Data for Urbanized Area Project Planning and Design (Transportation Research Board, December 1982). The Base Year and Future Year models were used to calculate the annual growth at study facilities, which was applied to existing traffic counts (collected in fall 2015) to develop the Opening Year and Design Year traffic projections. Since the future model reflects Year 2040 conditions, the Opening Year 2021/2025 and Design Year 2045 forecasts was developed using a calculated annual growth amount between existing and the 2040 traffic forecasts. The resulting traffic forecasts from the difference methodology were balanced where appropriate. The balanced forecasts for each scenario were compared to existing traffic counts and one another to ensure the reasonableness of the forecasts. Overall, after applying all difference method calculations and balancing operations, the average annual growth rate comes out to be approximately 3 – 5 percent per year.

Operations Analysis Methodology

Intersection Analysis: Intersection operations were conducted using methodologies contained in the Highway Capacity Manual (HCM 2010) (Transportation Research Board, 2010). The HCM 2010 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 level of service (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 2.1.6-1.

Table 2.1.6-1: Intersection LOS

LOS	Description	Signalized Intersections	Unsignalized Intersections
		Average Stopped Delay per Vehicle (seconds/vehicle)	Average Control Delay (seconds/vehicle)
A	Very low delay occurs due to little or no conflicting traffic.	< 10.0	< 10.0
B	Low delay occurs although conflicting traffic becomes noticeable.	> 10.0 to 20.0	> 10.0 to 15.0
C	Average delays result from increased conflicting traffic.	> 20.0 to 35.0	> 15.0 to 25.0
D	Longer delays occur due to a reduction in available gaps. At signals, individual cycle failures are noticeable.	> 35.0 to 55.0	>25.0 to 35.0
E	High delays and extensive queues occur. This value indicates volume-to-capacity ratios. This is considered to be the limit of acceptable delay.	> 55.0 to 80.0	> 35.0 to 50.0
F	Delays are unacceptable to most drivers due to over-saturation.	> 80.0	> 50.0

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 9.

Roadway Segment Analysis: Roadway segment operations were evaluated by comparing the daily traffic volumes to the roadway classification capacity identified in the General Plan Circulation Element (May 2014). The roadway capacity by classification is shown in Table 2.1.6-2. The volume-to-capacity (v/c) ratio was calculated for study roadway segments along Avenue 50. Any roadway segments with the v/c ratio equal to or greater than 1.0 are considered to have LOS F conditions.

Table 2.1.6-2: Roadway Segment AADT Capacity

Roadway Classification	Number of Lanes	AADT Capacity
Major Arterial	6 – Divided	56,000
Primary Arterial	4 – Divided	37,400
Secondary Arterial	4 – Divided	28,900
Major Collector	4 – Undivided	20,000
Minor Collector	2 – Undivided	12,000
Local Street	2 – Undivided	10,400

Source: City of Coachella General Plan Circulation Element (May 2014).

Freeway Analysis: Freeway mainline and ramps were evaluated using a Highway Capacity Software (HCS) equivalent tool which applies methodologies contained in the HCM 2010. The LOS was calculated for each study facility based on density in number of vehicles per hour per lane. Table 2.1.6-3 describes the LOS thresholds for freeway sections identified in the HCM 2010. The peak-hour density calculations provided are consistent with the definitions from the HCM, which defines four freeway section types: merge, diverge, weave, and basic.

Table 2.1.6-3: Freeway LOS Threshold

LOS	Description	Density (vplpm)[1]	
		Mainline (Basic)	Ramp/ Weave
A	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	< 11	< 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
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
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
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 45[2]
F	Represents a breakdown in flow.	> 45	> 45[2]

Notes:
1 Density is reported in vehicles per lane per mile.
2 The maximum density for ramp junctions and weaving 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.

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 10.

Analysis Evaluation Criteria

The analysis evaluation criteria described below were used to determine if the proposed project would result in any traffic operational deficiencies to the study area. The LOS criteria are in accordance with the City of Coachella and Caltrans guidelines.

City of Coachella

Intersection: According to General Plan Circulation Element, LOS D is the maximum acceptable level of congestion that should be maintained during the peak commute hours. Therefore, any of the intersections within Coachella's jurisdiction operating at LOS E or F are considered unsatisfactory; vehicular traffic on Coachella's roadway system should not exceed these capacities.

Roadway Segment: In accordance with the General Plan Circulation Element, LOS C or better should be maintained along County roads and state highways. LOS D is allowed in "Community Development areas, only at intersections of any combination of Secondary Highways, Major Highways, Arterials, Urban Arterials, Expressways, conventional state highways or freeway ramp intersections. LOS E may be allowed in designated community centers to the extent that

it would support transit-oriented development and walkable communities." For the purposes of this evaluation, the minimum acceptable LOS for roadway segments along Avenue 50 is LOS D.

Caltrans

Based on the Caltrans 2017 Transportation Concept Report for State Route 86 (2017 TCR), Caltrans strives to have freeway facilities operate at a level of service D. Therefore, LOS D was used as the threshold for freeway facilities analysis. Any future LOS on freeway facilities that are projected to operate at unacceptable LOS (worse than LOS D) requires mitigation. Therefore, LOS D is considered as the acceptable LOS criteria for all the study intersections, freeway segments, and roadway segments in this analysis.

2.1.6.2.6 Existing Traffic Operations

Peak period AM (7-9 AM) and PM (4-6 PM) traffic volumes at study intersections were collected in 2015. The 24-hour daily traffic volumes were collected at the Avenue 50 study segments in 2015 and at SR-86 near Avenue 50 in 2017. All traffic counts were collected when schools were in session. In addition, existing signal timings at the signalized intersections were collected from the City and Caltrans.

Figure 2.1.6-2, Existing Year 2015 Peak Hour Intersection Volumes, shows the existing lane configurations and traffic volumes for all study intersections. Figure 2.1.6-3, Existing Year 2015 Average Daily Traffic Volumes, shows the existing average daily traffic (ADT) volumes along SR-86.

Roadway Operations

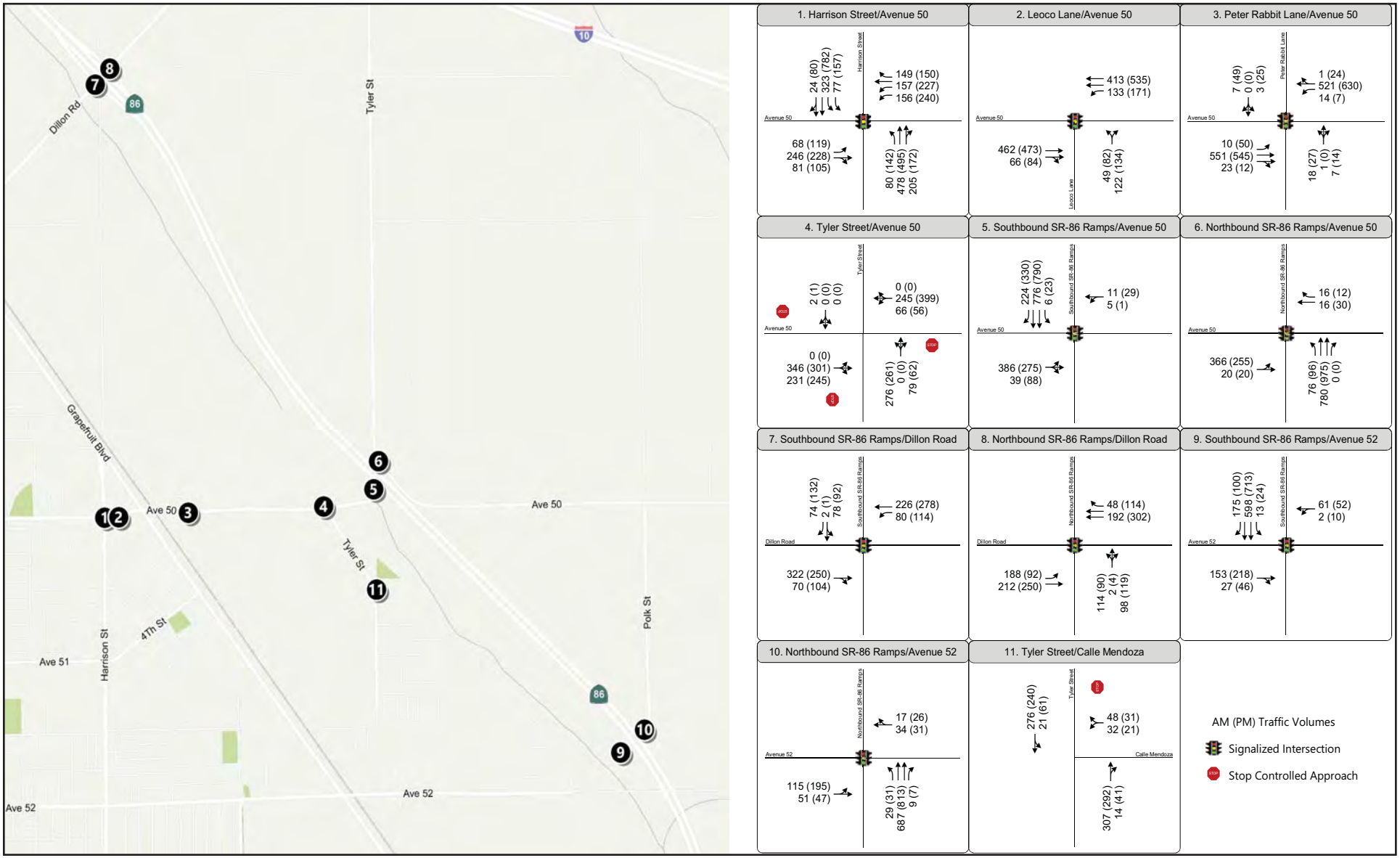
Table 2.1.6-4 presents the existing ADT volumes along Avenue 50 study roadway segments. All roadway segments currently operate at acceptable LOS C or better conditions using the capacity threshold identified in the General Plan Update Circulation Element.

Table 2.1.6-4: Existing Roadway Segment Analysis

Segment		Classification[1]	ADT	Capacity[2]	V/C	LOS[3]
1	Avenue 50: Low Water Crossing Between Tyler Street and SR-86	Major Arterial (2)	10,473	13,000[4]	0.81	D
2	Avenue 50: Between Leoco Lane and Peter Rabbit Lane	Primary Arterial (4)	16,203	37,400	0.43	A
3	Avenue 50: West of Harrison Street	Major Arterial (2)	10,144	13,000[4]	0.78	C

Notes:
1 Classification reflects future build-out of roadway segment from City of Coachella General Plan (2015).
2 Capacity from City of Coachella General Plan EIR Appendix 11.4 (2013), unless otherwise indicated.
3 LOS E represents at capacity operations.
4 Capacity is based on existing roadway condition and Riverside County Integrated Project General Plan's capacity thresholds for 2-lane Collector.

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 16.



Source: State Route 86/Avenue 50 New Interchange Project Final Traffic Operations Report, November 2017.

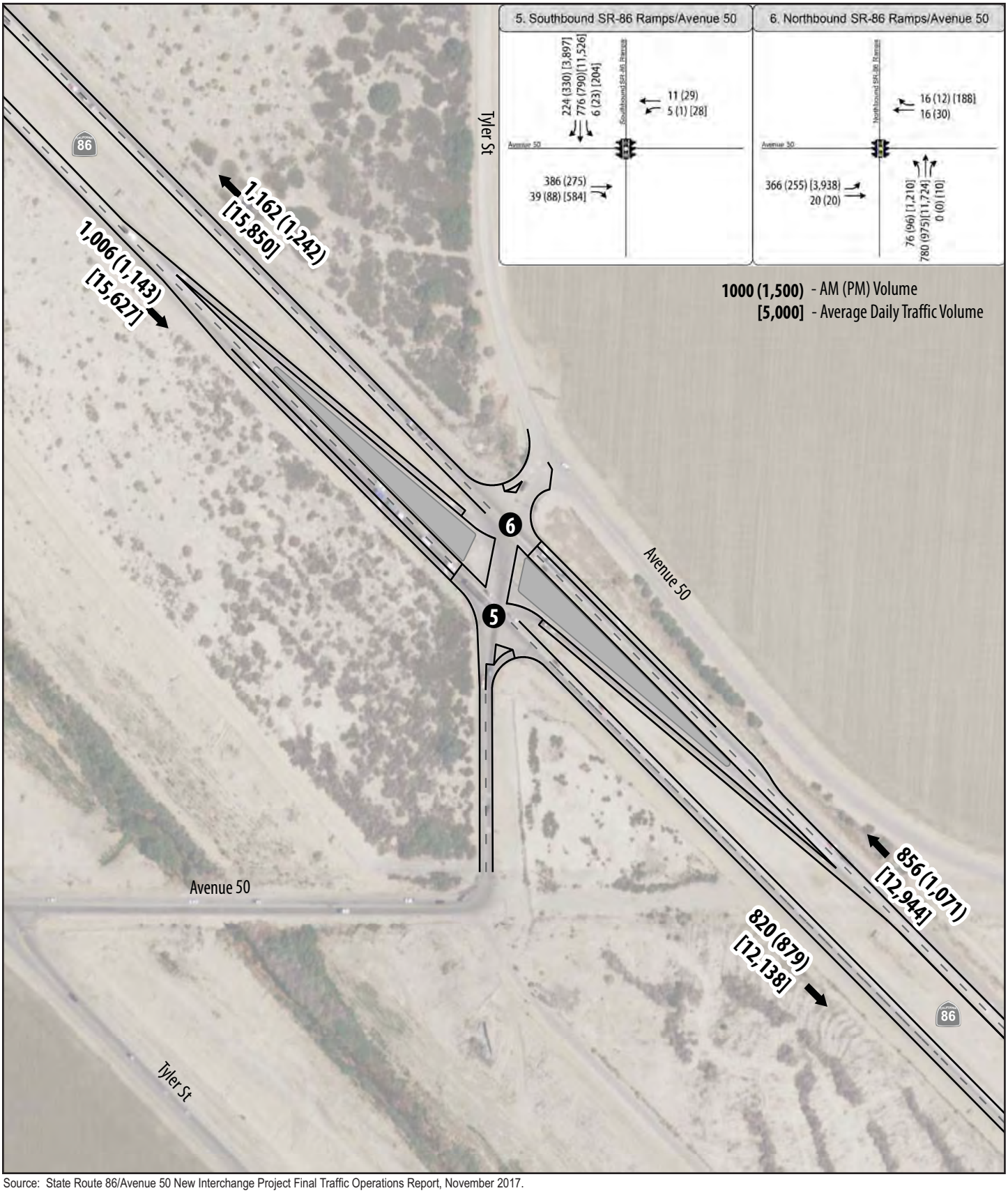
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Existing Year 2015 Peak Hour Intersection Volumes

Figure 2.1.6-2



Source: State Route 86/Avenue 50 New Interchange Project Final Traffic Operations Report, November 2017.

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Existing Year 2015 Average Daily Traffic Volumes

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Figure 2.1.6-3

Freeway Operations

Under existing conditions, SR-86 in the study area operates as a multi-lane highway with at-grade access points, rather than a freeway. Therefore, no freeway operations were analyzed in the existing condition. All movements along SR-86 were analyzed as intersection operations described below.

Intersection Operations

Existing traffic volumes, lane configurations, and signal timing information were utilized to evaluate traffic operations at the study intersections during the AM and PM peak hours. The results are summarized in Table 2.1.6-5. Under existing conditions, all study intersections operate acceptably at LOS D or better conditions during both AM and PM peak hours, with the exception of the Avenue 50/Tyler Street intersection, which operates at an unacceptable LOS F during both AM and PM peak hours.

Table 2.1.6-5: Existing Intersection LOS Summary

Intersection		Control	AM		PM	
			Delay	LOS	Delay	LOS
2	Avenue 50/Leoco Lane	Signal	7.1	A	8.3	A
3	Avenue 50/Peter Rabbit Lane	Signal	6.4	A	8.4	A
4	Avenue 50/Tyler Street	Side-street stop	**127.1**	**F**	**176.1**	**F**
5 6	Avenue 50/Southbound SR-86 Ramps Avenue 50/Northbound SR-86 Ramps	Signal	36.8	D	32.0	C
7	Dillon Road/Southbound SR-86 Ramps	Signal	9.9	A	10.5	B
8	Dillon Road/Northbound SR-86 Ramps	Signal	19.9	B	12.3	B
9 10	Avenue 52/Southbound SR-86 Ramps Avenue 52/Northbound SR-86 Ramps	Signal	16.3	B	19.3	B
11	Tyler Street/Calle Mendoza	Side-street stop	12.9	B	12.9	B

Bold text indicates unacceptable level of service.
Note: For signalized intersections, delay shows whole intersection weighted average control delay using methods (HCM 2010).
Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 17.

Traffic Safety Review

Collision data for July 2012 through June 2015 were reviewed for the SR-86 segment and ramps within the project limits. This evaluation consisted of collecting and reviewing SR-86 collision data contained in Traffic Accident Surveillance and Analysis System (TASAS) Table B and TASAS Selective Accident Retrieval (TSAR) provided by Caltrans. Table 2.1.6-6 shows the actual three-year collision rates with a comparison to the statewide average collision rates on similar facilities. The collision rates on SR-86 are higher than the statewide average for similar facilities.

Table 2.1.6-6: SR-86 Mainline Collision Rate

Location Description	Actual (per million vehicle miles for mainline, per million vehicles for ramp)			Average (per million vehicle miles for mainline, per million vehicles for ramp)		
	Total	Fatal	Fatal+ Injury	Total	Fatal	Fatal+ Injury
SR-86 Mainline (PM R19.5 – R21.5)	0.56	0.019	0.27	0.46	0.008	0.16
Source: Draft Project Report (June 2018), Page 17.						

Table 2.1.6-7 shows collision data by collision type. As shown, rear end was the most common collision type in the study area between July 2012 and June 2015. Hit object and sideswipe were the next most common collision types.

Table 2.1.6-7: SR-86 Mainline Collision Type

Collision Type	Percentage
Head-On	3.4%
Sideswipe	10.3%
Rear End	65.5%
Hit Object	13.8%
Overturn	3.4%
Not Stated	3.4%
Total	**100%**
Note: Numbers may not add up to 100 percent due to rounding.	
Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 19.	

Table 2.1.6-8 shows the primary collision factor for collisions in the study area between July 2012 and June 2015. Unsafe speed was the primary collision factor for the majority of the traffic collisions in the study area. The high incidence of rear ends collision types taken with the high incidence of speeding as the primary collision factor indicate that these collisions could be due to the at-grade intersections along SR-86 with local arterials such as Avenue 50. SR-86/Avenue 50 is the first signalized intersection along SR-86 south of the I-10 interchange. The only preceding opportunity to access the local street network is at the SR-86/Dillon Road interchange. Accordingly, vehicles approaching the existing SR-86/Avenue 50 intersection are approaching the first at-grade intersection configuration on SR-86, which in this instance is a fully signalized intersection. Vehicles traveling from the expressway segment of SR-86 north of Dillon Road would likely be traveling at higher speeds, which could result in rear-end collisions with vehicles stopped at the signalized intersection at SR-86/Avenue 50.

Table 2.1.6-8: SR-86 Mainline Primary Collision Factor

Primary Collision Factor	Percentage
Influence Alcohol	13.8%
Improper Turn	13.8%
Speeding	58.6%
Other Violations	13.8%
Total	**100%**
Note: Numbers may not add up to 100 percent due to rounding.	
Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 20.	

2.1.6.3 Environmental Consequences

2.1.6.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Under this alternative, no reconstruction or improvements would be made to the existing SR-86/Avenue 50 intersection or the local roadway (Avenue 50 and Tyler Street). As a result, the No-Build Alternative would not result in temporary impacts related to traffic and circulation.

Alternatives 7 and 8 (Build Alternatives)

Construction of the project would result in temporary traffic effects related to the circulation of vehicles, bicyclists, and pedestrians in the project area. The project is anticipated to be constructed in two phases.

The first phase, constructing the Avenue 50 bridge over CVSC, is anticipated to take approximately 12 months. Since the proposed Avenue 50 and Tyler Street are constructed on new alignments, the existing Avenue 50 and Tyler Street would remain operational with exceptions of tie-in work conforming and joining existing pavements that need minimum traffic control; refer to Figure 2.1.6-4, Phase 1 Detour Map.

The duration of the time needed to complete construction of the re-alignment of Tyler Street from just south of the Calle Mendoza/Tyler Street intersection, north, to where existing Tyler Street turns toward Avenue 50 is estimated to be approximately one to three months of work. Therefore, construction-related traffic delays are anticipated to be minimal. Access to the local street network west of SR-86 would be continuously maintained. In conjunction with constructing the completion of the access to the new bridge across the CVSC from the existing portion of Avenue 50, which turns north and becomes Tyler Street, traffic control/flagging will be used to manage travel through this area. The duration of this construction activity is anticipated to be approximately one week. Following completion of this work, it is anticipated local traffic will be able to utilize the new bridge across the CVSC.

Construction of Phase 1 of this project will have no impacts on the operational performance of SR-86.

Local Street Operational Performance Between Phase 1 and Phase 2 of the Project

With the Avenue 50 Bridge widening in place under the Build scenario, the Avenue 50/Tyler Street/Magnolia intersection will be constructed with a traffic signal, which would improve the operations at this intersection from LOS F to acceptable LOS C during both AM and PM peak hours under year 2021 conditions. The additional capacity provided by the Avenue 50 Bridge project is expected to attract more traffic to the Avenue 50/SR-86 intersection, resulting in increased delays at this intersection. However, this at-grade intersection is proposed to upgrade to an interchange by Year 2025 as Phase 2 improvements of the project. All other study intersections would operate at acceptable LOS D or better conditions under the 2021 Build scenario.



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Phase 1 Detour Map

Figure 2.1.6-4

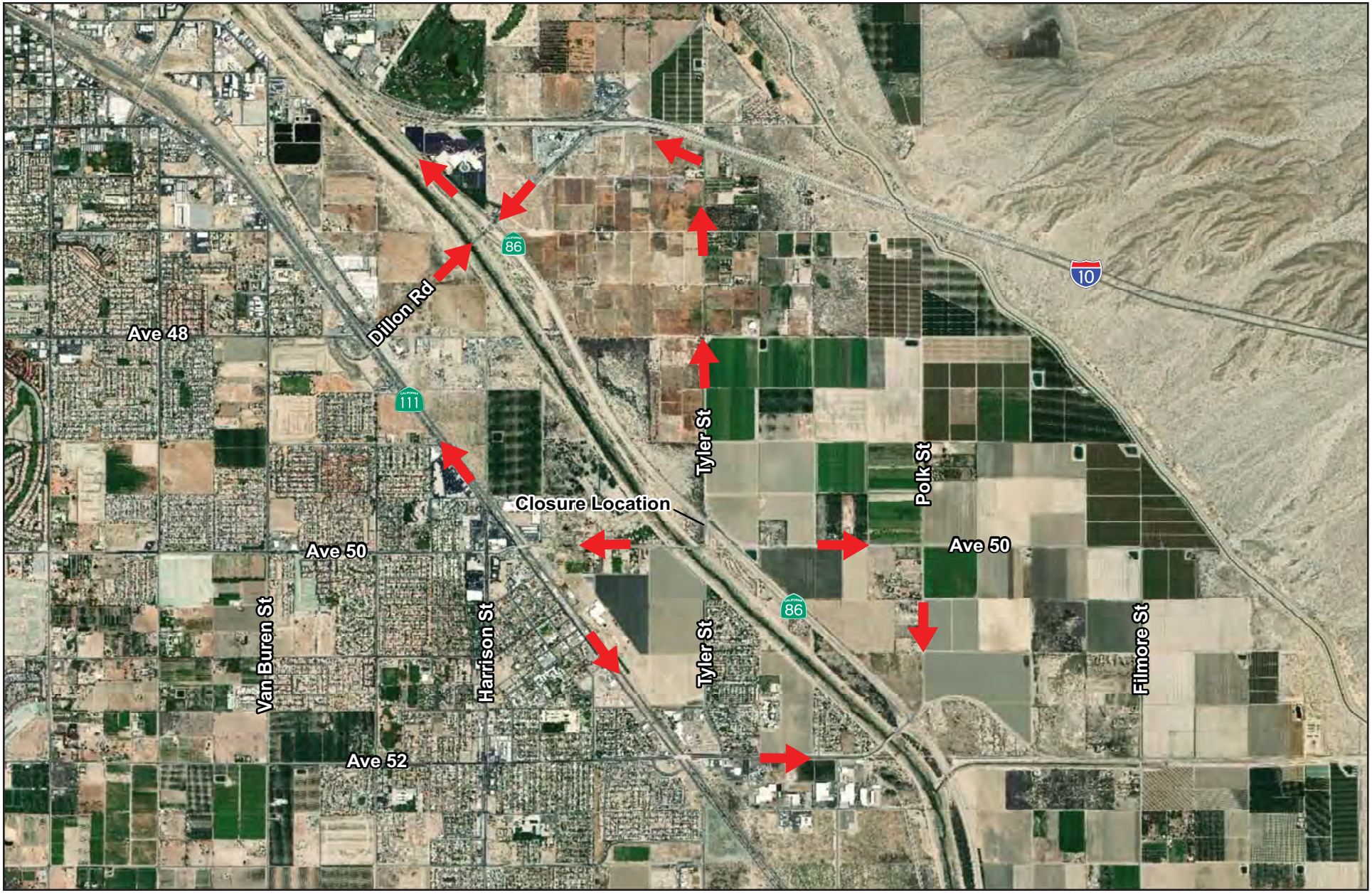
The second phase, constructing the SR-86/Avenue 50 interchange, is anticipated to take approximately 15 months. Full expressway and lane closures would be required during night times and on weekends to accommodate the following roadway and structure construction activities:

- Installation, moving and removal of k-rails;
- Striping and removal operations;
- Falsework erection and removal;
- Deck pouring;
- Placement of concrete pavement using rapid set concrete;
- Asphalt concrete pavement construction and overlay operations; and
- Utility work/traffic signal/lighting installations.

The existing SR-86/Avenue 50 at-grade intersection would remain operational during the interchange construction process with the exception of the work necessary to complete the new on- and off-ramps to northbound and southbound SR-86. Construction of realigned Tyler Street to realigned Avenue 50 is expected to result in a 10-day full closure at the intersection of Tyler Street and Avenue 50. A temporary detour pavement will be constructed in advance to manage traffic through this existing intersection during construction. Construction of the new alignment of Avenue 50 to the existing alignment of Avenue 50 at the eastern limits of the project with respect to Avenue 50, is expected to be accomplished through flagging only and is anticipated to be completed in 10 days. Completion of construction of the northbound on-ramp to SR-86, which will involve permanent removal of access to SR-86 via the existing Tyler Street/Avenue 50 intersection with northbound SR-86, is expected to be completed in one month. This part of Phase 2 construction will require a detour for traffic on Avenue 50 and for traffic on Tyler Street, to address access to northbound SR-86; refer to Figure 2.1.6-5, Phase 2 Detour Map. Completion of construction of the southbound off-ramp to Avenue 50, which will involve permanent removal of access to SR-86 via the existing Tyler Street/Avenue 50 intersection with southbound SR-86, is expected to be completed in one month. This part of Phase 2 construction, which will coincide with the construction related to the northbound on-ramp, will require a detour for traffic on Avenue 50, to address access to southbound SR-86. The respective detours related to construction of the new on-ramp to northbound SR-86 and construction of the new off-ramp from southbound SR-86 will be in place until the new interchange is open for traffic.

The existing sidewalk along Tyler Street, north and south of Calle Mendoza, will be protected in place and/or reconstructed to maintain connectivity between residential areas and Sierra Vista Park; refer to Table 2.1.6-23, Proposed Sidewalks.

As noted in Chapter 1.0 of this IS/EA, the project will include preparation and implementation of a Transportation Management Plan (TMP) during the Plans, Specifications, and Estimates (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.



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Phase 2 Detour Map

Figure 2.1.6-5

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 proposed project, it is expected that adverse temporary effects related to traffic, pedestrian, and bicyclists will not occur.

2.1.6.3.2 Permanent Impacts

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

- Existing (2015) Conditions
- Opening Year 2021 No Build Conditions
- Opening Year 2021 With Phase 1 (One Build Alternative for Avenue 50 Bridge)
- Opening Year 2025 No Build Conditions
- Opening Year 2025 With Phase 2 (Two Build Alternatives for SR-86/Avenue 50 Interchange)
- Design Year 2045 No Build Conditions
- Design Year 2045 With Phase 1 & Phase 2 combined (Two Build Alternatives for SR-86/Avenue 50 Interchange)

Future traffic volumes and turn movements for all study scenarios for SR-86, Avenue 50, and Tyler Street are presented in this section of the IS/EA and/or in Figures 2.1.6-6 through 2.1.6-17.

Alternative 1 (No-Build Alternative)

Under this alternative for Opening Year 2021, no improvements would be made to the existing SR-86/Avenue 50 intersection or local roadway (Avenue 50 and Tyler Street) other than routine roadway maintenance. The No-Build Alternative assumes the completion of Phase 1 of the project (construction of Avenue 50 Bridge) for Opening Year 2025; however, Phase 2 improvements would not be constructed (SR-86/Avenue 50 interchange). Both Opening Year 2025 and Design Year 2045 scenarios assume background improvements over existing conditions.

Opening Year 2025 scenarios assume background improvements at the following locations:

- *Avenue 52 and SR-86 Southbound Ramps*. This location is assumed to be a part of a signalized diamond interchange with the SR-86 mainline grade separated from Avenue 52.

- *Avenue 52 and SR-86 Northbound Ramps*. This location is assumed to be part of a signalized diamond interchange with the SR-86 mainline grade separated from Avenue 52.

Design Year 2045 scenarios assume background improvements at the following locations:

- Avenue 50 and Peter Rabbit Lane. Avenue 50 is assumed to be a four-lane facility, with two through lanes in each direction. This assumption is consistent with the City's adopted General Plan, which classifies this segment of Avenue 50 as a four-lane Primary Arterial.

- Dillon Road and SR-86 Southbound Ramps with the SR-86 mainline grade separated from Dillon Road. Dillon Road is assumed to be a six-lane facility, with three through lanes in each direction. This assumption is consistent with the City's adopted General Plan, which classifies Dillon Road as a six-lane Major Arterial.

- Dillon Road and SR-86 Northbound Ramps with the SR-86 mainline grade separated from Dillon Road. Dillon Road is assumed to be a six-lane facility, with three through lanes in each direction. This assumption is consistent with the City's adopted General Plan, which classifies Dillon Road as a six-lane Major Arterial.

- Avenue 52 and SR-86 Southbound Ramps. This location is assumed to be a part of a signalized diamond interchange with the SR-86 mainline grade separated from Avenue 52.

- Avenue 52 and SR-86 Northbound Ramps. This location is assumed to be part of a signalized diamond interchange with the SR-86 mainline grade separated from Avenue 52.

Tables 2.1.6-9 through 2.1.6-13 show future levels of service for study area roadway segments and intersections for Opening Years 2021 and 2025, and Design Year 2045, respectively. As discussed previously, it should be noted that under the No-Build Alternative, SR-86 in the study area would remain as a multi-lane highway with at-grade access points, rather than a freeway. Since 2021 is opening year for the Avenue 50 Bridge, Avenue 50 roadway segments were not included as study locations for Freeway Interchange Opening Year 2025. In addition, Avenue 50 roadway segments were not included as study locations under Opening Year 2025. Therefore, no roadway segments were analyzed under year 2025 conditions.

Table 2.1.6-9: Opening Year 2021 Roadway Segment Analysis (Alternative 1)

	Segment	Classification[1]	ADT	Capacity[2]	V/C	LOS[3]
1	Avenue 50: Low Water Crossing Between Tyler Street and SR-86	Major Arterial (2)	**14,500**	**13,000[4]**	**1.12**	**F**
2	Avenue 50: Between Leoco Lane and Peter Rabbit Lane	Primary Arterial (4)	18,220	37,400	0.49	A
3	Avenue 50: West of Harrison Street	Major Arterial (2)	11,200	13,000[4]	0.86	D

Notes:
1 Classification reflects future build-out of roadway segment from City of Coachella General Plan (2015).
2 Capacity from City of Coachella General Plan EIR Appendix 11.4 (2013).
3 LOS E represents at capacity operations.
4 Capacity is based on existing roadway condition and Riverside County Integrated Project General Plan's capacity thresholds for 2-lane Collector.

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 27.

Opening Year 2021: As shown in Table 2.1.6-9, Avenue 50 between Tyler Street and SR-86 would operate unacceptably at LOS F due to constrained capacity under Alternative 1. As shown in Figure 2.1.6-6 and Table 2.1.6-10, the majority of the study intersections would operate acceptably at LOS D or better during both AM and PM peak hours under Alternative 1, with the exception of: 1) the Avenue 50/Tyler Street intersection, which would remain as stop-controlled and operate at an unacceptable LOS F during both AM and PM peak hours; and 2) the SR-86/Avenue 50 intersection would remain as an at-grade signal and operate at LOS E and F during both AM and PM peak hours, respectively.

Table 2.1.6-10: Opening Year 2021 Intersection LOS Summary (Alternative 1)

Intersection		Control	AM		PM	
			Delay	LOS	Delay	LOS
2	Avenue 50/Leoco Lane	Signal	8.8	A	10.7	B
3	Avenue 50/Peter Rabbit Lane	Signal	7.6	A	9.5	A
4	Avenue 50/Tyler Street	Side-street stop	**621.4**	**F**	**653.4**	**F**
5 6	Avenue 50/Southbound SR-86 Avenue 50/Northbound SR-86	Signal	**79.8**	**E**	**80.6**	**F**
11	Tyler Street/Calle Mendoza	Side-street stop	15.3	C	14.9	B

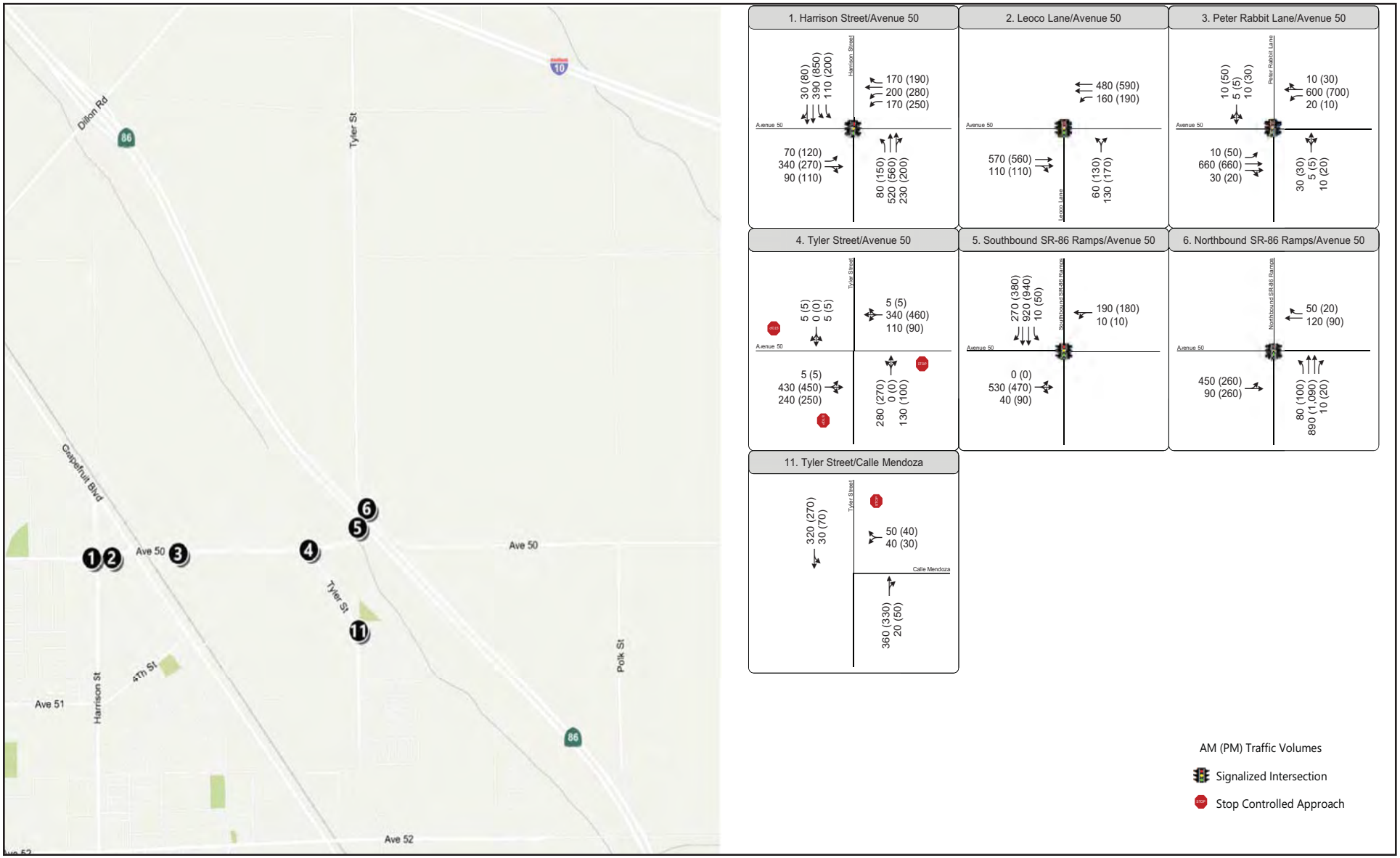
Bold text indicates unacceptable level of service.
Note: For signalized intersections, delay shows whole intersection weighted average control delay using methods (HCM 2010).
Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 29.

Opening Year 2025: As shown in Figure 2.1.6-7 and Table 2.1.6-11, all the study ramp terminal intersections would operate acceptably at LOS D or better conditions during both AM and PM peak hours under Alternative 1, with the exception of the SR-86/Avenue 50 intersection, which would remain as an at-grade signal and operate at LOS F during both AM and PM peak hours.

Table 2.1.6-11: Opening Year 2025 Intersection LOS Summary (Alternative 1)

Intersection		Control	AM		PM	
			Delay	LOS	Delay	LOS
5 6	Avenue 50/Southbound SR-86 Ramps Avenue 50/Northbound SR-86 Ramps	Signal	**162.2**	**F**	**182.2**	**F**
7	Dillon Road/Southbound SR-86 Ramps	Signal	12.1	B	26.8	C
8	Dillon Road/Northbound SR-86 Ramps	Signal	16.8	B	13.1	B
9	Avenue 52/Southbound SR-86 Ramps	Signal	12.6	B	9.7	A
10	Avenue 52/Northbound SR-86 Ramps	Signal	13.5	B	13.2	B

Bold text indicates unacceptable level of service.
Note: For signalized intersections, delay shows whole intersection weighted average control delay using methods (HCM 2010).
Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 39.



Source: State Route 86/Avenue 50 New Interchange Project Final Traffic Operations Report, November 2017.

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Opening Year 2021 (Alternative 1) Peak Hour Intersection Volumes

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Figure 2.1.6-6

Design Year 2045: As shown in Table 2.1.6-12, all roadway segments along Avenue 50 would operate at an acceptable LOS D or better under Alternative 1, with the exception of the Avenue 50 low water crossing between Tyler Street and SR-86, which would operate at LOS F. As shown in Figure 2.1.6-8 and Table 2.1.6-13, the majority of the study intersections would operate acceptably at LOS D or better conditions during both AM and PM peak hours under the No Build scenario, with the exception of 1) the Avenue 50/Tyler Street intersection, which would remain as stop-controlled and operate at an unacceptable LOS F during both AM and PM peak hours; and 2) the SR-86/Avenue 50 intersection, which would remain as an at-grade signal and operate at LOS F during both AM and PM peak hours.

Table 2.1.6-12: Design Year 2045 Roadway Segment Analysis (Alternative 1)

	Segment	Classification[1]	ADT	Capacity[2]	V/C	LOS[3]
1	Avenue 50: Low Water Crossing Between Tyler Street and SR-86	Major Arterial (2)	**30,570**	**13,000[4]**	**2.35**	**F**
2	Avenue 50: Between Leoco Lane and Peter Rabbit Lane	Primary Arterial (4)	26,270	37,400	0.70	C
3	Avenue 50: West of Harrison Street	Major Arterial (6)	15,370	56,000	0.27	A

Notes:
1 Classification reflects future build-out of roadway segment from City of Coachella General Plan (2015)
2 Capacity from City of Coachella General Plan EIR Appendix 11.4 (2013).
3 LOS E represents at capacity operations.
4 Capacity is based on existing roadway condition and Riverside County Integrated Project General Plan's capacity thresholds for 2-lane Collector.

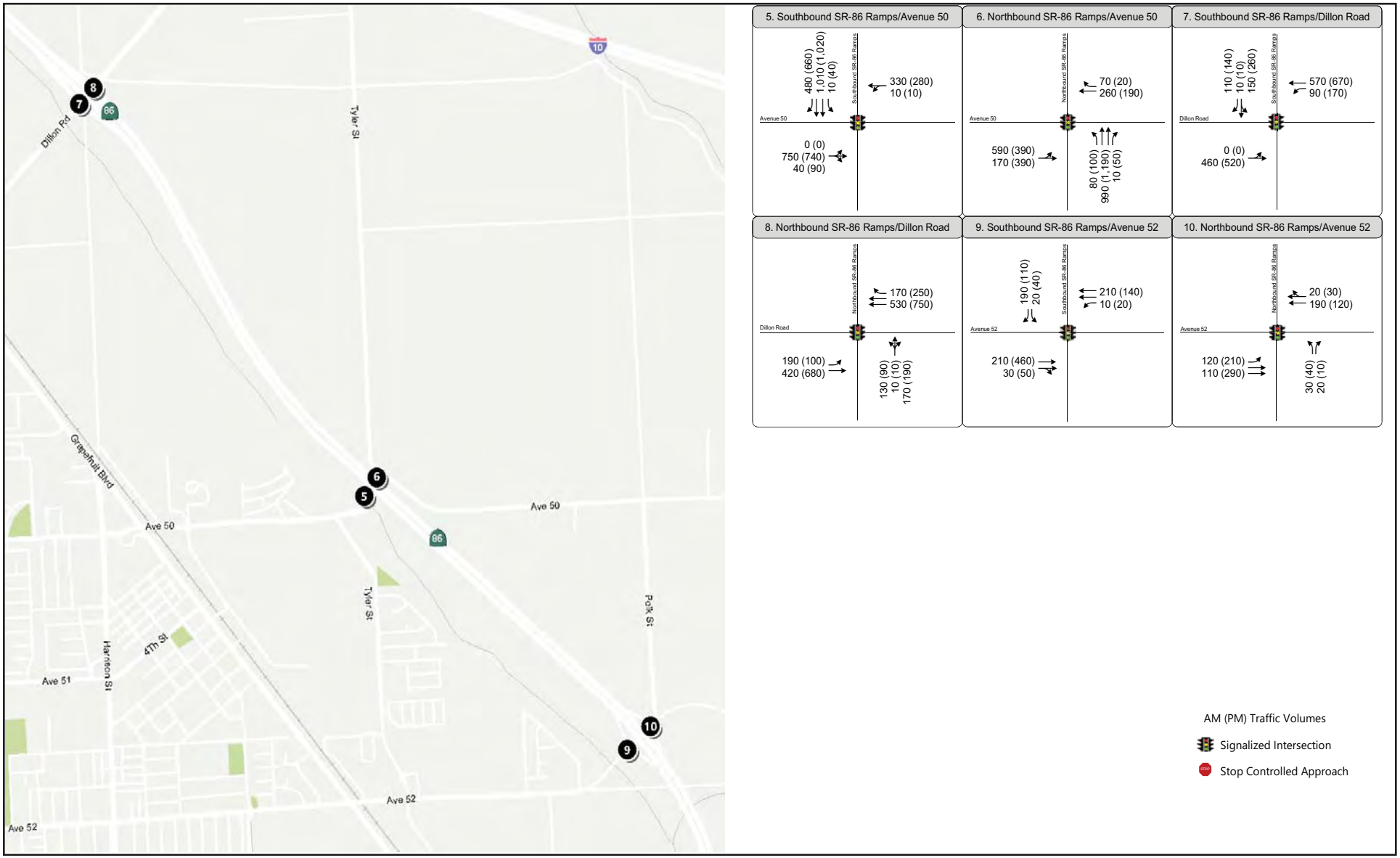
Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 49.

Table 2.1.6-13: Design Year 2045 Intersection LOS Summary (Alternative 1)

Intersection		Control	AM		PM	
			Delay	LOS	Delay	LOS
2	Avenue 50/Leoco Lane	Signal	14.0	B	30.9	C
3	Avenue 50/Peter Rabbit Lane	Signal	8.9	A	8.7	A
4	Avenue 50/Tyler Street	Side-street stop	**1,817.2**	**F**	**877.2**	**F**
5	Avenue 50/Southbound SR-86 Ramps	Signal	**450.8**	**F**	**431.7**	**F**
6	Avenue 50/Northbound SR-86 Ramps					
7	Dillon Road/Southbound SR-86 Ramps	Signal	12.4	B	32.1	C
8	Dillon Road/Northbound SR-86 Ramps	Signal	31.2	C	18.2	B
9	Avenue 52/Southbound SR-86 Ramps	Signal	11.3	B	10.3	B
10	Avenue 52/Northbound SR-86 Ramps	Signal	10.1	B	9.0	A
11	Tyler Street/Calle Mendoza	Side-street stop	20.4	C	18.8	C

Bold text indicates unacceptable level of service.
Note: For signalized intersections, delay shows whole intersection weighted average control delay using methods (HCM 2010).

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 52.



Source: State Route 86/Avenue 50 New Interchange Project Final Traffic Operations Report, November 2017.

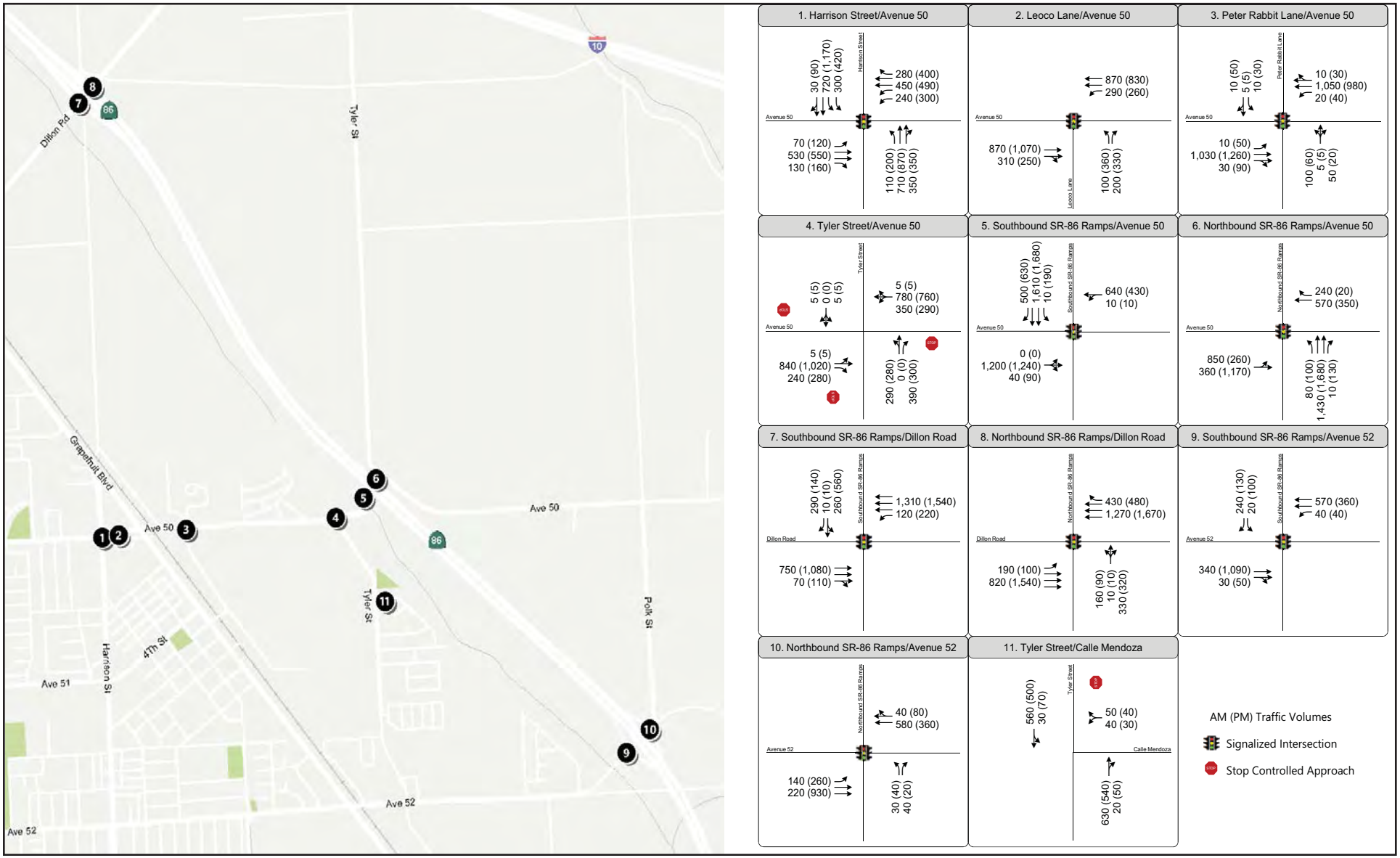
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Opening Year 2025 (Alternative 1) Peak Hour Intersection Volumes

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Figure 2.1.6-7



Source: State Route 86/Avenue 50 New Interchange Project Final Traffic Operations Report, November 2017.

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STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Design Year 2045 (Alternative 1) Peak Hour Intersection Volumes

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Figure 2.1.6-8

Alternatives 7 and 8 (Build Alternatives)

Tables 2.1.6-14 through 2.1.6-22 show future levels of service under the Build Alternatives for study area roadway and freeway segments and intersections for Opening Years 2021 (Phase 1) and 2025 (Phase 2), and Design Year 2045, respectively. As discussed previously, SR-86 in the study area would remain as a multi-lane highway with at-grade access points, rather than a freeway by 2021. Therefore, SR-86 mainline segments were not included as study locations under 2021 conditions. The ramp terminal intersections at Dillon Road and Avenue 52 were also not included as study locations under 2021 conditions. In addition, Avenue 50 roadway segments were not included as study locations under Opening Year 2025.

Table 2.1.6-14: Opening Year 2021 (Phase 1)
Roadway Segment Analysis (Build Alternatives)

Segment		Classification[1]	ADT	Capacity[2]	V/C	LOS[3]
1	Avenue 50: Bridge Between Tyler Street and SR-86	Major Arterial (6)	16,480	56,000	0.29	A
2	Avenue 50: Between Leoco Lane and Peter Rabbit Lane	Primary Arterial (4)	18,960	37,400	0.51	A
3	Avenue 50: West of Harrison Street	Major Arterial (2)	11,260	13,000[4]	0.87	D

Notes:
1 Classification from City of Coachella General Plan Update (2015).
2 Capacity from City of Coachella General Plan EIR Appendix 11.4 (2013).
3 LOS E represents at capacity operations.
4 Capacity is based on existing roadway condition and Riverside County Integrated Project General Plan's capacity thresholds for 2-lane Collector.

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 28.

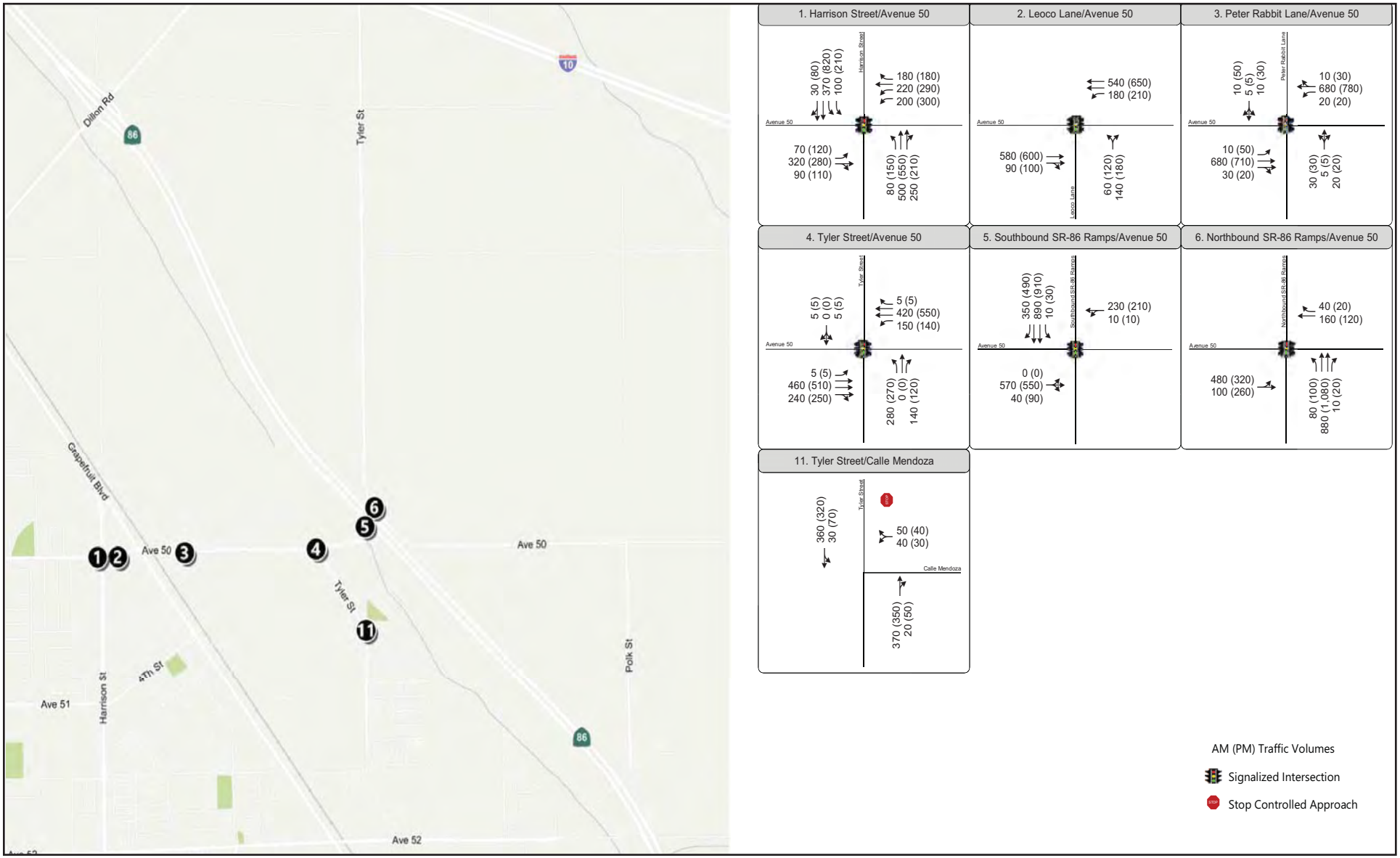
Opening Year 2021 (Phase 1): As shown in Table 2.1.6-14, all the roadway segments along Avenue 50 would operate at acceptable LOS D or better conditions under the Build Alternatives. As shown in Figure 2.1.6-9 and Table 2.1.6-15, the study area intersections would operate acceptably at LOS D or better during both AM and PM peak hours under the Build Alternatives, with the exception of the SR-86/Avenue 50 intersection, which would remain as an at-grade signal and operate at LOS F during both AM and PM peak hours.

Table 2.1.6-15: Opening Year 2021 (Phase 1)
Intersection LOS Summary (Build Alternatives)

Intersection		Control	AM		PM	
			Delay	LOS	Delay	LOS
2	Avenue 50/Leoco Lane	Signal	8.8	A	10.4	B
3	Avenue 50/Peter Rabbit Lane	Signal	9.1	A	12.0	B
4	Avenue 50/Tyler Street	Signal	28.2	C	23.0	C
5	Avenue 50/Southbound SR-86	Signal	**95.5**	**F**	**96.8**	**F**
6	Avenue 50/Northbound SR-86					
11	Tyler Street/Calle Mendoza	Side-street stop	16.2	C	16.0	C

Bold text indicates unacceptable level of service.
Note: For signalized intersections, delay shows whole intersection weighted average control delay using methods (HCM 2010).

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 29.



Source: State Route 86/Avenue 50 New Interchange Project Final Traffic Operations Report, November 2017.

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STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

NOT TO SCALE

Opening Year 2021 Phase 1 (Build Alternatives) Peak Hour Intersection Volumes

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Figure 2.1.6-9

With the Avenue 50 Bridge widening in place under the Build Alternatives, the Avenue 50/Tyler Street intersection would be constructed with a traffic signal, which would improve the operations at this intersection from LOS F without the project to an acceptable LOS C during both AM and PM peak hours under year 2021. Prior to the construction of Phase 2 (for approximately 24 months), the additional capacity proposed by the new Avenue 50 bridge is expected to attract more traffic using the Avenue 50/SR-86 intersection and result in higher delay at this intersection. As shown in Tables 2.1.6-10 and 2.1.6-15, during the AM peak hour, the travelers on Avenue 50/SR-86 intersection would experience a 95.5 seconds delay (an increase of 15.7 seconds) resulting in an LOS F. In the PM peak hour, the delay will be 96.8 seconds (an increase of 16.2 seconds) resulting in an LOS F. However, this at-grade intersection is proposed to upgrade to an interchange by Year 2025 as Phase 2 improvements of the project. As shown in Table 2.1.6-17, below, Phase 2 improvements would reduce delay time to 16.1 seconds in the AM (an improvement of 79.4 seconds) resulting in an improved LOS B and 22.8 seconds in the PM (an improvement of 60.1 seconds) resulting in an improved LOS C at the Avenue 50/Southbound SR-86 Ramps. At the Avenue 50/Northbound SR-86 Ramps, delays would be reduced to 11.9 seconds in the AM (an improvement of 83.6 seconds) and 16.0 seconds in the PM (an improvement of 80.8 seconds), both resulting in an improved LOS B. All other study intersections would operate at acceptable LOS C or better conditions under the Build Alternatives in 2021.

Opening Year 2025 (Phase 2): Under the Build Alternatives, a portion of SR-86, between Avenue 52 and Dillon Road, would be converted from an at-grade signalized intersection into a grade-separated full interchange which would eliminating cross traffic. As shown in Figures 2.1.6-10 and 2.1.6-11 and Table 2.1.6-16, all study freeway locations along SR-86 would operate at acceptable LOS C or better under both Build Alternatives. As shown in Figures 2.1.6-12 and 2.1.6-13 and Tables 2.1.6-17 and 2.1.6-18, the two ramp terminal intersections at SR-86 and Avenue 50 would improve from LOS F without the project to an acceptable LOS C or better during both AM and PM peak hours under both Build Alternatives. All other study intersections would operate at acceptable LOS B conditions under the Build Alternatives.

Table 2.1.6-16: Opening Year 2025 (Phase 2)
Freeway Analysis Summary (Build Alternatives)

Segment	Type	Build Alternative 7				Build Alternative 8			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density[1]	LOS	Density[1]	LOS	Density[1]	LOS	Density[1]	LOS
Northbound SR-86									
NB Mainline south of Avenue 50	Basic	10.5	A	11.1	B	10.5	A	11.1	B
Avenue 50 Off-ramp	Diverge	15.5	B	16.2	B	15.5	B	16.2	B
Avenue 50 Loop On-ramp	Merge	16.8	B	15.6	B	16.8	B	15.6	B
Avenue 50 Slip On-ramp	Merge	18.8	B	16.0	B	18.8	B	16.0	B
Mainline (Avenue 50 to Dillon Road)	Basic	15.8	B	13.1	B	15.8	B	13.1	B
Dillon Road Off-ramp	Diverge	21.3	C	18.1	B	21.3	C	18.1	B
Southbound SR-86									
Dillon Road On-ramp	Merge	16.0	B	18.5	B	16.0	B	18.5	B
Mainline (Dillon Road to Avenue 50)	Basic	13.2	B	15.8	B	13.2	B	15.8	B
Avenue 50 Off-ramp	Diverge	18.8	B	22.0	C	18.8	B	22.0	C
Avenue 50 Slip On-ramp	Merge	11.9	B	12.7	B	11.9	B	12.7	B
Mainline north of Avenue 50	Basic	9.4	A	10.2	A	9.4	A	10.2	A

Bold text indicates unacceptable operations.

Note:

1 Density was reported in number of vehicles per lane per mile.

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 38.



Source: State Route 86/Avenue 50 New Interchange Project Final Traffic Operations Report, November 2017.

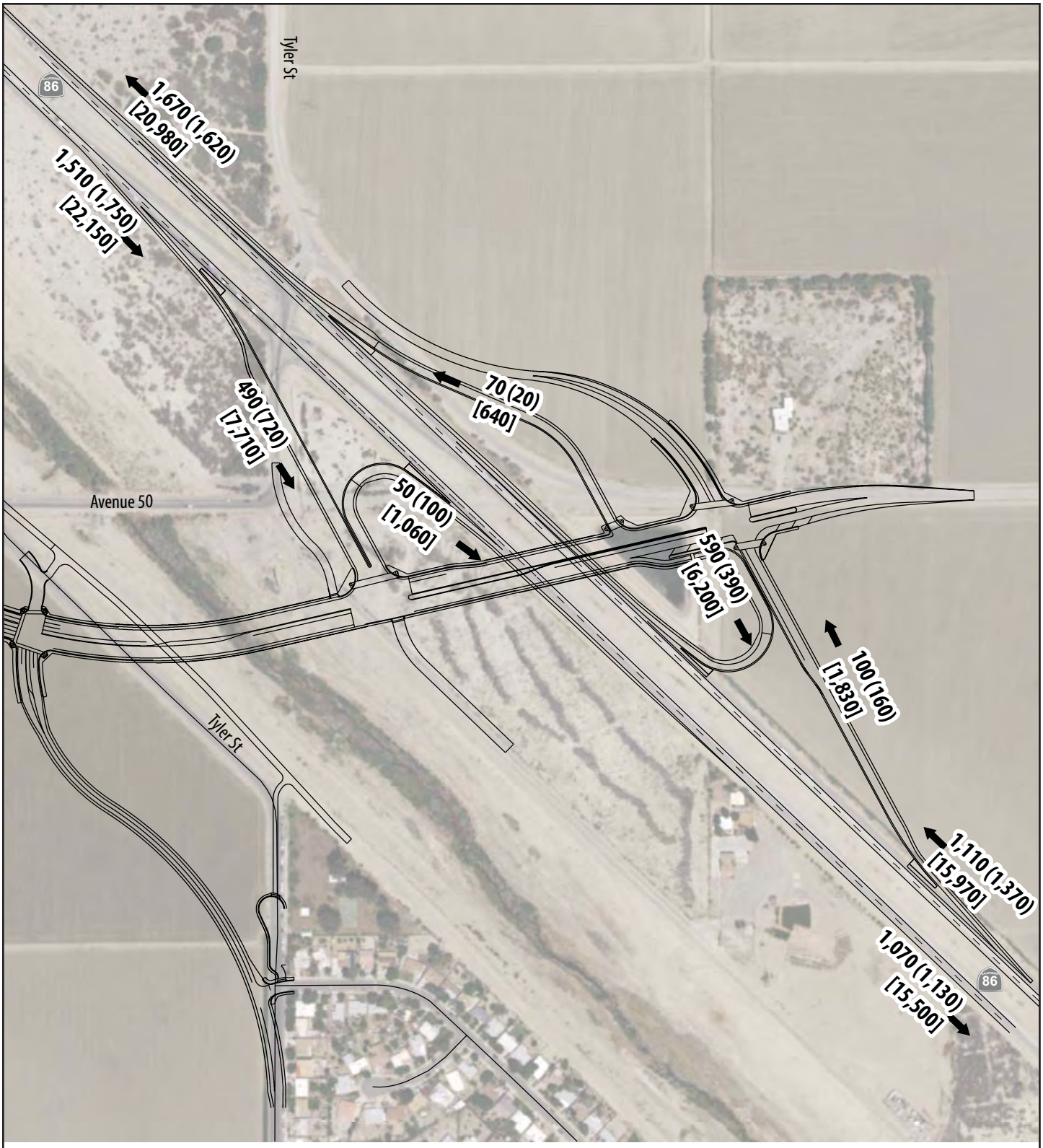
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Opening Year 2025 Phase 2 (Alternative 7) Mainline Traffic Volume Forecasts

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Figure 2.1.6-10



Source: State Route 86/Avenue 50 New Interchange Project Final Traffic Operations Report, November 2017.

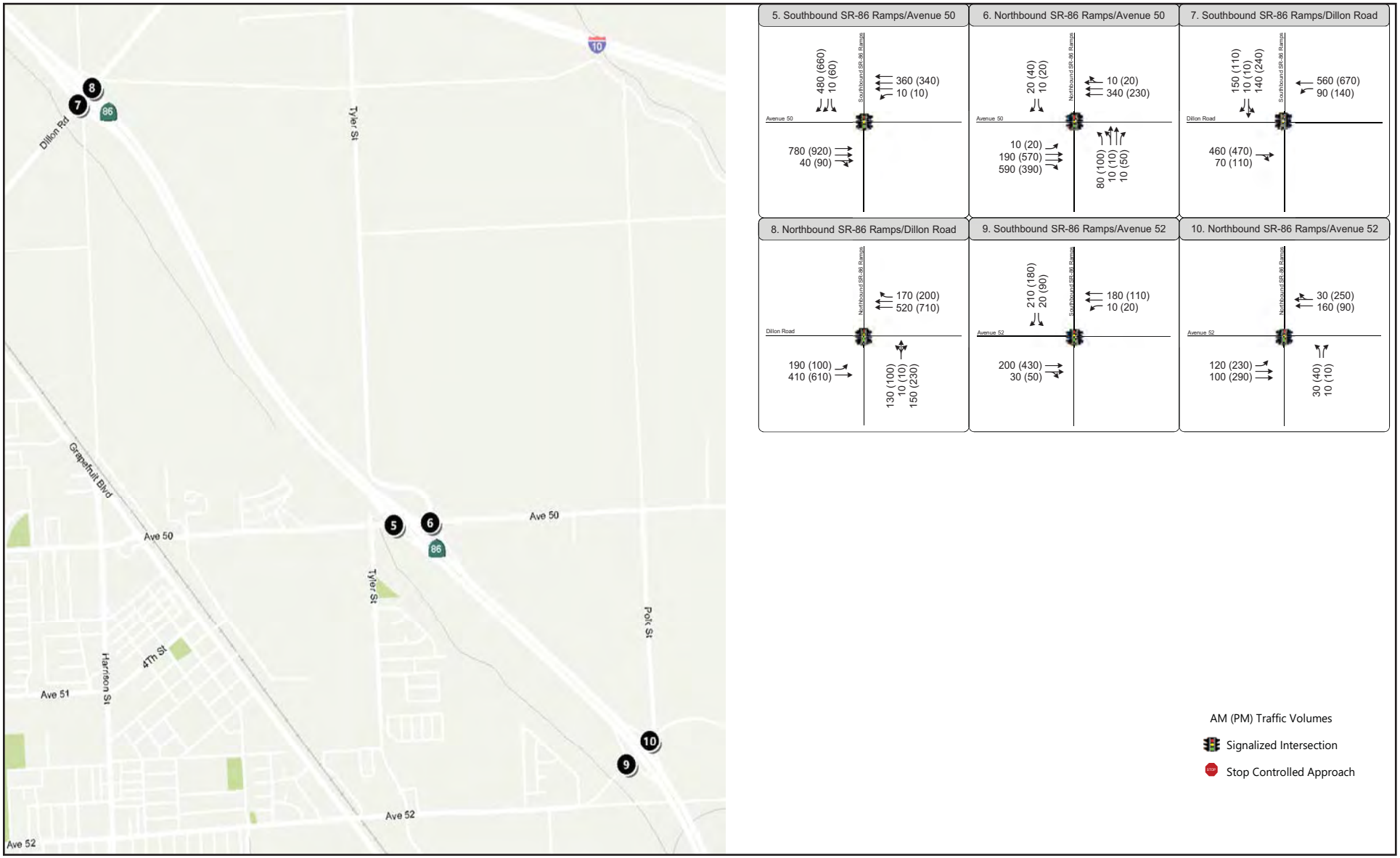
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Opening Year 2025 Phase 2 (Alternative 8) Mainline Traffic Volume Forecasts

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Figure 2.1.6-11



Source: State Route 86/Avenue 50 New Interchange Project Final Traffic Operations Report, November 2017.

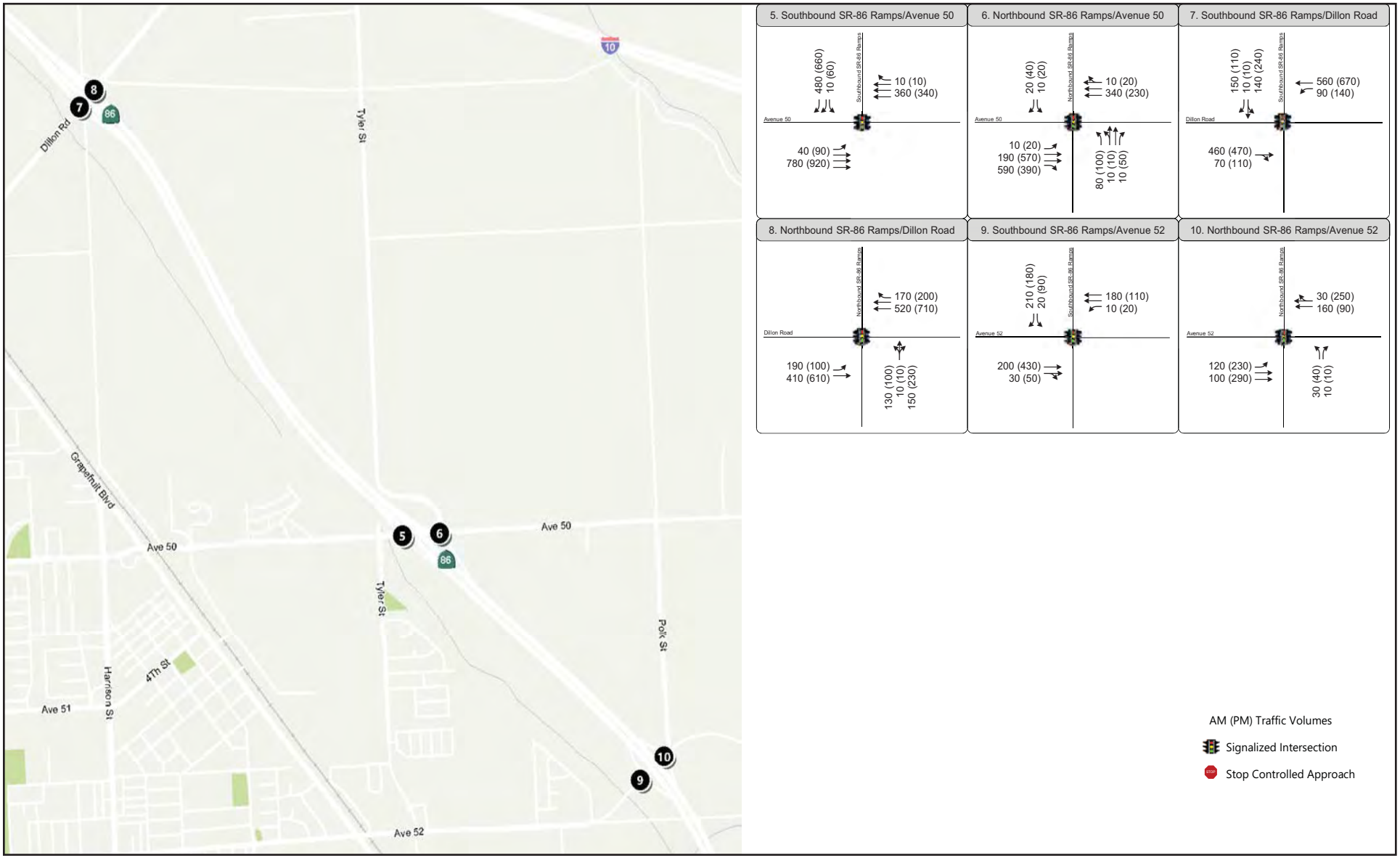
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STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

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Opening Year 2025 (Alternative 7) Peak Hour Intersection Volumes

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Figure 2.1.6-12



Source: State Route 86/Avenue 50 New Interchange Project Final Traffic Operations Report, November 2017.

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STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

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Opening Year 2025 (Alternative 8) Peak Hour Intersection Volumes

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Figure 2.1.6-13

Table 2.1.6-17: Opening Year 2025 (Phase 2) Intersection LOS Summary (Build Alternative 7)

Intersection		Control	AM		PM	
			Delay	LOS	Delay	LOS
5	Avenue 50/Southbound SR-86 Ramps	Signal	16.1	B	22.8	C
6	Avenue 50/Northbound SR-86 Ramps	Signal	11.9	B	16.0	B
7	Dillon Road/Southbound SR-86 Ramps	Signal	11.9	B	19.6	B
8	Dillon Road/Northbound SR-86 Ramps	Signal	15.9	B	17.0	B
9	Avenue 52/Southbound SR-86 Ramps	Signal	13.6	B	13.2	B
10	Avenue 52/Northbound SR-86 Ramps	Signal	13.9	B	12.8	B

Note: For signalized intersections, delay shows whole intersection weighted average control delay using methods (HCM 2010).

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 39.

Table 2.1.6-18: Opening Year 2025 (Phase 2) Intersection LOS Summary (Build Alternative 8)

Intersection		Control	AM		PM	
			Delay	LOS	Delay	LOS
5	Avenue 50/Southbound SR-86 Ramps	Signal	15.5	B	19.9	B
6	Avenue 50/Northbound SR-86 Ramps	Signal	11.9	B	16.2	B
7	Dillon Road/Southbound SR-86 Ramps	Signal	11.9	B	19.6	B
8	Dillon Road/Northbound SR-86 Ramps	Signal	15.9	B	17.0	B
9	Avenue 52/Southbound SR-86 Ramps	Signal	13.6	B	13.2	B
10	Avenue 52/Northbound SR-86 Ramps	Signal	13.9	B	12.8	B

Note: For signalized intersections, delay shows whole intersection weighted average control delay using methods (HCM 2010).

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 40.

Design Year 2045: As shown in Table 2.1.6-19 below, all study area roadway segments along Avenue 50 would operate at acceptable LOS D or better conditions under the Build Alternatives. With the increased capacity proposed by the project, Avenue 50 would expect an increase in traffic demand. However, the study area roadway segments would accommodate the traffic demand increase and still operate at LOS D or better under both Build Alternatives.

Table 2.1.6-19: Design Year 2045 Roadway Segment Analysis (Build Alternatives)

Segment		Classification[1]	ADT	Capacity[2]	V/C	LOS[3]
1	Avenue 50: Bridge Between Tyler Street and SR-86	Major Arterial (6)	32,350	56,000	0.58	A
2	Avenue 50: Between Leoco Lane and Peter Rabbit Lane	Major Arterial (4)	31,240	37,400	0.84	D
3	Avenue 50: West of Harrison Street	Major Arterial (6)	16,930	56,000	0.30	A

Notes:
1 Classification from City of Coachella General Plan Update (2015).
2 Capacity from City of Coachella General Plan EIR Appendix 11.4 (2013).
3 LOS E represents at capacity operations.

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 50.

As shown in Figures 2.1.6-14 and 2.1.6-15 and Table 2.1.6-20, all study locations along SR-86 would operate at an acceptable LOS D or better under both Build Alternatives by 2045.

Table 2.1.6-20: Design Year 2045 Freeway Analysis Summary (Build Alternatives)

Segment	Type	Build Alternative 7				Build Alternative 8			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density[1]	LOS	Density[1]	LOS	Density[1]	LOS	Density[1]	LOS
Northbound SR-86									
NB Mainline south of Avenue 50	Basic	13.5	B	16.8	B	13.5	B	16.8	B
Avenue 50 Off-ramp	Diverge	19.2	B	23.1	C	19.2	B	23.1	C
Avenue 50 Loop On-ramp	Merge	22.2	C	22.5	C	22.2	C	22.5	C
Avenue 50 Slip On-ramp	Merge	25.2	C	23.5	C	25.2	C	23.5	C
Mainline (Avenue 50 to Dillon Road)	Basic	22.2	C	20.1	C	22.2	C	20.1	C
Dillon Road Off-ramp	Diverge	28.5	D	26.3	C	28.5	D	26.3	C
Southbound SR-86									
Dillon Road On-ramp	Merge	21.6	C	24.3	C	21.6	C	24.3	C
Mainline (Dillon Road to Avenue 50)	Basic	18.5	C	21.3	C	18.5	C	21.3	C
Avenue 50 Off-ramp	Diverge	25.1	C	28.2	D	25.1	C	28.2	D
Avenue 50 Slip On-ramp	Merge	17.6	B	18.0	B	17.6	B	18.0	B
Mainline north of Avenue 50	Basic	14.6	B	15.0	B	14.6	B	15.0	B

Note:
1 Density was reported in number of vehicles per lane per mile.

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), Page 51.

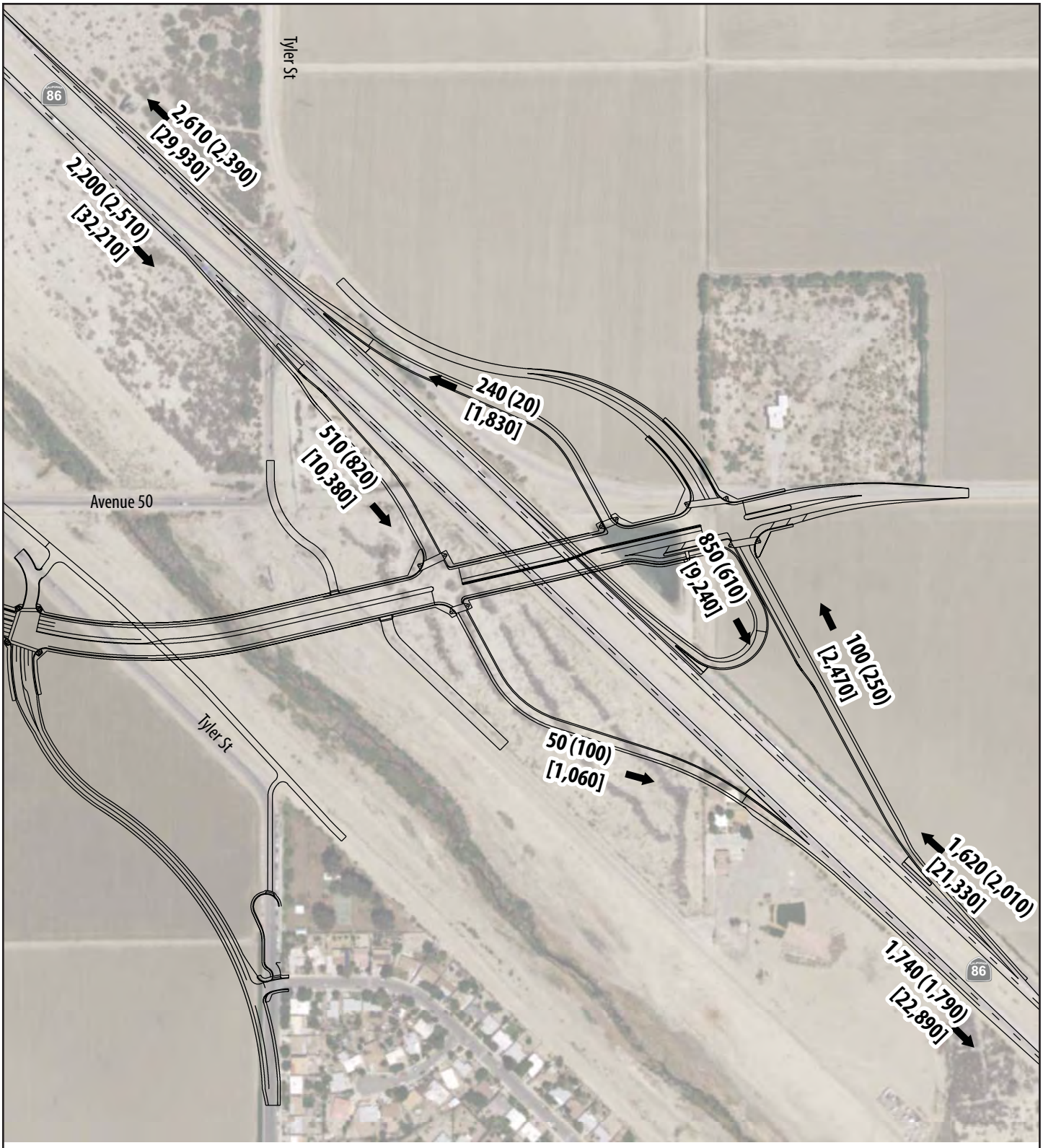
As shown in Figures 2.1.6-16 and 2.1.6-17 and Tables 2.1.6-21 and 2.1.6-22 below, both the Avenue 50/Tyler Street and SR-86/Avenue 50 intersections would improve from LOS F without the project to an acceptable LOS C or better during both AM and PM peak hours under both Build Alternatives.

Table 2.1.6-21: Design Year 2045 Intersection LOS Summary (Build Alternative 7)

Intersection		Control	AM		PM	
			Delay	LOS	Delay	LOS
2	Avenue 50/Leoco Lane	Signal	19.0	B	50.0	D
3	Avenue 50/Peter Rabbit Lane	Signal	10.4	B	12.6	B
4	Avenue 50/Tyler Street	Signal	34.0	C	33.0	C
5	Avenue 50/Southbound SR-86 Ramps	Signal	13.9	B	31.6	C
6	Avenue 50/Northbound SR-86 Ramps	Signal	8.2	A	15.9	B
7	Dillon Road/Southbound SR-86 Ramps	Signal	12.8	B	25.9	C
8	Dillon Road/Northbound SR-86 Ramps	Signal	24.6	C	29.3	C
9	Avenue 52/Southbound SR-86 Ramps	Signal	12.4	B	22.0	C
10	Avenue 52/Northbound SR-86 Ramps	Signal	10.0	B	14.4	B
11	Tyler Street/Calle Mendoza	Side-street stop	18.5	C	24.0	C

Bold text indicates unacceptable level of service.
Note: For signalized intersections, delay shows whole intersection weighted average control delay using methods (HCM 2010).

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), Page 53.



Source: State Route 86/Avenue 50 New Interchange Project Final Traffic Operations Report, November 2017.

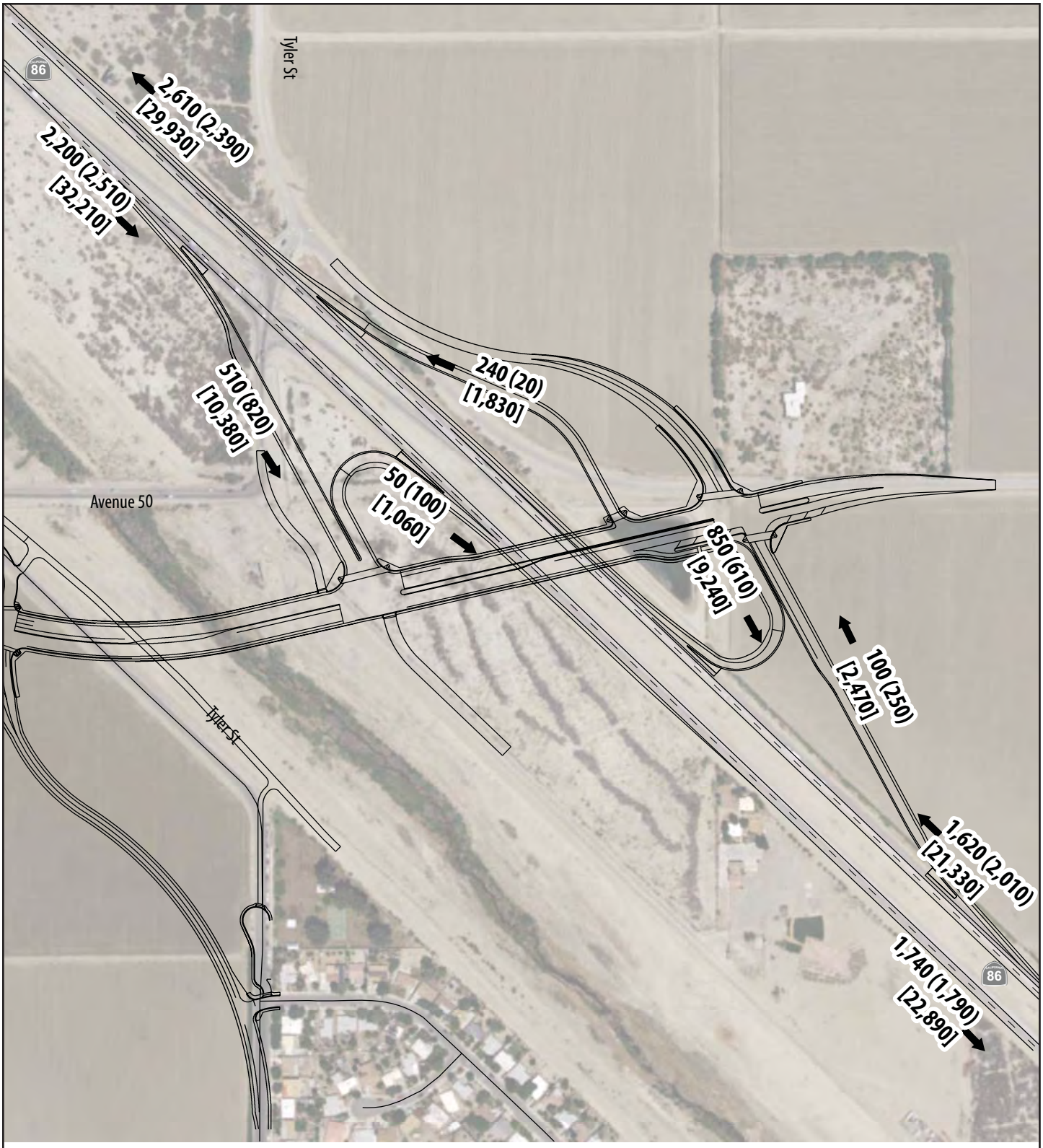
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Design Year 2045 (Alternative 7) Mainline Traffic Volume Forecasts

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Figure 2.1.6-14



Source: State Route 86/Avenue 50 New Interchange Project Final Traffic Operations Report, November 2017.

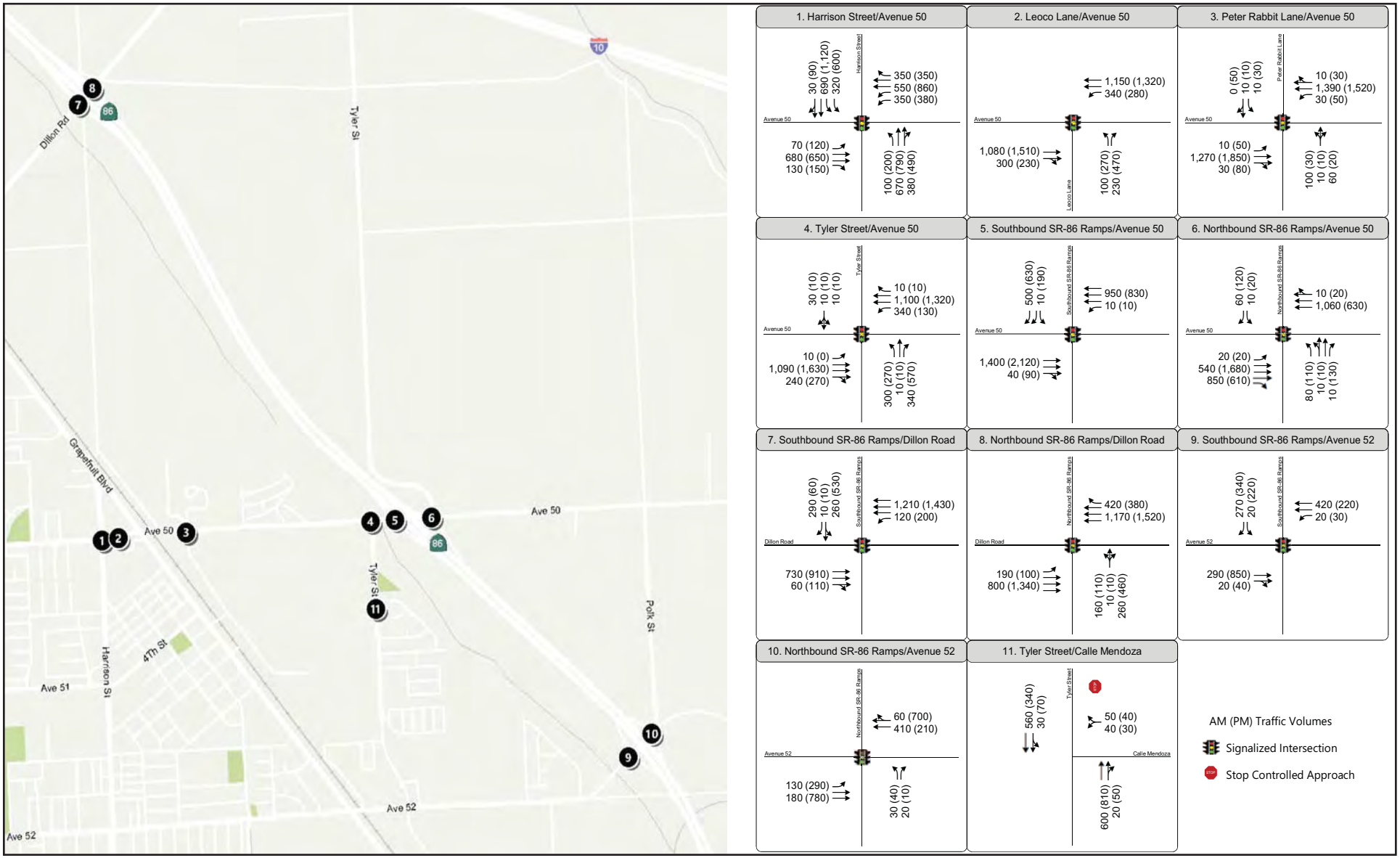
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STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Design Year 2045 (Alternative 8) Mainline Traffic Volume Forecasts

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Figure 2.1.6-15



Source: State Route 86/Avenue 50 New Interchange Project Final Traffic Operations Report, November 2017.

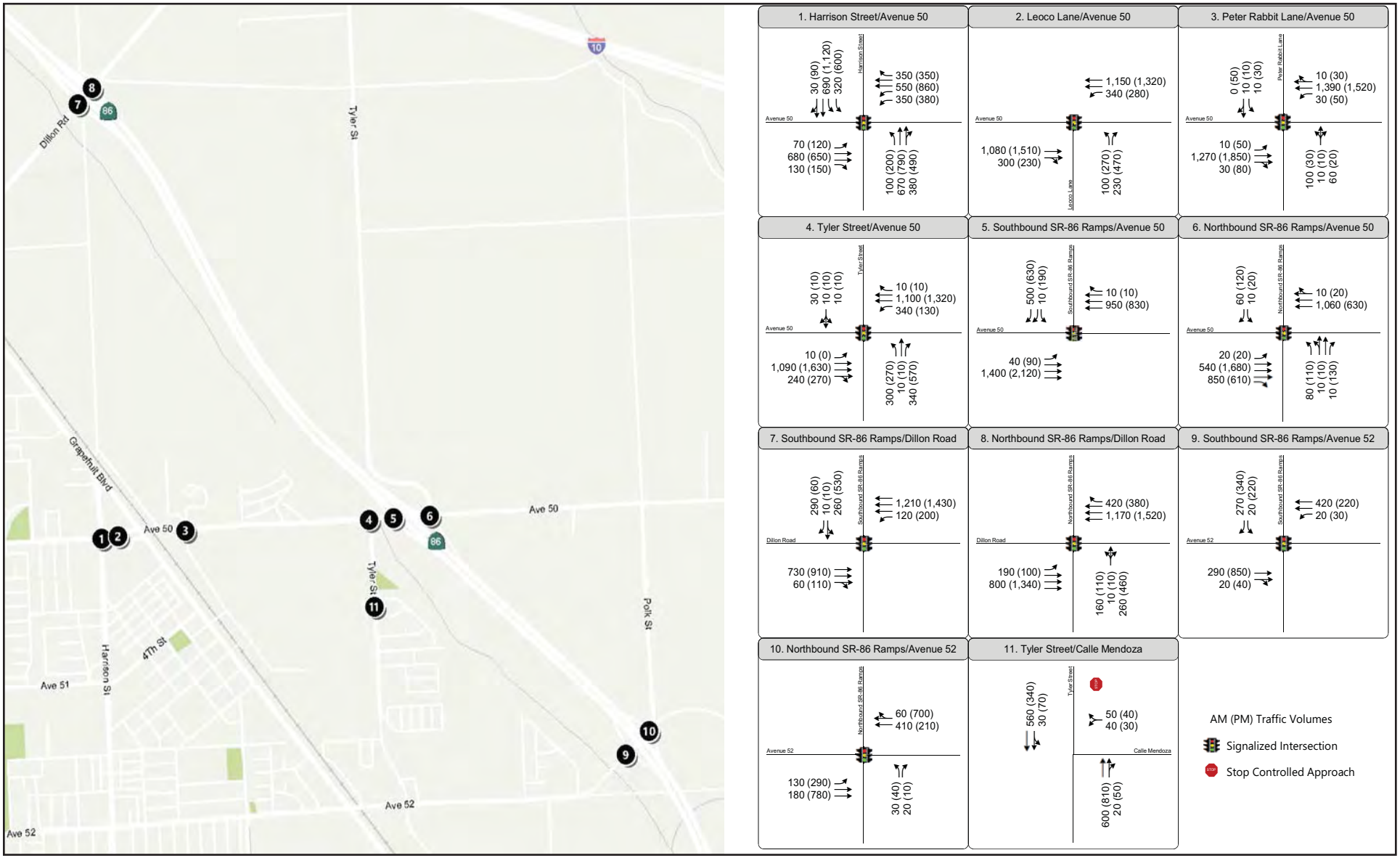
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Design Year 2045 (Alternative 7) Peak Hour Intersection Volumes

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Figure 2.1.6-16



Source: State Route 86/Avenue 50 New Interchange Project Final Traffic Operations Report, November 2017.

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Design Year 2045 (Alternative 8) Peak Hour Intersection Volumes

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Figure 2.1.6-17

Table 2.1.6-22: Design Year 2045 Intersection LOS Summary (Build Alternative 8)

Intersection		Control	AM		PM	
			Delay	LOS	Delay	LOS
2	Avenue 50/Leoco Lane	Signal	19.0	B	50.0	D
3	Avenue 50/Peter Rabbit Lane	Signal	10.4	B	12.6	B
4	Avenue 50/Tyler Street	Signal	34.0	C	33.0	C
5	Avenue 50/Southbound SR-86 Ramps	Signal	13.7	B	20.8	B
6	Avenue 50/Northbound SR-86 Ramps	Signal	10.9	B	16.5	B
7	Dillon Road/Southbound SR-86 Ramps	Signal	12.8	B	25.9	C
8	Dillon Road/Northbound SR-86 Ramps	Signal	24.6	C	29.3	C
9	Avenue 52/Southbound SR-86 Ramps	Signal	12.4	B	22.0	C
10	Avenue 52/Northbound SR-86 Ramps	Signal	10.0	B	14.4	B
11	Tyler Street/Calle Mendoza	Side-street stop	18.5	C	24.0	C

Bold text indicates unacceptable level of service.
Note: For signalized intersections, delay shows whole intersection weighted average control delay using methods (HCM 2010).
Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), Page 54.

Pedestrian and Bicycle Facilities

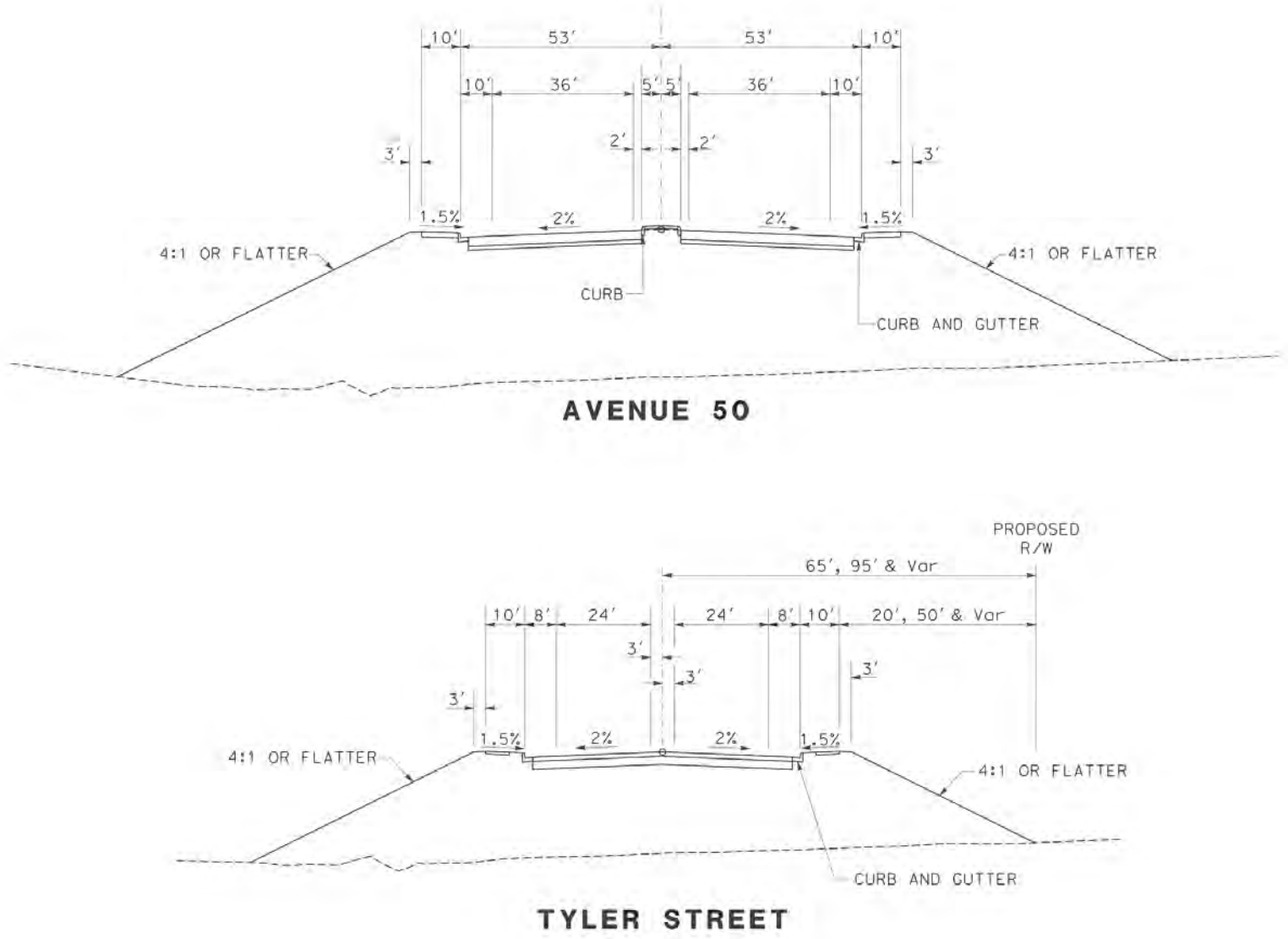
The project would include facilities intended to promote connectivity for system linkages related to pedestrian and bicycle movement. As shown in Table 2.1.6-23, Proposed Sidewalks, the project proposes sidewalk along both sides of Avenue 50 through project boundaries. In addition, the existing sidewalk along the easterly side of Tyler Street south of CVSC (adjacent to existing residences and Sierra Vista Park) would be protected in place and/or reconstructed to maintain connectivity between residential areas and Sierra Vista Park.

Table 2.1.6-23: Proposed Sidewalks

Location	Length (feet)	Width (feet)
Avenue 50*	2,800	10
Tyler Street (North)	200	10
Tyler Street (South)	200	10

*Six feet, two inches on bridges.

As noted above, there are no existing bicycle facilities within site boundaries along Avenue 50 or Tyler Street. As show in Table 2.1.6-24, Proposed Bicycle and Low Speed Electric Vehicle Lanes, along Avenue 50 through the project site, the project would provide a 10-foot wide shoulder, shared and striped as a Class II lane for bicycle and low speed electric vehicle (LSEV) use. A 7-foot-wide bike/LSEV lane would be provided between the through lanes and right-turn-only lanes, to ensure that bicyclists and LSEV drivers can safely cross ramp intersections. Refer to Figures 2.1.6-18, Proposed Typical Bicycle and Pedestrian Facilities, 2.1.6-19, Alternative 7 Proposed Bike Lanes, and 2.1.6-20, Alternative 8 Proposed Bike Lanes.



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Proposed Typical Bicycle and Pedestrian Facilities

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Figure 2.1.6-18



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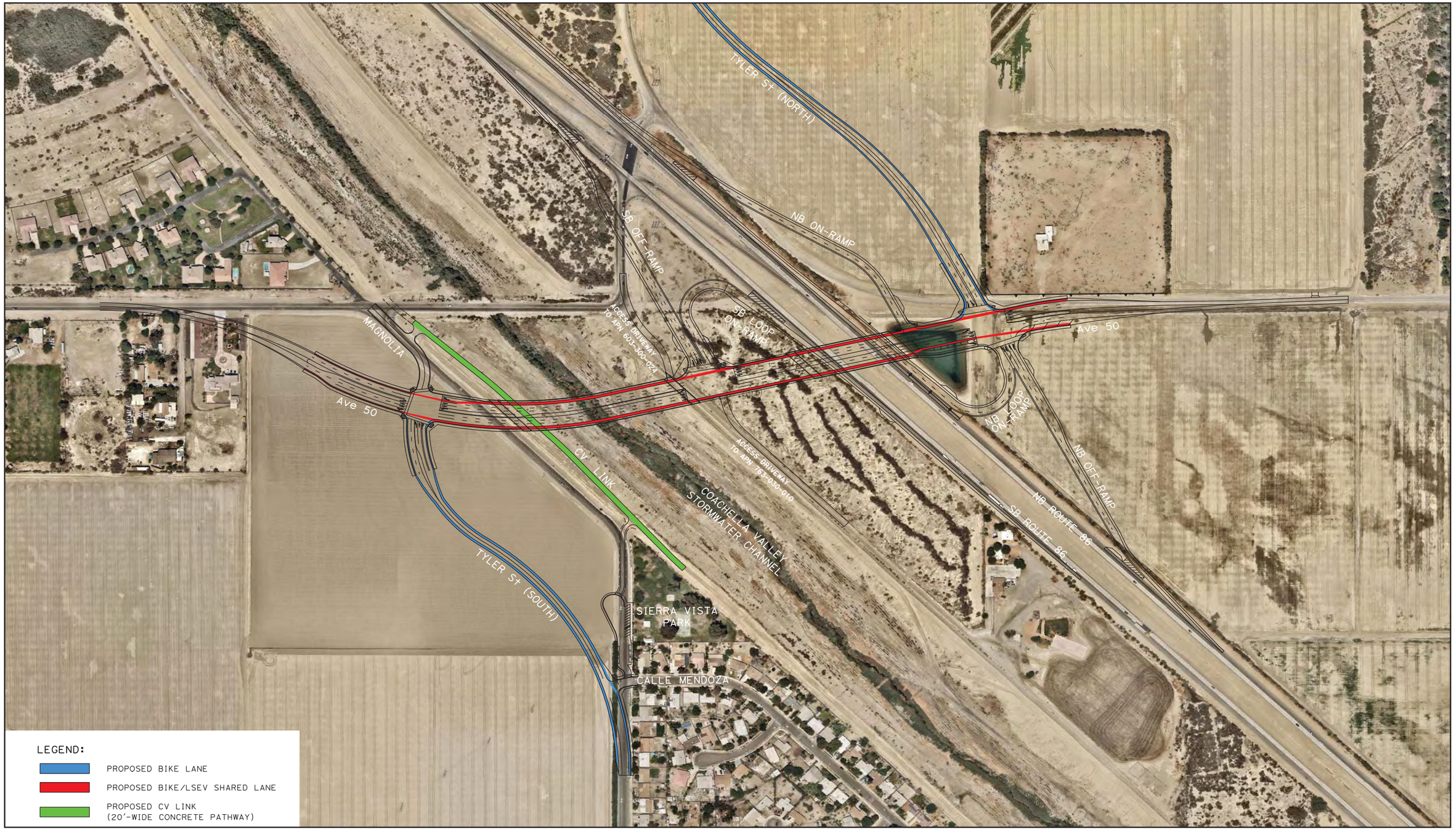
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Alternative 7 Proposed Bike Lanes

Figure 2.1.6-19

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STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Alternative 8 Proposed Bike Lanes

Figure 2.1.6-20

Back of 11x17 figure.

Table 2.1.6-24: Proposed Bicycle and Low Speed Electric Vehicle Lanes

Location	Length (feet)	Width (feet)	Type
Avenue 50 east of Tyler Street (North) Intersection*	2,400	10	Class II
Avenue 50 west of Tyler Street (North) Intersection	400	5	Class II
Tyler Street (North)	2,500	8	Class II
Tyler Street (South)	1,600	5 to 8	Class II

*At the intersections, a 7-foot-wide bike/LSEV lane would be provided between the through lanes and right-turn-only lanes to accommodate both LSEVs and bicycles (in-lieu of a standard 4-foot bicycle only lane).

The project site includes a future alignment of the planned Coachella Valley (CV) Link project. CV Link is a planned public CVAG multi-modal transportation pathway that would be constructed along the western side of the CVSC within the project area; refer to Figure A-1 of Appendix A. The CV Link Master Plan identifies all proposed public access points to the CV Link facility. The project is located within the southern portion of Segment 9 and the northern portion of Segment 10 of CV Link, which will include an access point to CV Link from the cul-de-sac adjacent to where Sierra Vista Park is located, and a second access point south of the existing Avenue 50 off of what will be an extension of Magnolia (see Figure 2.1.6-20, above). In addition to the access points from near Sierra Vista Park and from the extension of Magnolia, the design elements for Phase 1 of the proposed project would include construction of slope protection, which includes a flat 20-foot pavement/ramp per CV Link design standards and specifications along the southern riverbank of the CVSC within the project area (approximately 1,425 linear feet). Figure A-2 of Appendix A, CV Link Proposed Improvements, shows the proposed improvements relative to CV Link. Figure A-3 of Appendix A, CV Link Proposed Concrete Slope Protection Detail, is a focused graphic detailing the specific improvement limits and dimensions relative to CV Link.

Following completion of Phase 1 of the project, the slope protection and the concrete pavement would be consistent and match the remainder of Segments 9 and 10 of CV Link when it is constructed.

The project would result in beneficial permanent effects related 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, as envisioned in the General Plan Land Use goals and policies. The Build Alternatives would be designed and constructed in compliance with regulations included in the 1990 Americans with Disabilities Act (ADA), as required for federal-aid projects. The Build Alternatives both include planned access and mobility of non-motorized vehicles and pedestrians. These accommodations are consistent with the General Plan, in which Avenue 50 within the study area is proposed as a “Major Arterial with Bicycle Facility.” Design facilities for both Build Alternatives would be fully accessible as described in the Caltrans’ Design Information Bulletin 82-03 “Pedestrian Accessibility Guidelines for Highway Projects,” and allows Americans with Disabilities Act-compatible crossings. The project would further result in beneficial pedestrian/bicycle improvements through the construction of access ramps and slope protection/pavement beneath the proposed Avenue 50 bridge over CVSC, to accommodate the planned CV Link multi-modal pathway. The planned 50-mile CV Link facility would serve as an alternative transportation corridor for bicycles, pedestrians, and LSEVs. The project would also include a pathway connecting the northerly terminus of the Tyler Street cul-de-sac (adjacent to Sierra Vista Park) with the planned CV Link alignment.

2.1.6.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.1.7 Visual/Aesthetics

2.1.7.1 Regulatory Setting

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

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

2.1.7.2 Affected Environment

This section is based on the Visual Impact Assessment for State Route 86/Avenue 50 New Interchange Project (VIA) (May 2018).

The project location and setting provide context for determining the type and severity of changes to the existing visual environment. The terms visual character and visual quality are used to further describe the existing environment. Visual character includes attributes such as form, line, color, texture, and is used to describe, not evaluate. A change in visual character cannot be described as having good or bad attributes until it is compared with the viewer response to that change. If there is public preference for the established visual character of a regional landscape and resistance to a project that will contrast that character, then changes in the visual character can be evaluated. Visual quality is evaluated by identifying the vividness, intactness, and unity present in the project corridor. FHWA states that this method should correlate with public judgments of visual quality well enough to predict those judgments. This approach is particularly useful in highway planning because it does not presume that a highway project is necessarily an eyesore. This approach to evaluating visual quality can also help identify specific methods for mitigating each adverse impact that may occur as a result of a project. The project setting is also referred to as the corridor or project corridor which is defined as the area of land that is visible from, adjacent to, and outside of the highway right-of-way (ROW), and is determined by topography, vegetation, and viewing distance.

The proposed project is located on SR-86 between Avenue 52 and Dillon Road in the City of Coachella, Riverside County, California. The project is located in the eastern portion of the Coachella Valley, an extensive (approximately 10-mile wide) and moderately flat expanse oriented in a generally northwest to southeast direction, with a gentle gradient from San Gorgonio Pass (approximately 2,600 feet above mean sea level [msl]) to the Salton Sea (surface 227 feet below msl) to the southeast. The Coachella Valley and the Salton Sea are part of the greater Salton Trough that includes a portion of the Colorado Desert Geomorphic Province. The Coachella Valley is surrounded by the Santa Rosa Mountains (Toro Peak, 8,715 feet above msl) approximately seven miles to the southwest, and the San Jacinto Mountains (San Jacinto Peak, 10,834 feet above msl) to the northwest. The northeastern part of the valley is defined by the Little San Bernardino Mountains (up to 5,267 feet above msl) located

approximately two miles to the northeast.[1] The landscape is characterized by agricultural land, lower density development, and mountainous ridgelines to the south, west, and southwest. The land use within the corridor is primarily rural desert agricultural and vacant land, but also includes areas of suburban developed uses. The project site does not include any officially designated or eligible State scenic highways.[2]

The project corridor is defined as a visual assessment unit (VAU) for analysis of the proposed project. A VAU is typically defined by the limits of a particular viewshed and will often correspond to a place or district that is commonly known among local viewers. One VAU (VAU1) was selected for analysis of the proposed project based on the homogenous character of the project site and since all land uses within the VAU are within similar proximity to the project site and have similar views to the project site. Geographic features that form this VAU include ridgelines associated with the Joshua Tree National Park to the north/east, Santa Rosa Mountains to the south, San Jacinto Mountains to the west, and eastern foothills of the San Bernardino National Forest to the northwest. These ridgelines and sloping hills visually contrast with the relatively flat form of the Coachella Valley, allowing for more distant views.

The project site is located between the foothills of Joshua Tree National Park to the north/east, and the Santa Rosa Mountains to the south. The developed area of the City of Coachella is located to the west/southwest, residential uses are positioned to the south and west, and agricultural land is situated to the north, east, and southwest of the project site. The Coachella Valley Stormwater Channel (CVSC) traverses through the project site in a north-south direction. The project site is approximately 60 to 80 feet below msl. VAU1 is defined mainly by undeveloped land and agricultural uses in the Coachella Valley with surrounding views of the hillsides and ridgelines of Joshua Tree National Park to the north/east, eastern foothills of the San Bernardino National Forest to the northwest, Santa Rosa Mountains to the south, and San Jacinto Mountains to the west. Vegetation within the area generally consist of arrowhead scrub, saltbrush scrub, ornamental vegetation, and agricultural land. These various vegetation types generally vary in color (brown/yellow and green) and height (from grasses to shrubs). Some flowering species existing within the area.

Five Key Views were selected to assess the existing visual character of the project site and surrounding area, and to determine the potential aesthetic impact that may result from implementation of the proposed project. Each Key View location is described in detail below and depicted on Figure 2.1.7-1, Key View Locations Map. Figures 2.1.7-2a through 2.1.7-6b provide a photograph of existing conditions, and with-project conditions, at each respective Key View from various vantage points. A description of the five Key Views is provided below.

- *Key View 1* (refer to Figure 2.1.7-2a and Figure 2.1.7-2b) is located in the western portion of VAU1, along Avenue 50 near residential uses to the west of the project site. Key View 1 represents a typical view from eastbound Avenue 50 motorists and bicyclists, as well as views from residential uses along Avenue 50. Key View 1 depicts the realignment and widening of Avenue 50, and the proposed SR-86/Avenue 50 interchange.

[1] City of Indio, College of the Desert Indio Educational Center Draft Environmental Impact Report, October 7, 2011.

[2] California Department of Transportation, California Scenic Highway Mapping System, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm, accessed May 22, 2018.

- *Key View 2* (refer to Figure 2.1.7-3a and Figure 2.1.7-3b) is located in the south-central portion of VAU1 along Tyler Street. Key View 2 represents a typical view from northbound Tyler Street motorists, bicyclists, and pedestrians, as well as from Sierra Vista Park visitors. Key View 2 depicts the realignment and widening of Tyler Street associated with the project, and implementation of the future Coachella Valley Link (CV Link) connector within the project limits.

- *Key View 3* (refer to Figure 2.1.7-4a and Figure 2.1.7-4b) is located in the southern portion of VAU1 along Tyler Street, near the southernmost limits of the project site. Key View 3 represents a typical view from northbound Tyler Street motorists, bicyclists, and pedestrians, as well as a general view from residences located along Tyler Street. Key View 3 depicts the realignment and widening of Tyler Street associated with the project, and implementation of the future CV Link connector within the project limits.

- *Key View 4* (refer to Figure 2.1.7-5a and Figure 2.1.7-5b) is located in the southeastern portion of VAU1 along SR-86, to the southeast of the proposed SR-86/Avenue 50 interchange. Key View 4 represents a typical view from northbound SR-86 motorists. Key View 4 depicts the proposed SR-86/Avenue 50 interchange overcrossing structure and new SR-86/Avenue 50 interchange.

- *Key View 5* (refer to Figure 2.1.7-6a and Figure 2.1.7-6b) is located in the eastern portion of VAU1 along Avenue 50, to the east of the project site. Key View 5 represents a typical view from westbound Avenue 50 motorists. Key View 5 depicts the new SR-86/ Avenue 50 interchange overcrossing structure, and the widening/realigned Avenue 50.

2.1.7.3 Environmental Consequences

2.1.7.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Project improvements would not occur under the No-Build Alternative; therefore, the No-Build Alternative would not result in temporary impacts related to visual character and aesthetics.

Alternatives 7 and 8 (Build Alternatives)

The proposed project would require staging areas to allow for construction activities and the storage of equipment. Construction vehicle access and staging of construction materials would be visible from motorist traveling along the project site as well as residents located in the project vicinity. However, views of construction-related activities and equipment/vehicles would be temporary in nature. The project would be required to comply with Caltrans Standard Specifications for Construction, which would minimize visual impacts through the use of opaque temporary construction fencing that would be situated around the staging areas. Thus, the potential visual impacts during construction of both Build Alternatives would not be adverse.



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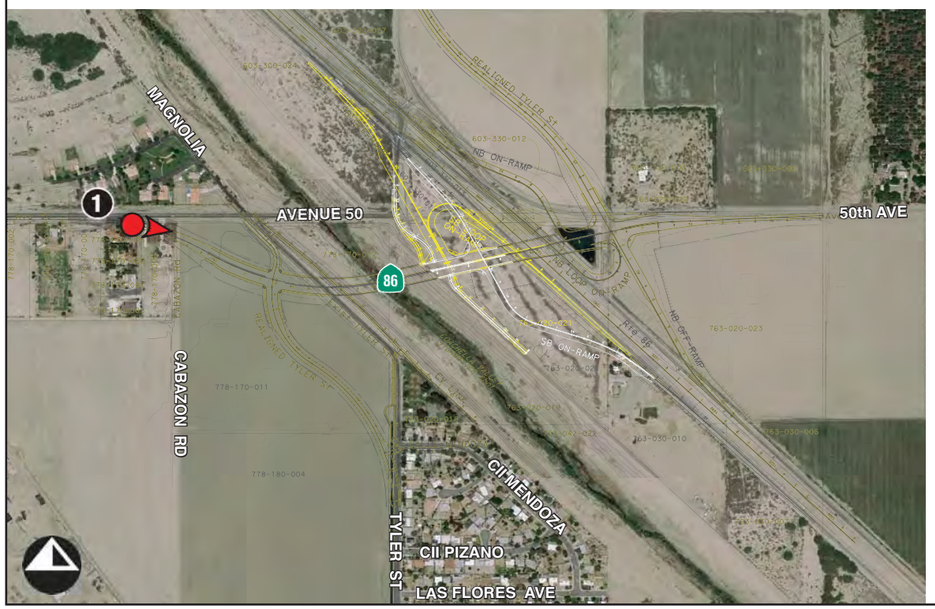
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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Key View Locations Map

Figure 2.1.7-1





Similar Build Alternative Features
Build Alternative 7 Only
Build Alternative 8 Only
Direction of Photo Key View Location
1 Key View Number

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Key View 1 – Existing Condition

11/18 | JN 159814

Figure 2.1.7-2a

Back of 11x17 figure.



For comparative purposes, site photographs are utilized to demonstrate the general character at different points of the project area.
These simulations are subject to change and are intended to provide the reader with information on the form, size, and scale of the proposed improvements within the project area.

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
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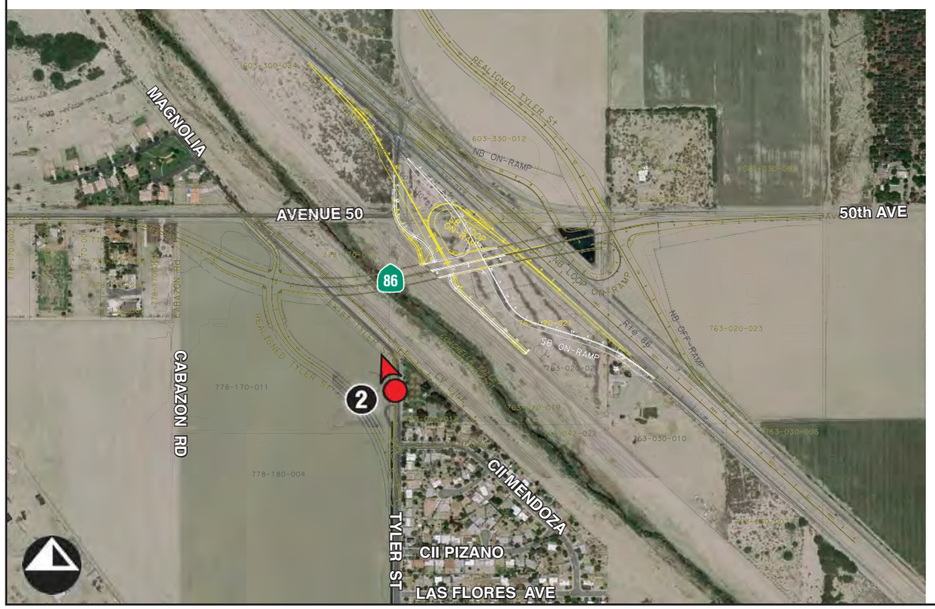
Key View 1 – Proposed Condition

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Figure 2.1.7-2b

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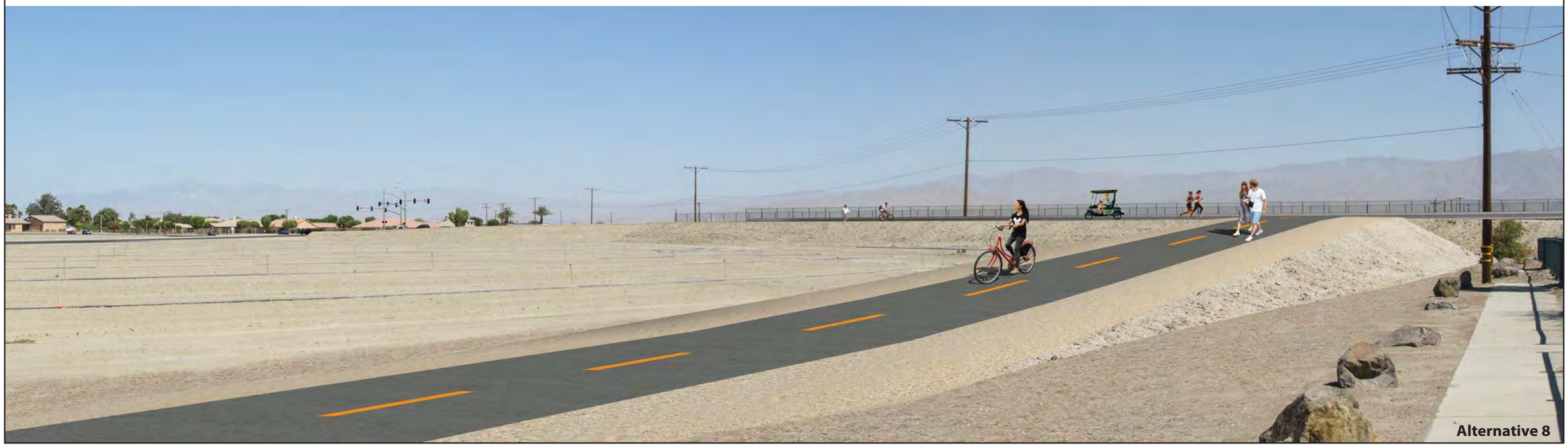
Similar Build Alternative Features
Build Alternative 7 Only
Build Alternative 8 Only
Direction of Photo Key View Location
1 Key View Number

Key View 2 – Existing Condition

Figure 2.1.7-3a

Back of 11x17 figure.





For comparative purposes, site photographs are utilized to demonstrate the general character at different points of the project area.
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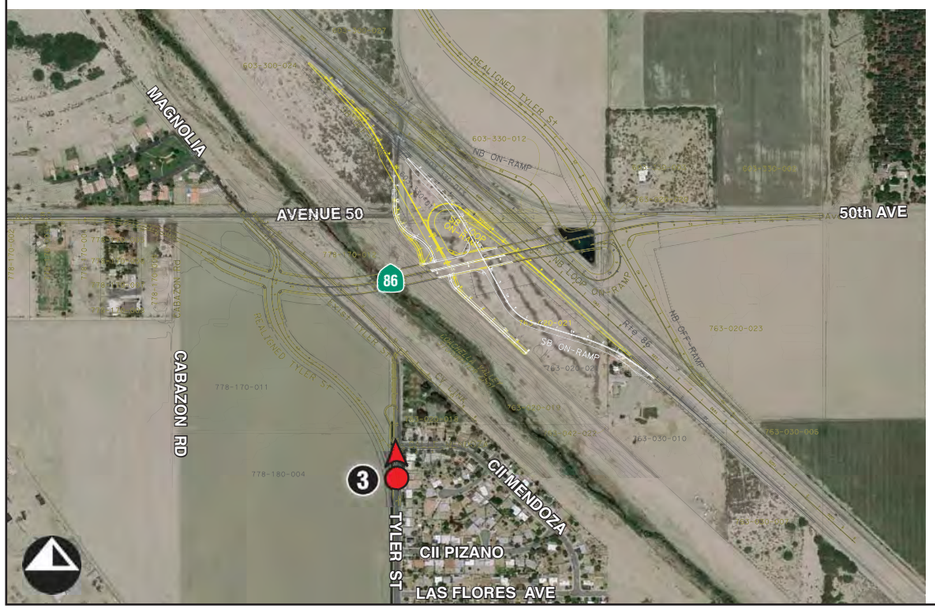
Key View 2 – Proposed Condition

11/18 | JN 159814

Figure 2.1.7-3b

Back of 11x17 figure.





Similar Build Alternative Features
Build Alternative 7 Only
Build Alternative 8 Only
Direction of Photo Key View Location
1 Key View Number

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Key View 3 – Existing Condition

Figure 2.1.7-4a

Back of 11x17 figure.





For comparative purposes, site photographs are utilized to demonstrate the general character at different points of the project area.
These simulations are subject to change and are intended to provide the reader with information on the form, size, and scale of the proposed improvements within the project area.

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

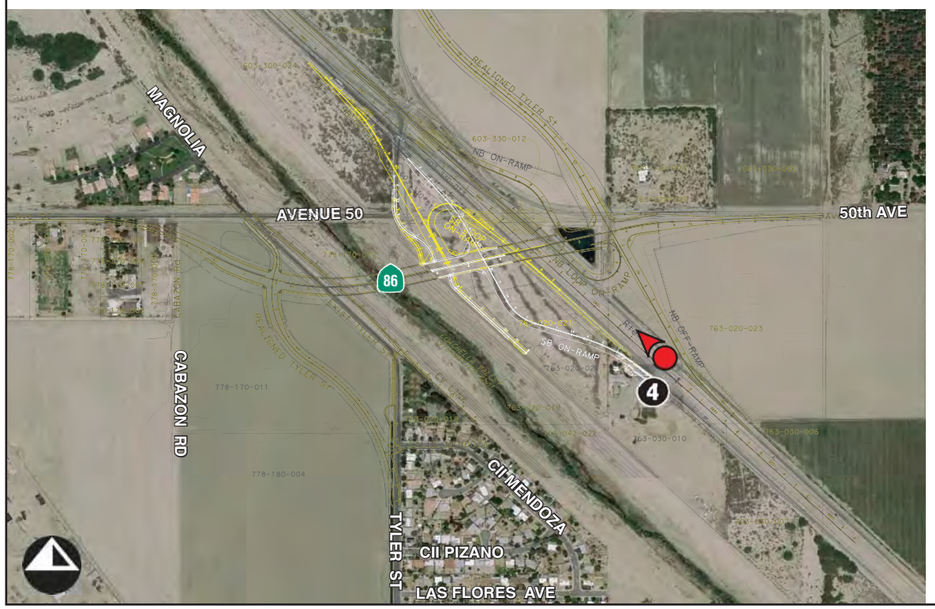
Key View 3 – Proposed Condition

11/18 | JN 159814

Figure 2.1.7-4b

Back of 11x17 figure.





INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

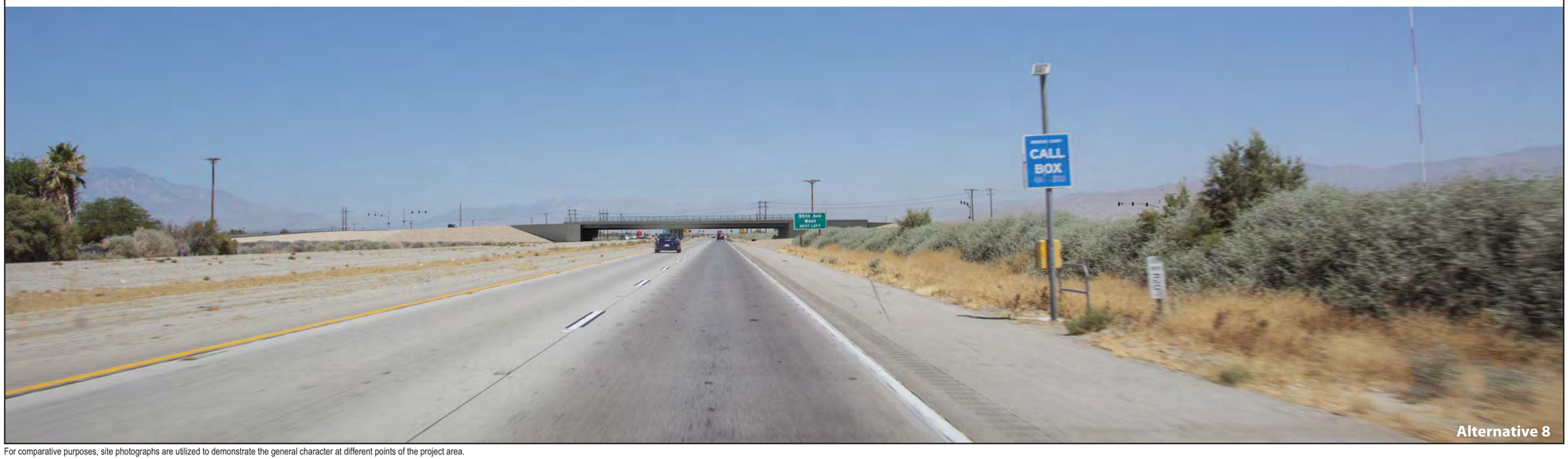
Key View 4 – Existing Condition

11/18 | JN 159814

Figure 2.1.7-5a

Back of 11x17 figure.





For comparative purposes, site photographs are utilized to demonstrate the general character at different points of the project area.
These simulations are subject to change and are intended to provide the reader with information on the form, size, and scale of the proposed improvements within the project area.

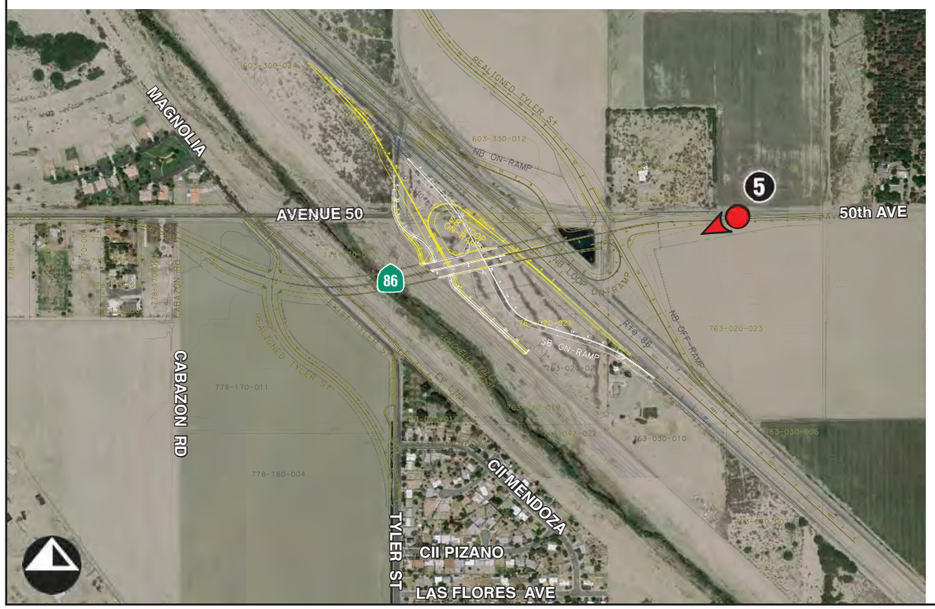
INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Key View 4 – Proposed Condition

Figure 2.1.7-5b

Back of 11x17 figure.





Similar Build Alternative Features

Build Alternative 7 Only

Build Alternative 8 Only

Direction of Photo Key View Location

1 Key View Number

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Key View 5 – Existing Condition

Figure 2.1.7-6a

Back of 11x17 figure.





For comparative purposes, site photographs are utilized to demonstrate the general character at different points of the project area.
These simulations are subject to change and are intended to provide the reader with information on the form, size, and scale of the proposed improvements within the project area.

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Key View 5 – Proposed Condition

11/18 | JN 159814

Figure 2.1.7-6b

Back of 11x17 figure.

It is anticipated that the proposed project would require limited periods of nighttime construction activities for SR-86/Avenue 50 interchange improvements and overcrossing structure within Caltrans ROW. Existing sources of light and glare within the project area are limited to vehicle headlights, traffic lights, street lighting on SR-86/Avenue 50 and Tyler Street, and nighttime lighting associated with adjacent residential uses. Nighttime construction lighting could potentially cause a nuisance to motorists travelling along SR-86 and Avenue 50, in addition to surrounding residential uses. Lighting effects to surrounding residential uses would primarily be of concern during construction of Phase 1 of the Build Alternatives, which would occur in close proximity to single-family residences along Avenue 50 and Tyler Street, west of CVSC. In accordance with Caltrans regulations, nighttime construction would be limited to the hours of 10:00 p.m. to 6:00 a.m. Necessary lighting for safety and construction purposes would be directed away from land uses outside of the project area and contained and directed toward the specific area of construction. With implementation of Measure VIS-1, construction lighting types, plans, and placement would be designed to minimize light and glare impacts on surrounding sensitive uses. Implementation of Measure VIS-1 would ensure there would be little to no visual intrusion as a result of temporary construction nighttime lighting.

2.1.7.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Project improvements would not occur under the No-Build Alternative; therefore, the No-Build Alternative would not result in permanent impacts related to alteration of existing views or visual characteristics of the project area.

Alternatives 7 and 8 (Build Alternatives)

The Build Alternatives would convert a portion of SR-86 from an at-grade signalized intersection into a grade-separated full interchange with a new overcrossing bridge and access ramps, and construct a new bridge spanning over the CVSC. The Build Alternatives would also realign and widen Avenue 50 from the existing two-lane roadway to a six-lane major arterial and would realign Tyler Street on both the east and west side of SR-86. The existing Avenue 50 roadway to the west of SR-86 would be repurposed as a CVSC maintenance road. Alternatives 7 and 8 are similar; however, Alternative 8 includes a southbound loop on-ramp whereas Alternative 7 does not. Both alternatives would include signalized intersections at SR-86/Avenue 50 on- and off-ramps, and Avenue 50/Tyler Street.

Further, the viewsheds for Alternative 7 and Alternative 8 are similar. The potential for Alternatives 7 and 8 to adversely impact views depends on how responsive viewers are to changes resulting from project implementation. Viewer response is a measure or prediction of the viewer's reaction to changes in the visual environment and has two dimensions: viewer exposure and viewer sensitivity. There are two major types of viewers: highway neighbors and highway users. Highway neighbors are the people who have views to the road, and include residential uses, recreational users at Sierra Vista Park, and agricultural uses. Highway users are the people who have views from the road and include SR-86 highway motorists and local roadway motorists along Avenue 50 and Tyler Street. Each Key View was evaluated by comparing the difference in visual quality from the predicted viewer response for Alternatives 7 and 8; refer to Table 2.1.7-1, Visual Impact Ratings Using Viewer Response and Resource Change.

Table 2.1.7-1: Visual Impact Ratings Using Viewer Response and Resource Change[3]

Resource Change (RC)	Viewer Response (VR)				
	Low (L)	Moderate-Low (ML)	Moderate (M)	Moderate-High (MH)	High (H)
Low (L)	L	ML	ML	M	M
Moderate-Low (ML)	ML	ML	M	M	MH
Moderate (M)	ML	M	M	MH	MH
Moderate-High (MH)	M	M	MH	MH	H
High (H)	M	MH	MH	H	H

Key View 1

Alternatives 7 and 8. Key View 1 represents a typical view from eastbound Avenue 50 motorists to the west of the proposed SR-86/Avenue 50 interchange project site, as well as residential uses in the vicinity; refer to Figure 2.1.7-2a. Implementation of Build Alternatives 7 and 8 would result in visible changes to the existing conditions as seen from this Key View. Visible project features include the realignment of Avenue 50 to the south, the Avenue 50 overcrossing structures (spanning over the CVSC and SR-86), and new SR-86/Avenue 50 interchange; refer to Figure 2.1.7-2b. Eastbound travelers and residents in Key View 1 would be directly exposed to the changes along Avenue 50 in VAU1. Although Avenue 50 experiences a fairly low amount of daily traffic (16,203 average daily traffic [ADT]), residents along Avenue 50 would have permanent long-term views of the visual changes associated with the project. As such, overall viewer response in Key View 1 would be high.

Due to the high viewer response of residential viewers, and the permanent visual changes as seen from these viewers, the overall visual impact in this Key View is considered moderate-high. In order to ensure the visual character is not substantially degraded in this Key View, Measure VIS-2 would require landscaping improvements consistent with the existing character of the area, and compliance with Caltrans Standard Design Practices in consultation with the City of Coachella. Implementation of Measure VIS-3 would ensure the visual character of the project area is not substantially degraded.

Key View 2

Alternatives 7 and 8. Key View 2 (located approximately 550 feet north of Key View 3) represents a typical view from northbound Tyler Street motorists, bicyclists, and pedestrians, as well as from recreational users at Sierra Vista Park; refer to Figure 2.1.7-3a. Implementation of Build Alternatives 7 and 8 would result in visible changes to the existing conditions as seen from this Key View. Visible project features include the realignment and widening of Tyler Street associated with the project, and implementation of the future CV Link connector within the project limits; refer to Figure 2.1.7-3b. Northbound travelers in Key View 2 would be directly exposed to the changes along Tyler Street in VAU1. Tyler Street experiences a low amount of daily traffic (4,600 ADT), but frequent visitors to Sierra Vista Park would have long-term views of the proposed project. As such, overall viewer response in Key View 2 would be moderate.

[3] Visual Impact Assessment for State Route 86/Avenue 50 New Interchange Project, page 22, April 2018.

Due to the moderate viewer response of Tyler Street and Sierra Vista Park viewers and the permanent visual changes as seen from these viewers, the overall visual impact in this Key View is considered moderate. In order to ensure the visual character is not substantially degraded in this Key View, Measure VIS-2 and Measure VIS-4 would require that all proposed architectural treatments and landscaping are consistent with the character of the area, and the Caltrans Standard Design Practices. In addition, Measure VIS-3 would ensure existing vegetation is preserved to the maximum extent possible and Measure VIS-5 would ensure that all abandoned roadways not planned for repurposing would be required to be removed, and hydroseeded or revegetated with non-invasive plants in compliance with Caltrans Standard Design Practices in consultation with the City of Coachella. Structures would be required to receive architectural aesthetics to minimize viewshed effects of the project and textures and anti-graffiti treatment to deter vandalism. Implementation of Measure VIS-2 through Measure VIS-5 would ensure the visual character of the project area is not substantially degraded.

Key View 3

Alternatives 7 and 8. Key View 3 (located approximately 550 feet south of Key View 2) represents a typical view from northbound Tyler Street motorists, bicyclists, pedestrians, and a general view from residential uses to the east of Tyler Street; refer to Figure 2.1.7-4a. Implementation of Build Alternatives 7 and 8 would result in visible changes to the existing conditions as seen from this Key View. Visible project features would include the realignment and widening of Tyler Street to the west, the CV Link up-ramp, and the Avenue 50 overcrossing structures spanning over the CVSC and SR-86; refer to Figure 2.1.7-4b. The northbound traveler and residential viewers in Key View 3 would be directly exposed to the changes along Tyler Street in VAU1. Tyler Street experiences a low amount of daily traffic (4,600 ADT), but residents to the east of Tyler Street would have long-term (permanent) views of the proposed project. As such, overall viewer response in Key View 3 would be high.

Due to the high viewer response of residential viewers, and the permanent visual changes as seen from these viewers, the overall visual impact in this Key View is considered moderate-high. In order to ensure the visual character is not substantially degraded in this Key View, Measure VIS-2 and Measure VIS-4 would require that all proposed architectural treatments and landscaping are consistent with the character of the area, and the Caltrans Standard Design Practices. In addition, Measure VIS-3 would ensure existing vegetation is preserved to the maximum extent possible and Measure VIS-5 would ensure all abandoned roadways not planned for repurposing would be required to be removed, and hydroseeded or revegetated with non-invasive plants in compliance with Caltrans Standard Design Practices in consultation with the City of Coachella. Implementation of Measure VIS-2 through Measure VIS-5 would ensure the visual character of the project area is not substantially degraded.

Key View 4

Alternative 7. Key View 4 represents a typical view from northbound SR-86 motorists; refer to Figure 2.1.7-5a. Implementation of Build Alternative 7 would result in visible changes to the existing conditions as seen from this Key View. Visible project features would include the new SR-86/Avenue 50 interchange overcrossing structure and associated fencing, graded slopes, and the SR-86 southbound direct on-ramp; refer to Figure 2.1.7-5b. The northbound traveler would be directly exposed to the new SR-86/Avenue 50 interchange in VAU1. Approximately 25,082 to 31,477 vehicles travel this portion of SR-86 each day. The viewer quantity is moderate and the duration of views from SR-86 commuters and other motorists would be short. These viewers would be aware of the resulting visual changes from implementation of the project. Further, SR-86 motorists are currently afforded uninhibited views of the surrounding

hillsides and ridgelines, which are designated as visual resources by the City. According to General Plan Policy 6.1, the City encourages the preservation of transit corridors with views of these visual resources. Thus, overall viewer response in Key View 4 would be moderate.

Due to the moderate viewer response of SR-86 motorists and uninhibited views of City-designated visual resources, the overall visual impact in this Key View is considered moderate. In order to ensure the visual character is not substantially degraded at Key View 4, Measure VIS-2 and Measure VIS-4 would require landscaping improvements and architectural treatments consistent with the existing character of the area, and compliance with Caltrans Standard Design Practices in consultation with the City of Coachella. The retaining wall(s) under the SR-86/Avenue 50 interchange overcrossing structure would also be subject to consideration for architectural treatments. Structures would be required to receive architectural aesthetics to minimize viewshed effects of the project and textures and anti-graffiti treatment to deter vandalism. All proposed architectural treatments and landscaping would be required to be consistent with the existing character of the area and demonstrate compliance with Caltrans Standard Design Practices. In addition, Measure VIS-3 would ensure existing vegetation is preserved to the maximum extent possible. Implementation of Measure VIS-2 through Measure VIS-4 would ensure the visual character of the project area is not substantially degraded.

Alternative 8. The difference between Alternatives 7 and 8 is that Alternative 8 includes an SR-86 southbound loop on-ramp at the proposed SR-86/Avenue 50 interchange (Alternative 7 includes a direct SR-86 southbound on-ramp). This difference would be perceptible from Key View 4. As shown in Figure 2.1.7-5b, the area located along the western side of southbound SR-86 would not be paved or graded under Alternative 8. Although Alternative 8 would result in less grading and paved surfaces and would retain the existing vegetation along southbound SR-86, the overall visual quality and character of the project area would be similar to Alternative 7. Thus, the overall visual impact in this Key View is considered to be moderate. Implementation of Measure VIS-2 through Measure VIS-4 would ensure the visual character of the project area is not substantially degraded.

Key View 5

Alternatives 7 and 8. Key View 5 represents a typical view from westbound Avenue 50 motorists, and agricultural users to the east of the proposed SR-86/Avenue 50 interchange project site; refer to Figure 2.1.7-6a. Implementation of Build Alternatives 7 and 8 would result in visible changes to the existing conditions as seen from this Key View. Visible project features would include the realignment of Avenue 50 to the south, the SR-86/Avenue 50 interchange overcrossing structure, and new SR-86/Avenue 50 interchange; refer to Figure 2.1.7-6b. Westbound travelers and agricultural employees in Key View 5 would be directly exposed to the changes along Avenue 50 in VAU1. Although this portion of Avenue 50 experiences a low amount of daily traffic (1,000 ADT), travelers along westbound Avenue 50 and agricultural users would be directly exposed to the visual changes of the proposed SR-86/Avenue 50 interchange and their impact on visual resources in the City. Thus, overall viewer response in Key View 5 would be moderate-low.

Due to the low amount of traffic experienced along Avenue 50 and surrounding agricultural uses, the overall visual impact in this Key View is considered moderate. In order to ensure the visual character is not substantially degraded at Key View 5, Measure VIS-5 would require all abandoned roadways not planned for repurposing to be removed, and hydroseeded or revegetated with non-invasive plants in compliance with Caltrans Standard Design Practices in consultation with the City of Coachella. Implementation of Measure VIS-5 would ensure the visual character of the project area is not substantially degraded.

For both Build Alternatives, operation of the proposed project would introduce additional sources of light and glare to the project area from traffic signals along Avenue 50 (i.e., at the northbound and southbound SR-86 on/offramps, and the Avenue 50/Tyler Street intersection). Motorists traveling along SR-86, Avenue 50, and Tyler Street would be nominally impacted by the traffic signals their short duration of exposure. The residential uses in the project vicinity could be sensitive to increased lighting from the proposed project. However, the project area currently contains lighting features, particularly along Avenue 50 and Tyler Street. Measure VIS-6 would reduce short- and long-term lighting impacts by requiring new lighting to be designed and installed to avoid light spillage at adjacent properties. As such, the new signal and pedestrian safety signal would be consistent with the current lighting in the area. Thus, the proposed lighting sources would not have an adverse effect in this regard.

2.1.7.4 Avoidance, Minimization, and/or Mitigation Measures

VIS-1 **Construction Lighting.** Construction lighting types, plans, and placement shall be designed to minimize light and glare impacts on surrounding sensitive uses.

VIS-2 **Landscaping.** Expressway landscaping shall retain the character of the existing desert scrub. Landscape palettes of context sensitive, water-conservation plants, and concept plans will be implemented in consultation with the City of Coachella and the Caltrans District Landscape Architect. All landscaping within the Caltrans right-of-way shall be reviewed and approved by Caltrans prior to final design and implementation.

VIS-3 **Existing Vegetation.** To minimize erosion on the project site, established, non-invasive vegetation shall be preserved to the maximum extent possible. Areas that are disturbed due to construction activities shall be stabilized with erosion control and plant replacement at a ratio acceptable to the Caltrans District Landscape Architect. All plant materials used will be non-invasive, and native vegetation will be used as much as possible.

VIS-4 **Architectural Treatments and Review.** Structures will receive architectural aesthetics to minimize viewshed effects of the project and will received textures and anti-graffiti treatment to deter vandalism. All proposed architectural treatments shall be developed during the Plans, Specifications, and Estimates Phase in consultation with the City of Coachella and the Caltrans District Landscape Architect. All proposed architectural treatments shall be reviewed and approved by Caltrans prior to final design and implementation.

VIS-5 **Roadway Abandonment and Hydroseeding/Revegetation.** Abandoned roadways not scheduled for repurposing shall be removed and hydroseeded or landscaped in consultation with the City of Coachella and the Caltrans District Landscape Architect using non-invasive plants. All proposed hydroseeding/landscaping within Caltrans right-of-way shall be reviewed and approved by Caltrans prior to final design and implementation.

VIS-6 **Operational Lighting.** The project shall be designed to reduce permanent new sources of light and glare.

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2.1.8 Cultural Resources

2.1.8.1 Regulatory Setting

The term "cultural resources," as used in this document, refers to the "built environment" (e.g., structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological 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 Archaeological Resources Protection Act (ARPA) applies when a project may involve archaeological resources located on federal or tribal land. The ARPA requires that a permit be obtained before excavation of an archaeological resource on such land can take place.

Historic properties may also be covered under Section 4(f) of the U.S. Department of Transportation Act, which regulates the "use" of land from historic properties (in Section 4(f) terminology—historic sites). See Appendix A, Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination, for specific information about Section 4(f).

The California Environmental Quality Act (CEQA) requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as "unique" archaeological resources. California Public Resources Code (PRC) Section 5024.1 established the California Register of Historical Resources (CRHR) and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the CRHR and, therefore, 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. Sections 5024(f) and 5024.5 require State agencies

to provide notice to and consult with the California 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)[1] 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.

2.1.8.2 Affected Environment

The cultural resource studies completed for the project include the Historic Property Survey Report for the State Route 86/Avenue 50 New Interchange Project (HPSR) (November 2018), the Historical Resources Evaluation Report for the State Route 86 – Avenue 50 New Interchange and Bridge Project (HRER) (May 2018), and the Archaeological Survey Report for the State Route 86/Avenue 50 New Interchange Project (ASR) (August 2018).

A variety of sources was consulted as part of the project's cultural resource investigation. Included were cultural resource records and literature housed at the Eastern Information Center (EIC), University of California, Riverside. The EIC is a branch of the California Historical Resources Information System (CHRIS), which operates under the State Office of Historic Preservation (OHP). Additional sources consulted during the records search include the NRHP; CRHR; CHRIS; California Inventory of Historic Resources; California Points of Historical Interest; California Historic Landmarks; published literature, and historical maps and aerial photographs. In addition, the Coachella Valley Historical Society and Museum was contacted regarding any potential cultural resources in the project's area of potential effect (APE).

An intensive archaeological survey and reconnaissance-level architectural survey of the APE was undertaken on February 25, 2016 and June 13 and 14, 2017. In accordance with standard Caltrans guidance and procedures, the vacant, undeveloped land within the APE was surveyed archaeologically and parcels with buildings and/or structures that are 45 years of age or older (constructed in or before 1972) were evaluated for eligibility for listing in the NRHP and CRHR.

The process of Native American consultation has also been initiated as part of the cultural resources investigation for the project. A Sacred Lands File search was requested from the Native American Heritage Commission (NAHC) on November 9, 2015. The NAHC responded on January 25, 2016, stating that there are no known sacred lands within the APE. The NAHC did recommend that six representatives from local Native American tribal organizations be contacted for further information regarding the general project vicinity. In accordance with Section 106 of the NHPA, initial consultation letters were sent to the six representatives via U.S. Postal Service on March 28, 2017, requesting information related to cultural resources or heritage sites within the APE. It is noted that these letters also served as formal CEQA notification of the proposed project as required under AB 52 (i.e., Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014). Refer to Chapter 4.0, Comments and Coordination, of this IS/EA, as well as Section 1.3, 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.

[1] The MOU is located on the SER at http://www.dot.ca.gov/ser/vol2/5024mou_15.pdf.

2.1.8.2.1 Area of Potential Effects (APE)

The APE for the proposed project was established by Caltrans in accordance with Section 106 PA Stipulation VIII.A. The APE maps are located in Attachment A, Exhibit 3, of the HPSR. The APE for the project includes both a direct APE and an indirect APE. The direct APE, or project footprint, includes all construction areas, temporary construction easements, and staging areas. The indirect APE considers all areas where there is the potential to indirectly impact cultural resources. Properties included in the indirect APE may be affected by visual, audible, or atmospheric intrusions, shadow effects, vibrations from construction activities, or changes in access or use. The indirect APE was generally established as the legal parcel adjacent to where potential direct impacts would occur or within a 30- to 150-foot buffer zone on large undeveloped parcels with no built-environment resources. In addition, the indirect APE included areas designated for construction signage. The total APE encompasses 246.27 acres, with the direct APE covering almost half with an area of 111.24 acres.

In terms of the vertical APE, the depth of ground disturbance for the project will be limited to the upper five feet for the construction of the new access ramps and the Avenue 50 and Tyler Street realignments, which includes the construction of the roadway, driveways, and sidewalks. Most utility relocations are expected to extend up to 10 feet in depth with the installation of transmission line power poles reaching a maximum depth of 75 feet. Finally, excavations associated with bridge construction will extend up to 50 feet in depth.

2.1.8.2.2 Built Environment

According to the HPSR prepared for the proposed project, 37 cultural resource studies have been conducted previously since 1975 within one mile of the APE. Four of these studies intersect the APE and encompass approximately 80 percent of the APE. These investigations resulted in the documentation of 42 cultural resources within one mile of the APE. These include 23 built-environment resources that are largely composed of single-family residences, a few commercial buildings, a church, a fire house, City Hall, the Southern Pacific Railroad, and a segment of the Coachella Valley Water District's (CVWD's) irrigation system.

A total of eight built-environment resources were identified within the APE during the survey for the project. These resources include two roads (Tyler Street and Avenue 50), one irrigation feature (CVWD Irrigation Lateral 105.7-1.9), a stormwater channel (CVSC; 33- 017259), a transmission line (Devers-Coachella Valley 220kV Transmission Line), a commercial radio station building (86300 Avenue 50 on APN 603-330-003), and two single-family residences (APN 763-030-010), and post-World War II housing tract (Tract 2597)[2]. These architectural resources reflect the local routes of travel, floodwater control, irrigation infrastructure, and development of the Coachella Valley. The remaining parcels are either vacant or contain buildings or structures constructed after 1972.

One structure (CVWD Irrigation Lateral 105.7-1.9) located within the APE is part of the Coachella Canal distribution system. The OHP has previously determined the buried CVWD irrigation system, including the CVWD Irrigation Lateral 105.7-1.9, is eligible for inclusion in the NRHP under Criterion A and the CRHR under Criterion 1, as a component of the Coachella Canal. Caltrans notified the SHPO that the CVWD Irrigation Lateral 105.7-1.9 had undergone extensive alteration in 1993 and again in 2001. While the project will affect this element of the

[2] The two residences were considered one built-environment resource since they are on one parcel; spread across multiple parcels, the housing tract also was treated as a single built-environment resource since all the houses are affiliated with residential development within the same period of historical significance.

CVWD, the effect will not be adverse since it is affecting less than 0.5 percent of the 485-mile-long Coachella Canal distribution network. None of the other built-environment resources within the APE are previously listed or determined eligible for listing in the NRHP and/or CRHR. Therefore, Caltrans has made a Finding of No Adverse Effect to Historic Properties for the purpose of Section 106 of the NHPA. Caltrans requested SHPO concurrence on this finding November 6, 2018 and the SHPO provided concurrence on November 8, 2018.

2.1.8.2.3 Archaeological Resources

Nineteen of the 42 cultural resources previously identified within one mile of the APE are archaeological resources, including nine multicomponent archaeological sites, four prehistoric sites, five prehistoric isolated artifacts, and one multicomponent isolated resource. The prehistoric archaeological sites found in the project vicinity are primarily ceramic and lithic scatters, or ceramic and habitation debris scatters. The multicomponent archaeological sites are predominantly prehistoric habitation debris scatters with historic-period glass fragments, beads, buttons, farm, and livery equipment, etc. Four of the archaeological sites have been evaluated for listing on the NRHP; all were determined ineligible for the NRHP by consensus through the Section 106 process. None of the resources have been evaluated for listing on the CRHR. The SHPO concurred on November 8, 2018.

Although none of the previously documented archaeological resources are located within the APE, one multicomponent site (CA-RIV-2982/H; P-33-002982) is located adjacent to the APE. The site is described as a prehistoric habitation and historic-period artifact scatter. This site previously was determined ineligible for listing on the NRHP. During the field survey for the SR 86/Avenue 50 New Interchange project, no prehistoric or historical cultural materials were observed in the APE in the vicinity of CA-RIV-2982/H.

During the field survey for the present project, two archaeological sites were identified within the direct APE – a multicomponent site (CA-RIV-12707/H) and a historic-period refuse dump (CA-RIV-12708H). The multicomponent site consists of a five small Native American buffware ceramic fragments and a small historic-period scatter of more than 44 domestic household glass and ceramic fragments. The date of the Native American ceramic fragments is uncertain; they may date to either the prehistoric or historic periods. The refuse scatter is likely the result of opportunistic dumping by local area residents during the 1910s and 1920s, as judged from 24 diagnostic, dateable glass fragments. Although the origin of the possible prehistoric ceramic sherds is not known, the proximity of the pottery to the historic-period artifacts suggests that the materials may be associated and may have been deposited at the same time.

The other site identified during the field survey, the historic-period refuse dump is an isolated early twentieth-century scatter of 13 temporally-diagnostic bottle fragments and ceramic kitchen sherds dated to the 1910s or 1920s and 10 non-diagnostic glass and ceramic fragments. Archival research indicates that the refuse scatters at both CA-RIV-12707/H and CA-RIV-12708H lack specific associations with culturally or historically significant people or events, and close examination of the surface deposits revealed little potential for either of the sites to possess intact subsurface deposits. Therefore, Caltrans determined the two archaeological sites are ineligible for listing in the NRHP and CRHR. The SHPO's November 8, 2018 letter to Caltrans concurred with the eligibility determinations.

2.1.8.3 Environmental Consequences

Alternative 1 (No-Build Alternative)

No improvements to the existing SR-86/Avenue 50 at-grade crossing or Avenue 50 low water crossing would occur under the No-Build Alternative and, therefore, it would not result in impacts to cultural resources.

Alternatives 7 and 8 (Build Alternatives)

A total of 10 cultural resources are location within the APE; eight of these are historic-period built-environment resources and two are archaeological sites. One of the built-environment resources (CVWD Irrigation Lateral 105.7-1.9 [Map Reference No. 4]) is part of the larger Coachella Valley irrigation distribution system, which previously was determined eligible for listing on the NRHP and CRHR. The remaining nine cultural resources were formally evaluated against NRHP and CRHR criteria. As a result of the HRER, Caltrans concluded that nine of the cultural resources in the APE are ineligible for inclusion in the NRHP and the CRHR, and that one resource, the CVWD Irrigation Lateral 105.7-1.9 is eligible as a contributing element of the larger NRHP eligible site. However, the project-related effects on this resource will not be adverse. Caltrans requested SHPO concurrence on this finding November 6, 2018 and the SHPO provided concurrence on November 8, 2018

No other built-environment resources that were previously listed or determined eligible for listing in the NRHP and/or CRHR are located within the APE.

As noted above, Caltrans has notified SHPO of its determination that one property within the APE is eligible for inclusion in the NRHP and has requested concurrence in its determination of *Finding of No Adverse Effects to Historic Properties*. The SHPO's office concurred on November 8, 2018.

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

For the proposed project, only a cultural resource required consideration in the context of a Section 4(f) de minimis determination. De minimis impacts on historic sites are defined as the determination of either "no adverse effect" or "no historic properties affected" in compliance with Section 106 regulations, including the SHPO's written concurrence.

Consistent with Caltrans' requirements in this regard, a letter was sent to SHPO on November 6, 2018, documenting Caltrans' determination, based on the analysis performed, that the project would result in a de minimis use of a Section 4(f) resource (see Appendix A in this Environmental Document for discussion).

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 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 be contacted. If the remains are thought by the coroner to be Native American, the coroner shall notify the Native American Heritage Commission (NAHC), who, pursuant to PRC Section 5097.98, would then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact Gary Jones, Principal Investigator, Prehistoric Archaeology, so that he 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 procedures for inadvertent discovery of cultural resources and buried human remains would be implemented to ensure that undiscovered sensitive cultural resources would not be adversely affected due to project implementation. Since construction staging areas would not be permitted outside of the APE, no other effects on cultural resources are anticipated.

2.1.8.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.2 PHYSICAL ENVIRONMENT

2.2.1 Hydrology and Floodplain

2.2.1.1 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."

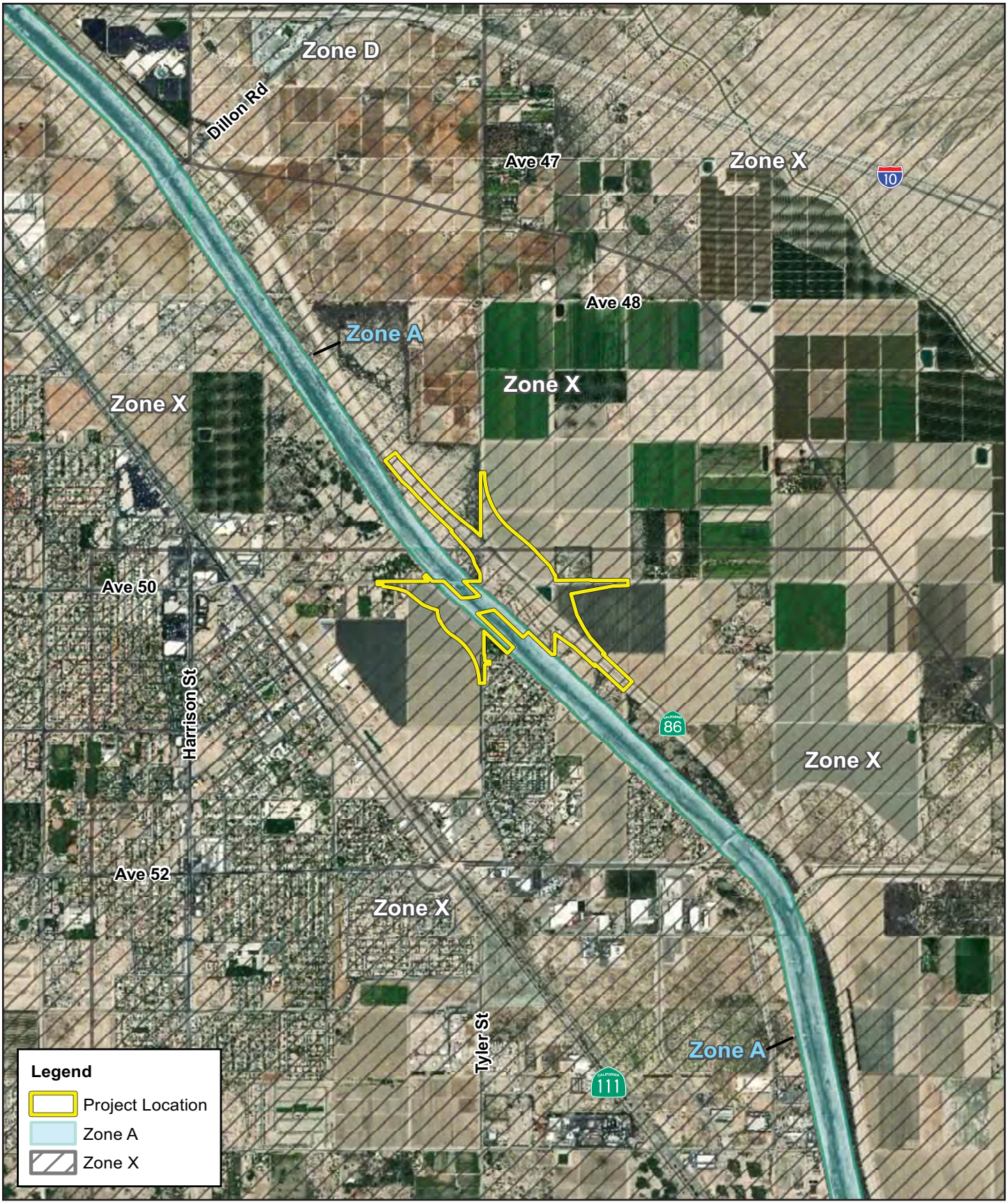
2.2.1.2 Affected Environment

This section is based on the Location Hydraulic Study and Summary Floodplain Encroachment Report (dated May 2018) (LHS/SFER) prepared for the proposed project.

The project site is in the City of Coachella and falls within the boundaries of Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel 06065C2270G (effective August 28, 2008 for Riverside County, California and incorporated areas). As illustrated on Figure 2.2.1-1, Flood Zones, the proposed project is located within two mapped flood zones, described below.

Portions of the project site located within the Coachella Valley Stormwater Channel (CVSC) are classified as Zone A. Zone A are areas that have a 1 percent probability of flooding every year (also known as the "100-year floodplain"), and where predicted flood water elevations have not been established. Properties in Zone A are considered to be at high risk of flooding under the NFIP.

Areas outside of CVSC are identified as Shaded Zone X. Shaded Zone X areas are characterized as: 1) areas that have a 0.2 percent annual chance of flood; 2) areas of 1 percent annual chance of flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and 3) areas protected by levees from 1 percent annual chance of flood. Properties in Shaded Zone X are considered to be at moderate risk of flooding under the NFIP.



INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

NOT TO SCALE

Flood Zones

11/18 | JN 159814

Figure 2.2.1-1

2.2.1.2.1 Topography

The City of Coachella is located within the eastern portion of Coachella Valley, defined as a low and relatively flat desert basin bounded by mountainous terrain. Topography within the project area is relatively flat, sloping from northwest to southeast, and ranges in elevation from -50 feet to -90 feet below mean sea level (msl).

2.2.1.2.2 Hydrology

The major drainage course in the Coachella Valley is the Whitewater River. The Whitewater River originates on the slopes of Mount San Gorgonio in San Bernardino County and terminates at the Salton Sea. The principal tributaries of the Whitewater River are the San Gorgonio River and the Snow, Chino Canyon, Tahquitz, Palm Canyon, Deep Canyon, Mission, Big Morongo, and Little Morongo Creeks. Some of the larger tributaries are perennial streams in the mountains but quickly percolate into the groundwater supply upon reaching the highly pervious alluvium of Coachella Valley.

Although precipitation is low in the Coachella Valley, drainage problems have occurred from both heavy single events and prolonged precipitation in the surrounding mountains. Flooding generally occurs during the spring months, when heavy rains in the surrounding mountains combine with melting of the snow pack, resulting in prolonged runoff through the valley. Additionally, intense summer monsoonal storms occur as a result of tropical cyclones in the Gulf of California and Gulf of Mexico. According to the Water Quality Control Plan for the Colorado River Basin Region, floods along the Whitewater River have historically occurred at least once a decade since 1825. With channelization of the Whitewater River, regional flood damage to structures outside the channel has been minimal in recent years.

2.2.1.2.3 Groundwater Hydrology

According to the California Department of Water Resources (DWR), groundwater depth within the project area varies greatly. The primary source for groundwater recharge is imported water from the Colorado River.

2.2.1.2.4 Geology/Soils/Soil Erosion Potential

The existing CVSC is at equilibrium. The banks are stabilized by slope lining while the invert has engineered drop structures along the length of the channel. One of these drop structures is the existing Avenue 50 roadbed. This roadbed would be abandoned as part of the proposed project but would not be removed. Although the proposed bridge piers will experience some local scour during storm events, the pier foundation will be deeper than the calculated scour depth. The receding limb of the hydrograph will fill in the temporary scour at the pier and the channel will remain at equilibrium. Project implementation is not anticipated to result in long-term degradation or erosion.

2.2.1.2.5 Watershed Characteristics and Beneficial Uses

A beneficial use identifies the ways that water can be used for the benefit of people and/or wildlife. The Water Quality Control Plan for the Colorado River Basin Region identifies 11 beneficial uses for the Middle Whitewater River Watershed, which are MUN, AGR, FRSH, GWR, REC I, REC II, WARM, COLD, WILD, POW, and RARE. The beneficial uses identified for the CVSC are FRSH, REC I, REC II, WARM, WILD, and RARE. Each beneficial use is described below.

- Municipal and Domestic Supply (MUN) waters are used for community, military, municipal or individual water supply systems. Uses may include, but are not limited to, drinking water supply.

- Agricultural Supply (AGR) waters are used for farming, horticulture or ranching. Uses may include, but are not limited to, irrigation, stock watering, and support of vegetation for range grazing.

- Freshwater Replenishment (FRSH) waters are used for natural or artificial maintenance of surface water quantity or quality.

- Groundwater Recharge (GWR) waters are used for natural or artificial recharge of groundwater for purposes that may include, but are not limited to, future extraction, maintaining water quality, or halting saltwater intrusion into freshwater aquifers.

- Water Contact Recreation (REC I) waters are used for recreational activities involving contact with water where ingestion of water is reasonably possible. Uses may include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and use of natural hot springs.

- Non-contact Water Recreation (REC II) waters are used for recreational activities involving proximity to water, but not normally involving body contact with water where ingestion of water would be reasonably possible. Uses may include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting sightseeing and aesthetic enjoyment in conjunction with the above activities.

- Warm Freshwater Habitat (WARM) waters support warmwater ecosystems that may include, but are not limited to, preservation and enhancement of aquatic habitats, vegetation, and fish and wildlife, including invertebrates.

- Cold Freshwater Habitat (COLD) waters support coldwater ecosystems that may include, but are not limited to, preservations and enhancement of aquatic habitats, vegetation, and fish and wildlife, including invertebrates.

- Wildlife Habitat (WILD) waters support wildlife habitats that may include, but are not limited to, the preservation and enhancement of vegetation and prey species used by waterfowl and other wildlife.

- Hydropower Generation (POW) waters are used for hydroelectric power generation.

- Rare, Threatened or Endangered Species (RARE) waters support the habitats necessary for the survival and successful maintenance of plant or animal species designated under state or federal law as rare, threatened or endangered.

2.2.1.2.6 Hydraulic Analysis

A Preliminary Channel Hydraulics Study – Avenue 50 Bridge at the Coachella Valley Stormwater Channel Project (Hydraulic Analysis) was prepared for the proposed project in April 2018 for review by the Coachella Valley Water District (CVWD) and was approved in May 2018. The results of the Hydraulic Analysis are presented in Section 2.2.1.3.2 below.

2.2.1.3 Environmental Consequences

Alternative 1 (No-Build Alternative)

Under the No-Build Alternative, none of the proposed project improvements would be implemented; therefore, the existing hydrological conditions (i.e., flooding of Avenue 50 during inclement weather events) would persist and continue to occur.

Alternatives 7 and 8 (Build Alternatives)

The LHS/SFER determined that implementation of Build Alternatives 7 and 8 would not introduce additional risk for traffic disruptions or loss of life and property and the project does not support incompatible floodplain development; the area is fully developed and participating in the National Flood Insurance Program (NFIP). As discussed, project improvements occurring within the Zone A floodplain are limited to the construction of a bridge over the floodplain. The existing Zone A floodplain is confined within an existing leveed channel. The LHS/SFER evaluated the risk associated with the floodplain encroachments on an economic and/or non-economic basis. The LHS/SFER determined that based on the following seven parameters, the combined Assessed Risk Level for the proposed project is "Low Risk" which can generally be defined as follows:

1. Floodplain encroachment is transverse.

2. The risks associated with the implementation of the proposed action are not significant.

3. The project does not support probable incompatible development within the floodplain.

4. The natural and beneficial floodplain uses and values are not subject to significant impacts.

5. Routine construction procedures are required and will minimize the routine impacts on the floodplain. Measures are not necessary to minimize impacts or restore/preserve natural and beneficial floodplain values.

6. The proposed action does not meet the definition of "Significant" as defined in 23 CFR 650.105(q) as the project will not interrupt or terminate a transportation facility, which is needed for emergency vehicles and evacuation routes. Alternative emergency vehicle and evacuation routes will be provided during project construction.

7. The LHS/SFER has been prepared for the project.

Hydraulic Analysis

The Hydraulic Analysis determined that the proposed improvements would result in a localized rise in the water surface elevation at the CVSC. The allowable change in water surface elevation is a cumulative 1-foot rise over the base flood elevation for Zone A floodplains. As indicated in Section 3.2, Hydraulic Analysis, of the LHS prepared for the project, the proposed project would not involve changes to the 100-year water surface elevation in CVSC which would exceed the allowable 1-foot rise prescribed by the FEMA regulations. As a result, the project would not be required to file a Conditional Letter of Map Revision (CLOMR) during Final Design.

- *100-Year Floodplain Encroachment:* Build Alternatives 7 and 8 would not result in a "significant encroachment" as defined in 23 CFR 650.105. Although the project site crosses a mapped Zone A floodplain, no floodplain development would occur as part of the project. The proposed improvements associated with Build Alternative 7 and 8 are classified as "Low Risk".

  - *Potential Risk from Longitudinal Encroachment:* Caltrans defines a longitudinal encroachment as an encroachment that is parallel to the direction of flow. A transverse encroachment is an encroachment that is perpendicular or skewed to the direction of flow. The Avenue 50 Bridge would traverse over the CVSC transversely, therefore, no longitudinal encroachment would occur.

  - *Potential Risk to Life and Property:* The risk to life and property is evaluated by a potential Q100 backwater (Base Flood) for residences, other buildings, and crops. The potential risk to life and property would remain unchanged as a result of Alternative 7 and 8. Because the project would raise the roadway out of the CVSC and construct a new bridge with freeboard over the Base Flood Event, the project would remove potential traffic disruptions. Therefore, the potential for traffic disruptions due to the influences of the Build Alternatives on the hydraulics is determined to be nominal.

  - *Potential Risk to Natural and Beneficial Floodplain Values:* The project would construct minor permanent improvements consisting solely of new bridge piers within the floodplain boundary; therefore, no permanent impacts to the beneficial uses identified in Section 2.2.1.2.5 are anticipated. The project improvements occurring within Zone A do not pose potential risks to natural and beneficial floodplain values.

  - *Potential Risk for Support of Incompatible Floodplain Development:* Redevelopment is limited by city ordinances and zoning, and each construction project in the area is subject to building permits. Because the cities within the project area are participating communities in the National Flood Insurance Program (NFIP), the building department administers the NFIP requirements during the building permit process. Therefore, the improvements that would occur to the Avenue 50 Bridge over CVSC would not further support incompatible floodplain development.

As defined in 23 CFR 650.105, based on the above analysis, the Build Alternatives would not result in a significant floodplain encroachment.

2.2.1.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.2.2 Water Quality and Storm Water Runoff

2.2.2.1 Regulatory Setting

2.2.2.1.1 Federal Requirements: Clean Water Act

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

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

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[2] standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition, every permit from the 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.

2.2.2.1.2 State Requirements: Porter-Cologne Water Quality Control Act

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

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable RWQCB Basin Plan. In California, 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.

2.2.2.1.3 State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the State by approving Basin Plans, TMDLs, and NPDES permits. RWCQBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

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

National Pollutant Discharge Elimination System (NPDES) Program

Municipal Separate Storm Sewer Systems (MS4)

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (MS4s). An MS4 is defined as "any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water." The SWRCB has identified Caltrans as an owner/operator of an MS4 under federal regulations. Caltrans' MS4 permit covers all Caltrans rights-of-way (ROW), 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.

Caltrans'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) Caltrans must comply with the requirements of the Construction General Permit (see below);

2) Caltrans must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and

3) Caltrans storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs), to the maximum extent practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

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

Construction General Permit

Construction General Permit (CGP), Order No. 2009-2009-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 CGP 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 CGP.

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 Caltrans'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 would 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.

2.2.2.2 Affected Environment

This section is based upon the Water Quality Assessment Report (WQAR) prepared for the proposed project dated June 2018.

2.2.2.2.1 Surface Streams

Storm water that falls within the proposed project boundary discharges into roadside ditches and gullies and primarily infiltrates or evaporates. If extensive runoff occurs, it discharges into the Coachella Valley Stormwater Channel (CVSC). Water from the CVSC flows 15 miles to the south and into the Salton Sea.

2.2.2.2.2 Regional Hydrology

According to the Caltrans Water Quality Planning Tool and California Department of Water Resources, the proposed project is within the Whitewater River Watershed, and the Coachella Hydrologic Area (719.47), which is approximately 1,500 square miles. The Whitewater River Watershed is bounded by the southeastern area of the San Bernardino Mountains (southeast of San Gorgonio Mountain), San Jacinto Mountains, the Santa Rosa Mountains, the Chocolate Mountains, the Mecca Hills, the Cottonwood Mountains, and the Orocopia Mountains. Runoff

from these mountains drains through a network of surface streams and collects on the Coachella Valley floor and flows southeast via the Whitewater River, which then becomes the Whitewater River/CVSC (referenced as CVSC in this document) and continues on to the Salton Sea. The Salton Sea is a lake that has no outlet and does not discharge to the ocean. Figure 2.2.2-1, Project Watershed and Surface Waterbodies Map, shows the proposed project and its location in the watershed. Figure 2.2.2-2, Hydrologic Sub-Area Map, shows the proposed project's location in the Hydrologic Sub Area. The proposed project's Alternative 7 would involve the largest increase in new impervious area of approximately 42 acres, which is less than 0.00004 percent of the Whitewater River Watershed. Alternative 8 would result in an increase in new impervious area of approximately 40 acres.

2.2.2.2.3 Local Hydrology

When storm water falls on the existing road and highway system within the proposed project area, it sheet flows towards roadside ditches and gullies. Within the Caltrans ROW, Caltrans standard drains and culverts convey the runoff from roadside ditches. Underground pipes direct this flow directly to the local county flood control drainage network. Ultimately, the storm water that falls within the proposed project boundary would be discharged into the CVSC.

2.2.2.2.4 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.

2.2.2.2.5 Groundwater Hydrology

According to the California Department of Water Resources, the Indio Subbasin within the Coachella Valley Groundwater Basin covers approximately 525 square miles (approximately 336,000 acres), and it is bounded by the Indio Hills, the San Jacinto Mountains, and the Santa Rosa Mountains. Per the California Department of Water Resources Water Data Library, the nearest groundwater well with current groundwater level and quality data is located approximately a mile northeast of the proposed project at the intersection of Tyler Street and Avenue 48. The depth to groundwater at Well Number 337001N1161639W001 in October 2017 was approximately 23 feet; refer to Figure 2.2.2-3. Review of California's Groundwater Bulletin 118 indicates that groundwater in the Indio Subbasin of the Coachella Valley Groundwater Basin typically has high levels of calcium bicarbonate with a total dissolved solids concentration of 300 milligrams per liter (mg/L).



Source: Water Quality Assessment Report State Route 86 (SR-86)/Avenue 50 New Interchange Project, June 2018.

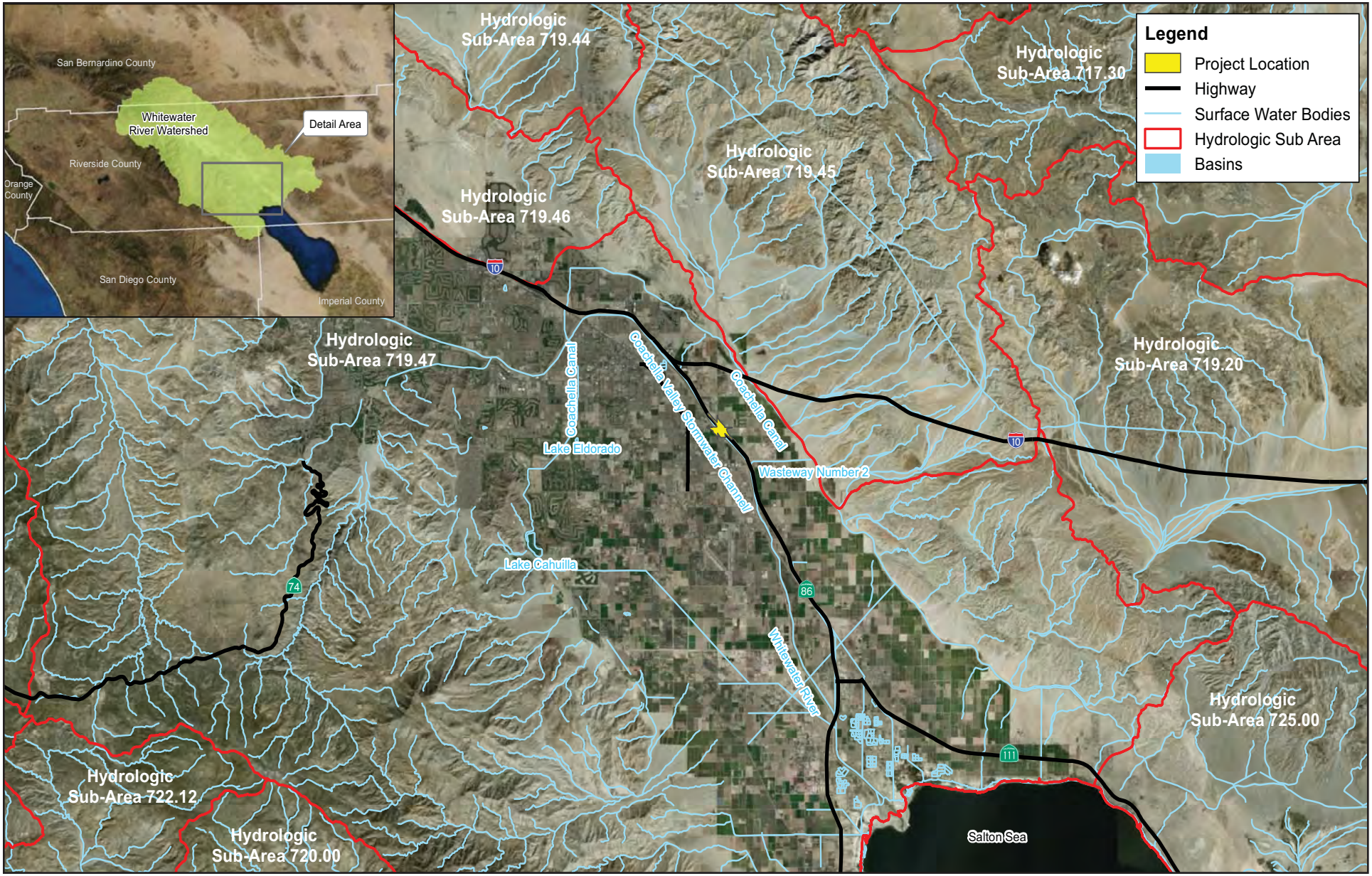
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11/18 | JN 159814

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Project Watershed and Surface Waterbodies Map

Figure 2.2.2-1



Source: Water Quality Assessment Report State Route 86 (SR-86)/Avenue 50 New Interchange Project, June 2018.

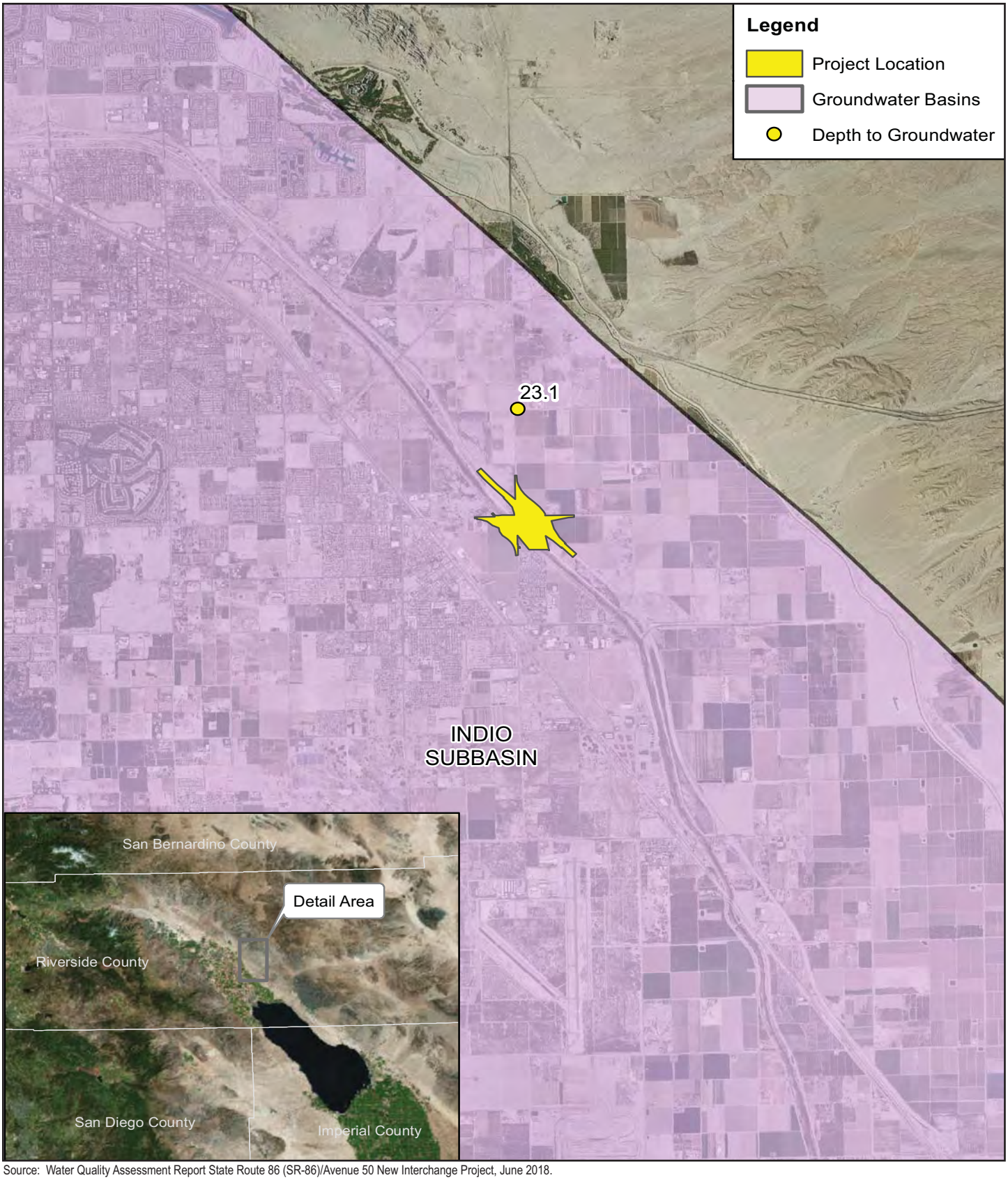
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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Hydrologic Sub-Area Map

Figure 2.2.2-2



Source: Water Quality Assessment Report State Route 86 (SR-86)/Avenue 50 New Interchange Project, June 2018.

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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Groundwater Basins

Figure 2.2.2-3

2.2.2.2.6 Beneficial Uses

A beneficial use identifies the ways that water can be used for the benefit of people and/or wildlife. The beneficial uses of water are defined in the Colorado River Basin RWQCB's Basin Plan as those necessary for the survival or well-being of humans, plants, and wildlife. Examples of beneficial uses include drinking water supplies, swimming, industrial and agricultural water supply, and the support of freshwater and marine habitats and their organisms. Beneficial uses are identified for the nearest named water bodies that the proposed project discharges to, the CVSC, and include the following:

- Freshwater Replenishment (FRSH) waters are used for natural or artificial maintenance of surface water quantity or quality.

- Water Contact Recreation (REC1) waters are used for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, and use of natural hot springs.

- Non-contact Water Recreation (REC2) waters are used for recreational activities involving proximity to water, but not normally involving contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing and aesthetic enjoyment in conjunction with the above activities.

- Warm Freshwater Habitat (WARM) waters support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

- Wildlife Habitat (WILD) waters support terrestrial ecosystems including, but not limited to, the preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

- Rare, Threatened, or Endangered Species (RARE) waters include the uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under State or federal law as rare, threatened, or endangered.

The Basin Plan also identifies beneficial uses for groundwater in the Coachella hydrologic Subunit (which is in the Whitewater hydrologic unit area of the Coachella Valley Planning Area), which is where the proposed project is located. Beneficial uses for the Coachella hydrologic Subunit include the following:

- Municipal and Domestic Supply (MUN) waters are used for community, military, municipal, or individual water supply systems including, but are not limited to, drinking water supply.

- Industrial Service Supply (IND) waters are used for industrial activities that do not depend primarily on water quality including, but are not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection and oil well repressurization.

- Agricultural Supply (AGR) waters are used for farming, horticulture or ranching including, but are not limited to, irrigation, stock watering, or support of vegetation for range grazing.

2.2.2.2.7 Impairments

The CWA requires states to identify water bodies that are considered impaired, which means the water body does not meet water quality standards. Once a water body is listed as impaired, the State is required to develop a TMDL to address each pollutant causing the impairment. A TMDL defines how much of a pollutant load a water body can tolerate and still meet water quality standards. The TMDL is required to account for contributions from point sources (i.e., permitted discharges), as well as contributions from nonpoint sources, including natural background. TMDLs allocate allowable pollutant loads for each source and identify management measures that, when implemented, would assure that water quality standards are attained. Through the RWQCB basin planning process, TMDLs and TMDL implementation plans are adopted into an RWQCB's Basin Plan.

The flow path from the proposed project to the Salton Sea was used to determine what water bodies could potentially be impacted by the proposed project. Precipitation that falls within the proposed project boundary would ultimately discharge into the CVSC and the Salton Sea. Both water bodies are listed on the 2016 303(d)/305(b) Integrated List as impaired. The CVSC has a TMDL for bacterial indicators that has been established. Table 2.2.2-1, Summary of 303(d) Listed Constituents and TMDL Constituents, shows the water bodies that could potentially be impacted by the proposed project in their order of contact from the proposed project towards the Salton Sea.

Table 2.2.2-1: Summary of 303(d) Listed Constituents and TMDL Constituents

Water Body Name	303(d) List Constituent	TMDL Constituent
Coachella Valley Stormwater Channel	Dichlorodiphenyltrichloroethane (DDT) Dieldrin Indicator Bacteria Nitrogen, Ammonia (Total Ammonia) Polychlorinated biphenyls (PCB) Toxaphene Toxicity	Bacterial Indicators
Salton Sea	Arsenic Chloride Chlorpyrifos DDT Enterococcus Low Dissolved Oxygen Nitrogen, Ammonia (Total Ammonia) Nutrients Salinity Toxicity	None

Source: Water Quality Assessment Report, June 2018, Table 4 (p. 39).

2.2.2.3 Environmental Consequences

2.2.2.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

No improvements to the existing SR-86/Avenue 50 at-grade intersection or Avenue 50 low water crossing would occur under the No-Build Alternative and, therefore, it would not result in temporary impacts related to water quality or storm water runoff.

Alternatives 7 and 8 (Build Alternatives)

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 project would be required to adhere to existing temporary construction related NPDES requirements, which would minimize impacts in this regard. Compliance with the Construction General Permit 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. Upon completion of the project, a Notice of Termination would be submitted to the SWRCB to indicate that construction has been completed.

2.2.2.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Under the No-Build Alternative, none of the proposed project improvements would be implemented; therefore, no increase in runoff flow velocities, volumes, or peak flow rates or water quality impacts would occur.

Alternatives 7 and 8 (Build Alternatives)

Operation of either of the Build Alternatives would result in an increase in impervious surface area, which would result in an increase in storm water runoff. Potential pollutants associated with the operation of transportation facilities include sediment from natural erosion; nutrients, such as phosphorus and nitrogen, associated with freeway landscaping; mineralized organic matter in soils; nitrite discharges from automobile exhausts and atmospheric fallout; litter; and metals from the combustion of fossil fuels, the wearing of brake pads, and corrosion of galvanized structures.

According to the WQAR prepared for the project, the approximate acreage of net new impervious surface as a result of the proposed project would be 21.3 acres for Alternative 7 and 21.7 acres for Alternative 8. Alternative 7 would result in a total impervious area of 42 acres, and Alternative 8 would result in a total impervious area of 40 acres. When the total impervious

area of Alternative 7 is compared to the size of the Whitewater River Watershed (over 960,000 acres), this equates to less than 0.00004 percent of the watershed. Thus, the increase in impervious surface area would not result in a substantial increase in runoff leading to a negative impact on water quality.

The project would not result in substantial water quality impacts to downstream receiving bodies, the CVSC and the Salton Sea. Both water bodies are listed on the 2016 303(d)/305(b) Integrated List as impaired; refer to Table 2.2.2-1. 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.

2.2.2.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.2.3 Geology/Soils/Seismic/Topography

2.2.3.1 Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects "outstanding examples of major geological features." Topographic and geologic features are also protected under the California Environmental Quality Act (CEQA).

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. 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 Caltrans' Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.

The Coachella General Plan Safety Element contains policies relative to geologic and seismic risks. Specifically, Safety Element Policy 1.4 promotes the strengthening of infrastructure and utilities for earthquake resistance. Policy 1.6 requires preparation of a liquefaction assessment study for all projects located in areas identified as potentially susceptible to liquefaction and Policy 1.7 requires implementation of liquefaction mitigation measures for projects located within areas susceptible to liquefaction. Policy 2.1 requires preparation of a geotechnical investigation to address site-specific geologic hazards and Policy 2.2 requires all new developments to mitigate geologic hazards. Policy 2.3 requires implementation of mitigation to minimize grading and modifications to the natural topography and prevent the potential for man-induced slope failures. Pursuant to Policy 2.4, field inspections are required during grading and construction to ensure safety practices and the site is being graded in accordance with the California Building Code. Further, Coachella General Plan Sustainability and Natural Environment Element Policy 7.3 requires the prevention of water-borne soil erosion during grading activities.

2.2.3.2 Affected Environment

This section is based on the District Preliminary Geotechnical Report (DPGR) (May 31, 2018) that was prepared for the proposed project.

2.2.3.2.1 Physiography and Topography

The project site is located along the eastern margin of the Coachella Valley. This area comprises the northern part of the Salton Trough physiographic/geologic province. The Salton Trough is a broad, low elevation depression bounded by mountains of the Peninsular Ranges province on the west and the Eastern Transverse Ranges/Mojave Desert provinces on the east but is open on the south to the Gulf of California. The eastern mountains comprise the San Bernardino, Little San Bernardino, Orocopia, and Chocolate mountains, and smaller hills such as the Indio Hills and Mecca Hills. The Coachella Valley is bordered to the southwest by the San Jacinto and Santa Rosa mountains (part of the Peninsular Ranges). The project site is located near the northern end of the Mecca Hills. Existing ground elevations along the proposed project range between -50 feet to -90 feet below mean sea level (bmsl).

2.2.3.2.2 Stratigraphy

The project site is located on the western side of the San Andreas Fault Zone (known as the "basin block"). The basin block is underlain by deep alluvial, lacustrine, and marine deposits which overlie basement complex of the Peninsular Ranges. The geologic formations in the area in descending stratigraphic order are:

- Alluvial sands and gravels, dune sand (wind-blown), lacustrine clays, Holocene (Qa, Qg, Qs, and Qc;
- Older alluvial sand and gravels, older fanglomerate and conglomerate, Pleistocene (Qoa, Qog, Qo-u, Qo, and Qo-l); and
- Plutonic and mete-sedimentary basement – leucogranites, quartz diorite, granodiorite and gneiss, Mesozoic to Precambrian (grd, qd, qdi, gn).

The central part of the Salton Trough is underlain by thick Holocene and Pleistocene deposits of clay, silt, sand, and gravel deposited during a long history of alternating desert, lake, and marine environments. The area contained a shallow tropical sea as recently as early Pliocene time (3 to 4 million years ago). After the sea retreated, the Salton Trough was occasionally the site of large lakes such as Lake Borrego in late Pliocene time, Lake Brawley in Pleistocene time, and Lake Cahuilla (Coahuila) in Holocene time. Lake Cahuilla is estimated to have begun to recede in the year 1676 (+/- 35 years). Windblown sand covers much of the floor of the Coachella Velley as thin sand sheets and local dunes.

2.2.3.2.3 Subsurface Soil Conditions

The proposed project site soils are a mixture of soft to hard silt and clay with medium dense to very dense sand and silty sand. Specifically, the project site is underlain by loose silty sand, soft to hard silt and clay, and medium dense to very dense silty sand and sand.

2.2.3.2.4 Groundwater Conditions

The preliminary design groundwater table was placed approximately 29 feet below SR-86 roadway grade at the proposed Avenue 50 overcrossing for preliminary liquefaction grade.

2.2.3.2.5 Geologic Hazards

Geological hazards relevant to the proposed project area include seismic-related ground shaking. The project site is located in seismically active southern California and is subject to earthquake shaking from both local and distant earthquakes; refer to Figure 2.2.3-1, Fault Map. There are no known active faults within the project limits, so the risk of ground surface rupture and related hazards at the project site are expected to be low.

Faulting and Seismicity

The nearest substantial local sources of earthquakes are provided in Table 2.2.3-1, Fault Data, along with their fault ID, fault type, and their maximum earthquake magnitude, distance from the project site, and peak ground accelerations according to the Caltrans Acceleration Response Spectra (ARS) Online V2.3.09.

Table 2.2.3-1: Fault Data

Fault	Fault ID	Fault Type	Maximum Earthquake Magnitude	Approx. Distance from Site to Fault (miles)	Peak Ground Acceleration
San Andreas (Coachella) Rev	372	SS	7.9	1.8	0.522
Mecca Hills Fault	377	SS	6.8	4.9	0.421
San Andreas (San Bernardino S)	325	SS	7.9	8.1	0.332
San Andreas (San Bernardino N)	294	SS	7.4	10.1	0.258
San Jacinto (Anza)	362	SS	7.7	22.6	0.164
Note: SS = Strike Slip					
Source: District Preliminary Geotechnical Report (May 31, 2018), p. 8.					

Liquefaction

Preliminary liquefaction analysis within the DPGR determined that the project site is not subject to liquefaction hazards.

Seismically-Induced Settlement

Based on the DPGR, since the project site is not subject to liquefaction hazards, liquefaction-induced (seismic) settlement of onsite soils is expected to be negligible.

Lateral Spreading

Since the project site is not subject to liquefaction and the topography of the project site is relatively flat, the potential for lateral spreading would not be a design concern.

Landslides

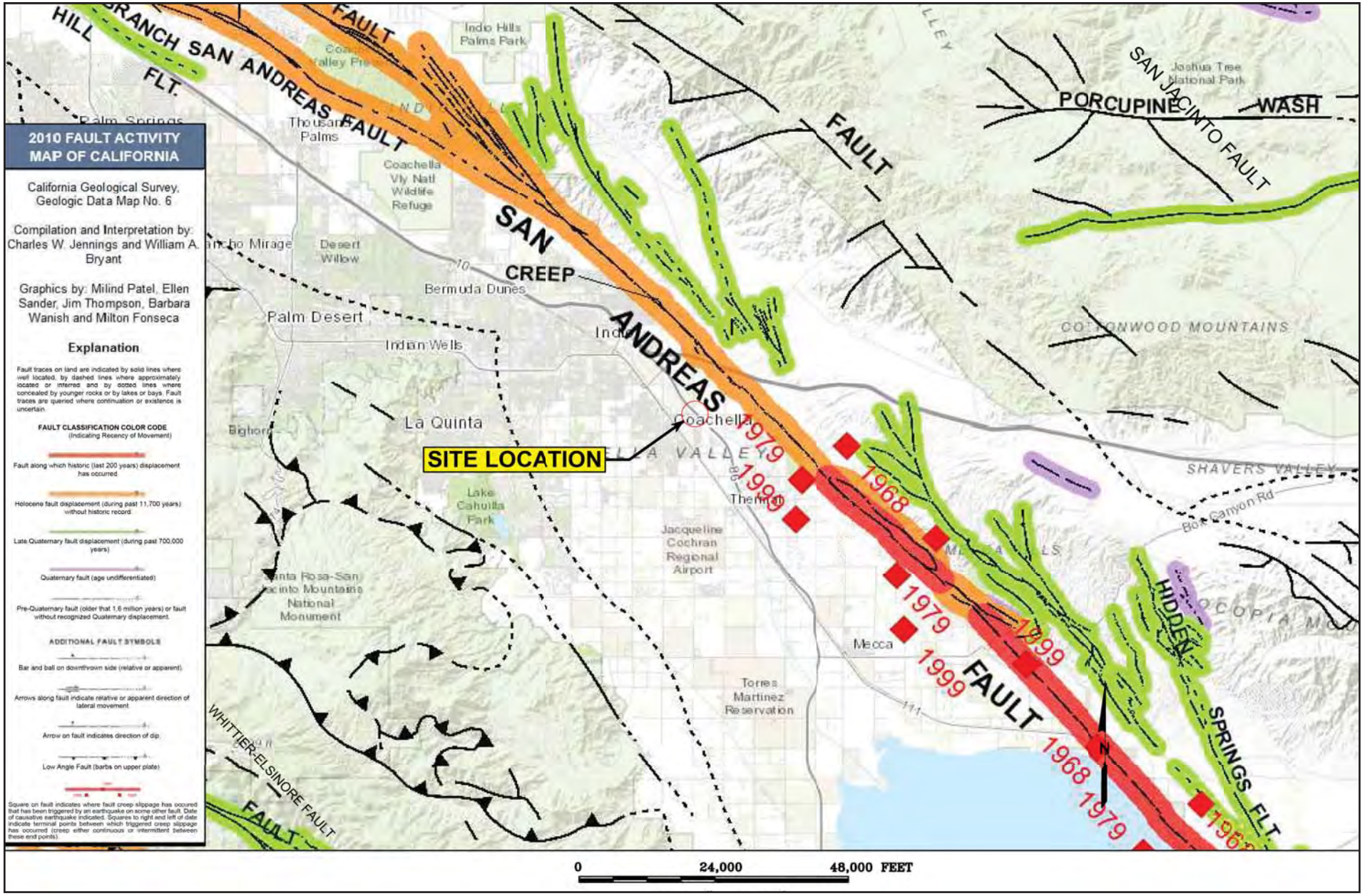
The topography of the project site is flat without any major natural slopes. Therefore, landslide potential is considered low.

Other Geologic Hazards

There are no volcanos in the proposed project site region. The project area is located over 12 miles to the north of the Salton Sea and over 77 miles inland from the Pacific Ocean; therefore, seiche and tsunamis are not considered geologic hazards for the project site.

2.2.3.2.6 Soil Erosion Potential

As discussed, the topography of the project site is relatively flat. However, the side slopes of the Coachella Valley Stormwater Channel (CVSC) are at generally mild inclination, and are covered with sparse vegetation. These slopes are routinely maintained by the Coachella Valley Water District (CVWD), the owner and operator of the CVSC. Surficial soils on existing slopes within the project limits are mostly sandy soils and are susceptible to erosion. The erosion potential of the existing slope faces was observed to be minimal to moderate.



INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Fault Map

11/18 | JN 159814

Figure 2.2.3-1

2.2.3.2.7 Soil Expansion Potential

On-site soils within the proposed project limits are predominately sand, silt, and clay. The sandy soils are primarily sand and silty sand which are not expected to be expansive. The expansion potential for silty and clayey soils is considered to be moderate.

2.2.3.3 Environmental Consequences

2.2.3.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

No improvements to the existing SR-86/Avenue 50 at-grade crossing or Avenue 50 low water crossing would occur under the No-Build Alternative and, therefore, it would not result in temporary impacts related to geology, soils, seismicity, or topography.

The No-Build Alternative would not expose construction workers or the traveling public to risks associated with seismic ground shaking during the temporary construction process.

Alternatives 7 and 8 (Build Alternatives)

Earthwork activities during project construction would result in impacts to the geological environment (i.e., soil erosion and siltation). Excavations are anticipated to be performed within existing artificial fill and alluvium. Based on the preliminary plans, no major excavations (greater than 5 feet) are proposed with the exception of local excavations required for project implementation, such as bridge pilings and utilities. Temporary cuts may be required in areas where drainage improvements and footings are proposed. Excavation and construction activities in these areas may result in minor changes to existing topography. To minimize the potential for soil erosion and siltation, standard practices such as silt fencing, soil binders, and rock slope protection will be implemented (Caltrans Standard Specifications Sections 13-05 and 21), as are itemized in Chapter 1 of this document. Additionally, the project will adhere to the earthwork recommendations provided in the District Preliminary Geotechnical Report prepared for the project. The recommendations pertain to earthwork (fill, compressible soils, overexcavation/recompaction), soil expansion, erosion, liquefaction and seismically-induced settlement, embankment settlement and stability, cut slopes, and requirements for geotechnical field investigations for the proposed project during the Plans, Specifications, and Estimates (PS&E) phase.

Construction of both Build Alternatives could expose construction workers and the traveling public to potential impacts associated with seismic ground shaking. The project 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, overexcavation and recompaction, and retaining walls, among other requirements. Moreover, Caltrans Highway Design Manual (HDM) Topic 113, Geotechnical Design Report, would require that a site-specific, geotechnical field investigation is performed for the proposed project during the PS&E phase.

2.2.3.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

No improvements to the existing SR-86/Avenue 50 at-grade crossing or Avenue 50 low water crossing would occur under the No-Build Alternative and, therefore, it would not result in permanent impacts related to geology, soils, seismicity, or topography.

Alternatives 7 and 8 (Build Alternatives)

Fault-Induced Ground Rupture

As concluded above, the project limits do not include active surface faults and the potential for fault-induced ground rupture is considered low. The project would not result in adverse effects in this regard.

Seismic-Related Ground Shaking

The proposed project site is located within the tectonically active southern California area and therefore would likely be subject to the effects of strong seismic-related ground shaking. The project will adhere to the earthwork recommendations provided in the District Preliminary Geotechnical Report. Accordingly, adverse effects would not occur.

Liquefaction

Preliminary liquefaction analysis within the DPGR determined that the project site is not subject to liquefaction hazards. Nonetheless, this conclusion would be confirmed using additional site-specific soil borings, cone penetration test (CPT) soundings, and groundwater data to be obtained during the PS&E phase. Potential impacts regarding liquefaction would not be adverse.

Seismically-Induced Settlement

Since the project site is not subject to liquefaction hazards, the DPGR determined that liquefaction-induced (seismic) settlement of onsite soils is expected to be negligible. Nonetheless, this conclusion would be confirmed using site-specific soil borings to be performed during the PS&E phase. Potential impacts regarding seismically-induced settlement would not be adverse.

Lateral Spreading

Since the project site is not subject to liquefaction and the topography of the project site is relatively flat, the potential for lateral spreading is not anticipated to be a design concern. Nonetheless, this conclusion would be confirmed during the PS&E phase through site-specific soil borings and analysis. Potential impacts regarding lateral spreading would not be adverse.

Landslides

The topography of the project site is flat without any major natural slopes. Therefore, landslide potential is considered low and potential impacts regarding landslides would not be adverse.

Soil Erosion Potential

Surficial soils on existing slopes within the project limits are mostly sandy soils and are susceptible to erosion. The erosion potential of the existing slope faces was observed to be minimal to moderate. The majority of the slopes proposed as part of the Build Alternative would be sloped at 4H:1V or flatter. Fill embankments would be globally stable for a maximum slope gradient of 2H:1V or flatter and fill slopes with a gradient of 2H:1V would be surficially stable. 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 District Preliminary Geotechnical Report. Potential impacts regarding soil erosion would not be substantial.

Soil Expansion Potential

The sandy soils associated with the project site are primarily sand and silty sand which are not expected to be expansive. The expansion potential for silty and clayey soils is considered moderate. The project will adhere to the earthwork recommendations provided in the District Preliminary Geotechnical Report. Potential impacts regarding soil expansion would not be substantial.

Embankment Settlement

The majority of fill placement would be located at the Avenue 50 approach embankments and along the on- and off-ramps. The proposed project site is anticipated to experience limited embankment settlement (estimated 2.5 to 3.0-inches). The project will adhere to the earthwork recommendations provided in the District Preliminary Geotechnical Report. Potential impacts regarding embankment settlement would not be substantial.

Stability of Embankment Slopes

As noted above, the majority of the slopes proposed as part of both Build Alternatives would be sloped at 4H:1V or flatter. Fill embankments would be globally stable for a maximum slope gradient of 2H:1V or flatter and fill slopes with a gradient of 2H:1V would be surficially stable. The project will adhere to the earthwork recommendations provided in the District Preliminary Geotechnical Report. Potential impacts regarding stability of embankment slopes would not be substantial.

2.2.3.4 Avoidance, Minimization, and/or Mitigation Measure

No avoidance, minimization, and/or mitigation measures are required.

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2.2.4 Paleontology

2.2.4.1 Regulatory Setting

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils.

A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized projects.

- 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).

2.2.4.2 Affected Environment

This section is based on the Combined Paleontological Identification Report and Paleontological Evaluation Report (PIR/PER) (March 2018) prepared for the project.

2.2.4.2.1 Stratigraphy

The proposed project area is mapped as younger Quaternary surficial sedimentary deposits, which overlie older Quaternary Lake Cahuilla lacustrine deposits. The Quaternary surficial sedimentary deposits consist of late Holocene to latest Pleistocene alluvial valley (Qya), alluvial fan (Qyf), eolian and dune (Qe), and wash (Qw) deposits composed of undissected to dissected, weakly consolidated gravel, sand, silt, and clay, with abundant, non-mineralized (non-fossilized) mollusk fragments. Based on previous studies, Holocene Lake Cahuilla deposits underlie the younger Quaternary surficial deposits at shallow depth. In turn, older ancient Lake Cahuilla deposits of Pleistocene age underlie the surficial to shallowly buried Holocene lacustrine silt at moderate depth. The depth of the contact between the Holocene and Pleistocene Lake Cahuilla deposits in the project area is unknown; however, radiocarbon dating derived from Lake Cahuilla deposits located approximately five miles south of the city of Indio indicate lacustrine silts at a depth of 20 feet below ground surface (bgs) have an age of approximately 4,000 years before present. Therefore, Pleistocene ancient Lake Cahuilla sediments are likely present in the project area at a moderate depth below the younger Quaternary surficial deposits. The Pleistocene Lake Cahuilla deposits are generally composed of weakly consolidated, lacustrine sands, silts and clays, with tufa and travertine rock coatings, coarse alluvial deposits, and beach sands. The Holocene to Pleistocene Lake Cahuilla sediments range from several feet deep at the margin of the Coachella Valley to as much as 300 feet thick in the center of the Salton Trough.

Quaternary alluvial and lacustrine deposits derived from ancient Lake Cahuilla have yielded scientifically significant fossil mollusk shells within the Salton Trough. Fossil specimens of diatoms, spores, pollen, land plants, sponges, ostracods, freshwater gastropods, freshwater bivalves, fish, and small terrestrial vertebrate have been recovered from the Pleistocene Lake

Cahuilla Beds. In addition, Holocene, nonmineralized mollusk shells also are found in the Lake Cahuilla silt deposits.

2.2.4.2.2 Paleontological Records

Based on the PIR/PER, there are no recorded vertebrate fossils within the project boundaries. However, at least four localities have been recorded approximately four to six miles southwest of the project area within the older Quaternary Lake Cahuilla lacustrine deposits. Recorded specimens include fish, lizards, snakes, birds, rabbits, rodents, and bighorn sheep, as well as non-vertebrate specimens of diatoms, land plants, clams, snails, and crustaceans. A supplemental review of online museum collections records revealed at least five vertebrate localities from unnamed Quaternary sedimentary deposits have been documented previously within Riverside County. These records do not provide the exact locations of recovered fossil specimens; only rough descriptions of the localities are given. As such, locality queries were performed for the entirety of Riverside County. Based on the PIR/PER, fossil localities are not in the vicinity of the project area.

2.2.4.2.3 Survey Results

No paleontological resources were encountered on the ground surface of the project area during the pedestrian reconnaissance field survey conducted as part of the PIR/PER on January 15, 2016. The field survey determined the Quaternary surficial deposits throughout the project area were nearly completely obscured by soil and anthropogenic development on both sides of the Coachella Valley Storm Channel (CVSC). In particular, trash, spoil piles, fencing, housing, agricultural land, and sparse vegetation obscured the surficial geologic units along the present location of Avenue 50 and Tyler Street. However, Quaternary surficial sediments are exposed in areas along Avenue 50 in the westernmost extent of the project area and at the junction of Avenue 50, Tyler Street, and SR-86 in the easternmost extent of the project area. In these locations, the Quaternary surficial sediments were observed to be light tan, very fine-grained sand and silt, with scant gravel- to granule-sized clasts of mixed composition. These sediments also may have been disturbed by nearby housing and road development. Within the central portion of the project area, no evidence of the depth of soils overlying the Quaternary surficial deposits was observed.

Despite the fact that no paleontological resources were observed on the ground surface of the project area during the field survey for the project, fine-grained older Quaternary lacustrine deposits (i.e., Pleistocene Lake Cahuilla deposits) beneath the present ground surface of the project area have proven elsewhere to be conducive to the preservation of vertebrate remains. Therefore, subsurface geologic units at unknown depths below the present ground surface of the project area could yield significant paleontological resources.

2.2.4.2.4 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 characterize paleontological sensitivity, as shown in Table 2.2.4-1, Paleontology Sensitivity Scale.

Table 2.2.4-1: Paleontology Sensitivity Scale

Sensitivity	Description
High	Rock units which, based on previous studies, contain or are likely to contain significant vertebrate, significant invertebrate, or significant plant fossils. These units include, but are not limited to, sedimentary formations that contain significant nonrenewable paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. These units may also include some volcanic and low-grade metamorphic rock units. Fossiliferous deposits with very limited geographic extent or an uncommon origin (e.g., tar pits and caves) are given special consideration and ranked as highly sensitive. High sensitivity includes the potential for containing: 1) abundant vertebrate fossils; 2) a few significant fossils (large or small vertebrate, invertebrate, or plant fossils) that may provide new and significant taxonomic, phylogenetic, ecologic, and/or stratigraphic data; 3) areas that may contain datable organic remains older than Recent, including Neotoma (sp.) middens; or 4) areas that may contain unique new vertebrate deposits, traces, and/or trackways. Areas with a high potential for containing significant paleontological resources require monitoring and mitigation.
Low	This category includes sedimentary rock units that 1) are potentially fossiliferous but have not yielded significant fossils in the past; 2) have not yielded fossils, but possess a potential for containing fossil remain; or 3) contain common and/or widespread invertebrate fossils if the taxonomy, phylogeny, and ecology of the species contained in the rock are well understood. Sedimentary rocks expected to contain vertebrate fossils are not placed in this category, because vertebrates are generally rare and found in more localized stratum [sic]. Rock units designated as low potential generally do not require monitoring and mitigation. However, as excavation for construction gets underway, it is possible that new and unanticipated paleontological resources might be encountered. If this occurs, a qualified Principal Paleontologist must evaluate the resource. If the resource is determined to be significant, monitoring and mitigation is required.
No	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: Combined PIR/PER (March 2018), p. 8.

The Quaternary surficial deposits mapped within the project area have a low to high paleontological sensitivity. At the ground surface, these deposits are typically too young to contain fossilized remains; however, Holocene to late Pleistocene ancient Lake Cahuilla deposits may underlie the younger surficial deposits at moderate depth (i.e., approximately 20 feet). These lacustrine deposits have yielded significant vertebrate remains. The geologic units within the project area and their determined sensitivity ratings are shown in Table 2.2.4-2, Paleontology Sensitivity for the Proposed Project.

Table 2.2.4-2: Paleontology Sensitivity for the Proposed Project

Geologic Unit	Map Abbreviation	Age	Typical Fossils	Paleontological Sensitivity
Quaternary surficial deposits	Qya, Qyf, Qe, Qw	Late Holocene to latest Pleistocene	Fish, terrestrial reptiles and mammals (at moderate depths)	Low to high (increasing with depth)

Source: Combined PIR/PER (March 2018), p. 17.

2.2.4.3 Environmental Consequences

Alternative 1 (No-Build Alternative)

Under the No-Build Alternative, no project construction would occur and, therefore, no impact on paleontological resources would occur.

Alternatives 7 and 8 (Build Alternatives)

While there are no known, recorded paleontological resources within the proposed project boundaries, the project area consists of surficial and subsurface geologic units ranked as low to high potential for buried fossil resources (i.e., sensitivity increases with depth below ground surface). 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. Any loss of significant paleontological resources would most likely occur well below the contact between Holocene lacustrine deposits and Pleistocene lacustrine deposits (possibly at 20 feet bgs).

Since the project's ground-disturbing activities could result in adverse impacts to paleontological resources, a worker's environmental awareness training and on-site construction monitoring would be required, as described in Measures PAL-1 and PAL-2 below. If paleontological resources are discovered during ground-disturbing activities, fossil preparation, curation, and reporting would occur in accordance with Measures PAL-3a and PAL-3b. With implementation of Measures PAL-1, PAL-2, PAL3a and PAL-3b, the Build Alternatives would not result in any adverse effects to significant paleontological resources.

2.2.4.4 Avoidance, Minimization, and/or Mitigation Measures

PAL-1 Prior to the start of construction, all field personnel shall be briefed 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 at the pre-grade kick-off meeting or morning tailboard meeting and shall be conducted by the Project Paleontologist or his/her representative. Specifically, the training shall provide a description 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 Project Paleontologist and on-site monitor(s). The training shall be developed by the Project Paleontologist and may be conducted concurrent with other environmental training (e.g., cultural and natural resources awareness training, safety training, etc.).

PAL-2 A Paleontological Mitigation Plan (PMP) that follows Caltrans guidelines and the recommendations of the Society of Vertebrate Paleontology (SVP) will be prepared. The PMP is anticipated to include, but not be limited to, the following mitigation measures:

a) A Paleontological Mitigation Plan (PMP) will be prepared and implemented for the project. The PMP will be conducted by a qualified professional paleontologist prior to the commencement of ground-disturbing activities.

b) If a paleontological resource is discovered, the paleontological monitor and the Resident Engineer may divert the construction equipment around the find temporarily.

c) The paleontological find will be assessed for scientific significance and collected.

The PMP will also include, but not be limited to, the following avoidance measures:

d) Part-time monitoring will be conducted for grading and excavation activities at depths greater than or equal to 20 feet below ground surface (bgs) that will disturb previously undisturbed Holocene to Late Pleistocene lacustrine deposits of Lake Cahuilla.

e) Due to soil development, previous anthropogenic developments, and young age of surficial soil and native Quaternary surficial sediments, monitoring should not be required in project areas where construction activities disturb sediments at depths less than 20 feet below ground surface.

f) Monitoring shall entail the visual inspection of excavated or graded areas and trench sidewalls.

g) In areas of high sensitivity, monitoring efforts can be reduced or eliminated at the discretion of the Project Paleontologist.

PAL-3a Upon completion of fieldwork, all significant fossils collected shall be prepared in a properly equipped paleontology laboratory to a point ready for curation. Preparation will include the careful removal of excess matrix from fossil materials and stabilizing and repairing specimens, as necessary. Following laboratory work, all fossils specimens shall be identified to the lowest taxonomic level, cataloged, analyzed, and delivered to the Western Science Center for permanent curation and storage. The cost of curation is assessed by the repository and is the responsibility of the project owner.

PAL-3b At the conclusion of laboratory work and museum curation, a final Paleontological Mitigation Report shall be prepared describing the results of the paleontological mitigation monitoring efforts associated with the project. The report will include a summary of the field and laboratory methods, an overview of the project area geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. If the monitoring efforts produced fossils, then a copy of the report shall also be submitted to the Western Science Center in the City of Hemet, Riverside County, California.

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2.2.5 Hazardous Waste/Materials

2.2.5.1 Regulatory Setting

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

The primary federal laws regulating hazardous wastes/materials are the *Comprehensive Environmental Response, Compensation and Liability Act (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. 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); and
- 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.

2.2.5.2 Affected Environment

This section is based on the State Route 86/Avenue 50 New Interchange Project Phase I Initial Site Assessment (Phase I ISA) (October 2017).

2.2.5.2.1 Field Survey and Record Search 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 May 12, 2017 and the results were incorporated into the Phase I ISA.

Agency File Review: Based on the regulatory listings provided by EDR, the project limits and nearby properties were not identified on one or more of the standard environmental record sources. Further, the listed off-site properties that were identified were reported to have a low potential to impact the project site based on the distance, anticipated groundwater flow direction, and/or the status of the identified site(s). Therefore, no further file review was required as part of 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 U.S. Geological Survey (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 decade aerial photographs, historical topographic maps, property tax files, zoning/land use records, and California Department of Oil, Gas, and Geothermal Resources (DOGGR) record were reviewed. Sanborn Maps were requested, but not available for the project area.

The Phase I ISA acknowledged that review of standard historical sources at less than approximately five-year intervals is not required by ASTM E 1527-13 Standard Practice. If the specific use of the property appears unchanged over a period longer than five years, then it is not required by ASTM E 1527-13 Standard Practice to research the use during that period. The Phase I ISA was unable to obtain specific property land use information of the project site within a five-year interval, from 1904 to 1941. During this time, a small rural residential use was developed on-site. However, no indicators or potential hazardous materials were noted in relation to this use. 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. Thus, the Phase I ISA determined that this limitation is not a significant data gap.

The Phase I ISA did not note any other conditions that limited the historical use review during the course of the Phase I ISA.

Site Reconnaissance: On June 5, 2017, site reconnaissance was conducted and consisted of a visual observation of readily accessible areas of the project site and immediately adjoining properties. The project site was viewed from all public thoroughfares. If roads or paths with no apparent outlet were observed on the project 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.

Some access restrictions were encountered during the Phase I ISA site visit. The Phase I ISA did not include direct examination of the Coachella Valley Stormwater Channel (CVSC) due to restricted access on the maintenance roads along the CVSC. Also, the Phase I ISA did not include observation of the interior of the on-site residential structures. Due to the nature of these structures (residential uses), and since these properties were not listed in EDR for

handling/storage or transport of hazardous materials, the Phase I ISA determined that these limitations are not considered significant data gaps in the analysis.

Interviews: The Phase I ISA identified the key site manager as the Project Engineer. The Project Engineer, local government officials, including staff from the City of Coachella Water Division and Caltrans District 8, were interviewed as part of the Phase I ISA.

Due to the nature of the project (transportation improvements), current and past property owners/operators/occupants associated with right-of-way (ROW) acquisition properties were not interviewed. Based on a review of available historical topographic maps, historical aerial photographs, and available public records, the project site consisted of transportation, stormwater infrastructure, commercial, agricultural, and vacant land uses. 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.

2.2.5.2.2 Results of the Phase I ISA

The project site consists of State Route 86 (SR-86), Avenue 50, Tyler Street, an unimproved road (Cabazon Road), ROW associated with the CVSC (including two maintenance roads), as well as areas proposed for permanent ROW acquisition, including single family residential, agricultural, commercial, and vacant land uses. Vacant land associated with an off-site radio tower station is proposed for acquisition within the eastern portion of the project site. One single family residence (with three structures) is located within the southern portion of the project limits. Ornamental landscaping and driveways associated with single family residences are located at the western portion of the project limits.

The lists that were reviewed as part of the Phase I ISA did not report any contaminated properties within the project limits. During preparation of the Phase I ISA, no known corrective action, restoration, or remediation has been planned, is taking place, or has been completed on the project site. The project site, and properties that are situated bordering the project site, have not been under investigation for violation of any environmental laws, regulations, or standards, as identified in the databases reported by EDR. Further, all other off-site properties reported in EDR were found to have a low potential of affecting soil, soil gas, and groundwater at the project site due to the distance, anticipated groundwater flow direction, and/or the status of the identified sites. Thus, no soil, soil gas, and/or groundwater contamination is anticipated to be present on-site as a result of off-site properties.

Agricultural Uses

Agricultural uses are present on-site in association with areas of proposed ROW acquisition in the northern, eastern, and western portions of the project limits. An agricultural pond, and associated diesel-powered irrigation pump, was noted within the eastern portion of the project site. Irrigation-related infrastructure is located throughout the project site. No substantial diesel staining was observed on bare soils. No other maintenance facilities or structures relating to agricultural uses are located within the project site. No evidence of pesticide storage was observed on-site. The Phase I ISA determined that the current agricultural uses have not resulted in a recognized environmental condition (REC) at the time of the Phase I ISA. However, past agricultural uses present a concern.

Agriculture use within the project vicinity dates back to at least 1953. Therefore, a combination of several commonly used pesticides (i.e., dichlorodiphenyldichloroethane [DDD], dichlorodiphenyltrichloroethane [DDT], and dichlorodiphenyldichloroethylene [DDE]), which are now banned, may have been used throughout the project limits. The historical 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.

As the project site was historically used for agriculture (particularly during the 1950's and 1960's), it is likely that these pesticides/herbicides of concern were historically used. Therefore, although there was no REC identified for current agricultural uses, the Phase I ISA determined that residual herbicide/pesticide contamination in on-site surface soils is likely and a REC has resulted in this regard.

Commercial Uses

The project proposes permanent ROW acquisition of a vacant portion of an off-site radio tower station, situated at Assessor's Parcel Number (APN) 603-330-003 near the eastern portion of the project site. Based on the regulatory database search provided by EDR, this off-site radio tower station has not been listed in any regulatory databases for handling/storage and/or transport of hazardous materials. Based on the Phase I ISA, no evidence of the storage, use, or transport of hazardous materials/waste has been noted. Further, no evidence of hazardous materials was observed during the June 5, 2017 site visit. Thus, as this property has not reported the presence of hazardous materials, the Phase I ISA determined that this property has not resulted in a REC at the time of this Phase I ISA.

Residential Uses

The project proposes permanent ROW acquisition of residential areas, including structures and yard/driveway areas. Build Alternative 7 proposes demolition of the residential structures located within the southeastern portion of the project site, immediately west of SR-86 and east of CVSC. Partial acquisition of vacant portions (such as yard and driveway areas) of other residential properties near the western project limits is also proposed. These residential properties have not been reported in any regulatory databases per EDR. No evidence of hazardous materials was observed during the June 5, 2017 site visit. As these properties have not reported a release of hazardous materials to the environment, the Phase I ISA determined that these properties have not resulted in a REC at the time of this Phase I ISA.

Asbestos-Containing Materials

Asbestos is a strong, incombustible, and corrosion resistant material, which was used in many commercial products since prior to the 1940s and up until the early 1970s. If inhaled, asbestos fibers can result in serious health problems. Asbestos containing-materials (ACMs) are building materials containing more than one percent asbestos (some state and regional regulators impose a one-tenth of one percent threshold).

Project implementation will result in the demolition of existing structures associated with the single-family residence located within the southeastern portion of the project site, immediately west of SR-86 and east of CVSC. Based on information obtained from the Riverside County Assessor's Office, residential structures proposed for demolition were constructed in 1950 and

may be associated with ACMs. Based on a site visit conducted in conjunction with the completion of the Phase I ISA, there was no observed evidence of frying or peeling that would suggest the release of ACMs to on-site soils. As there has been no reported release of hazardous materials to the environment in this area, as discussed in the Phase I ISA, there has been no resultant REC as of October 2017.

ACMs are also commonly known to be used in building materials for bridge structures. However, no bridge structures are currently present within the project limits.

Lead-Based Paints

Until 1978, when the U.S. Consumer Product Safety Commission (CPSC) phased out the sale and distribution of residential paint containing lead, many homes were treated with paint containing some amount of lead. It is estimated that over 80 percent of all housing built prior to 1978 contains some lead-based paint (LBP). The mere presence of lead in paint may not constitute a material to be considered hazardous. In fact, if in good condition (no flaking or pealing), most intact LBP is not considered to be a hazardous material. In poor condition LBPs can create a potential health hazard for building occupants, especially children.

Based on information obtained from the Riverside County Assessor's Office, residential structures proposed for demolition were constructed in 1950 and may be associated with LBPs. Based on a site visit conducted in conjunction with the completion of the Phase I ISA, there was no observed evidence of peeling or chipping that would suggest the release of LBPs to on-site soils. As there has been no reported release of hazardous materials to the environment in this area, as discussed in the Phase I ISA, there has been no resultant REC as of October 2017.

LBPs are also commonly known to be used in building materials for bridge structures. However, no bridge structures are currently present within the project limits.

Traffic Striping Materials

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). According to the Phase I ISA, traffic striping was observed within the boundaries of the project site during the June 5, 2017 site visit. Thus, the Phase I ISA determined that the potential for LBPs to be present on-site as a result of traffic striping is likely. However, the Phase I ISA stated that the on-site striping materials appeared to be contained, and reported no visible evidence to suggest the release of LBPs into the environment. As such, the Phase I ISA determined that the on-site striping materials have not resulted in an REC on the project site as a result of LBPs.

Transformers

The Phase I ISA noted four pole-mounted transformers on-site during the June 5, 2017 site visit along Avenue 50 and Tyler Street, in the northern and central portions of the project site. Transformers have the potential to contain polychlorinated biphenyls (PCBs). However, based on the Phase I ISA, no evidence of dielectric fluid or staining was noted on-site. The Phase I ISA determined that the on-site transformers had not resulted in an REC on the project site.

Aerially Deposited Lead

Aerially deposited lead (ADL) refers to lead deposited on highway shoulders from past leaded fuel vehicle emissions. Although lead was banned as a fuel additive in California beginning in 1992, ADL may still be present in soils adjacent to highways in use prior to that time.

Based on the Phase I ISA, the project site appears to have consisted of transportation and vacant land uses since prior to 1904. Tyler Street was developed between 1941 and 1953. Avenue 50 was improved prior to 1959 and Tyler Street was improved prior to 1972. These roadways are rural in nature and have corresponding traffic volumes. The portion of SR-86 within the project limits has been opened to traffic since July 1993. Therefore, the potential for ADL contamination to exist within soils along portions of State Highway associated with the project area is considered to be unlikely.

Cortese Listing

Based on the Phase I ISA, the project site, including all properties proposed for ROW acquisition, is not listed pursuant to Section 65962.5 of the California Government Code (also referred to as the Cortese list).

2.2.5.3 Environmental Consequences

2.2.5.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

No improvements to the existing SR-86/Avenue 50 at-grade crossing or Avenue 50 low water crossing would occur under the No-Build Alternative and, therefore, it would not result in temporary impacts related to hazardous waste and materials.

Build Alternative 7

Asbestos-Containing Materials

Project implementation will result in the demolition of existing structures associated with the single-family residence located within the southeastern portion of the project site, immediately west of SR-86 and east of CVSC. Demolition of these structures could disturb potential ACMs associated with the building materials. Demolition activities would be required to comply with existing federal, state, and local laws and regulations involving disturbance of ACMs. ACM testing would be required to be conducted prior to demolition/modification of structures by a certified specialist (Measure HAZ-1). If present, the certified specialist would be required to monitor the disposal of the ACMs as they are uncovered. As such, effects related to ACMs in building materials would not be adverse.

Lead-Based Paints

As stated above, Alternative 7 would require demolition of the three existing structures associated with the single-family residence within the southeastern portion of the project site. These activities could disturb potential LBPs associated with building materials. LBP testing would be required to be conducted prior to demolition/modification of structures by a certified specialist (Measure HAZ-1). If present, the certified specialist would be required to monitor the disposal of the LBPs as they are uncovered. As such, effects related to LBPs in building

materials would not be adverse. Potential impacts regarding LBPs associated with traffic striping materials are described below.

Traffic Striping Materials

Disturbance of traffic striping materials would occur with implementation of Build Alternative 7. Adherence to Caltrans Standard Special Provision's (SSP's), Section 14-11.12, Removal of Yellow Traffic Stripe and Pavement Marking with Hazardous Waste Residue, Section 36-4, Residue Containing Lead from Paint and Thermoplastic, and Section 84-9.03C, Remove Traffic Stripes and Pavement Markings Containing Lead, would ensure proper removal, handling, and disposal of the generated traffic striping waste at a permitted disposal facility.

Upon adherence to this standardized measure, adverse effects related to LBPs in traffic striping materials would not occur.

Transformers

The Phase I ISA noted on-site pole-mounted transformers during the June 5, 2017 site visit. Construction activities associated with Build Alternative 7 could involve the relocation/removal of on-site transformers. As such, construction/demolition of on-site transformers would need to be conducted under the purview of the local purveyor to identify property-handling procedures regarding PCBs (Measure HAZ-2). As such, effects related to PCBs would not be adverse.

Aerially Deposited Lead

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

The Phase I ISA determined that ADL has not resulted in a REC on the project site. The potential for lead contamination to exist within soils along on-site roadways due to aerially deposited lead is unlikely, however ADL testing must be conducted due to the excavation that will occur at the project site. Effects related to ADL are anticipated to not be substantial.

Septic Systems

Excavation activities proposed as part of Build Alternative 7 could disturb existing residential septic systems and leach fields that could be located within the project limits. Measure HAZ-3 would require the location of septic tanks and leach fields be confirmed prior to site disturbance activities. Should septic systems be present on-site, the City of Coachella would be required to properly abandon the existing system(s) and relocate the system(s) appropriately. As such, effects related to potential septic systems would not be adverse.

Unknown Waste

Construction of the project would involve grading and earthwork that could result in the disturbance of unknown wastes or suspect materials that may involve hazardous waste/materials. Adherence to Caltrans Standard Specifications Section 14-11.02, Discovery of Unanticipated Asbestos and Hazardous Substances, would ensure that if unknown wastes or suspect materials are discovered during site disturbance activities that may involve hazardous

waste/materials, the contractor would immediately stop work in the vicinity of the suspected contaminant and notify the Project Engineer of the implementing agency. Title 29, Part 1910.120, Hazardous Waste Operations and Emergency Response, of the Code of Federal Regulations, requires that no one enter the designated exclusion zones until a complete and effective "hazardous waste worker protection program" is established or until the consultant has determined no exposure danger exists. With adherence to these standardized measures impacts related to unknown hazardous waste and suspect materials would not be adverse.

Build Alternative 8

All temporary impact areas would be similar to that described in Build Alternative 7, with the exception of temporary impacts involving demolition of existing residential structures. Build Alternative 8 would result in slightly less demolition materials, since only one of the three existing structures associated with the single-family residence located immediately west of SR-86 would be demolished. Notwithstanding, similar to Build Alternative 7, Measure HAZ-1 would still be necessary regarding potential ACMs and LBPs in building materials associated with demolition activities.

2.2.5.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

The No-Build Alternative would not change the existing physical environment and, therefore, there would be no permanent impacts 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.

Alternatives 7 and 8 (Build Alternatives)

Routine maintenance activities during operation of the Build Alternatives 7 and 8 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 7 and 8 would not result in adverse impacts related to hazardous waste or materials.

2.2.5.4 Avoidance, Minimization, and/or Mitigation Measures

HAZ-1 Asbestos containing-materials (ACMs) and lead-based paints (LBPs) testing will be conducted prior to demolition/modification of structures by a certified specialist. If present, the certified specialist will monitor the disposal of the ACMs/LBPs as they are uncovered.

HAZ-2 Any transformer to be relocated/removed during site construction/demolition will be conducted under the purview of the local purveyor to identify proper handling procedures regarding polychlorinated biphenyls (PCBs).

HAZ-3 The location of septic tanks and leach fields will be confirmed prior to site disturbance activities. Should septic systems be present on-site, the City of Coachella will properly abandon the existing system(s) and relocate the system(s) appropriately.

2.2.6 Air Quality

2.2.6.1 Regulatory Setting

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act (CCAA) is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (EPA) and the California Air Resources Board (ARB), set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM)—which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM_{10}) and particles of 2.5 micrometers and smaller ($PM_{2.5}$)—and sulfur dioxide (SO_2). In addition, national and state standards exist for lead (Pb), and state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

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

2.2.6.1.1 Conformity

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

Conformity requirements apply only in nonattainment and "maintenance" (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. 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[1] 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.

2.2.6.2 Affected Environment

Information in this section comes from the Air Quality Report for the project (April 2018). Detailed analytical methods, modeling files, and calculation worksheets can be found in the Air Quality Report.

2.2.6.2.1 Environmental Setting

The project site is located at the intersection of State Route 86 (SR-86) and Avenue 50, approximately 1.1 miles north of the existing SR-86/Avenue 52 intersection and 1.95 miles south of the existing SR-86/Dillon Road interchange within the central area of the City of Coachella, in eastern Riverside County. The project site lies within the northeastern portion of the Salton Sea Air Basin (SSAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB). The SCAQMD sets and enforces air pollutant regulations for stationary sources in the SSAB, while CARB is charged with controlling motor vehicle emissions. The SSAB is composed of the western portions of Riverside County, and all of Imperial County.

2.2.6.2.2 Climate

The southeastern edge of the SSAB is bounded by the Colorado River. The western boundary follows the ridge line of a series of high mountain ranges: the San Gabriel, San Bernardino, and San Jacinto ranges, which form both a physical and climatological barrier between the Salton Sea and South Coast Air Basins. The SSAB, including the Coachella Valley, has a desert climate characterized by low annual rainfall, low humidity, hot days, and very cool nights. The mean annual precipitation in the Coachella Valley averages approximately three inches, most of which occurs between October and January. Temperature in the Coachella Valley area varies greatly between summer and winter, ranging from 30 degrees Fahrenheit (ºF) in winter to over 100ºF in the summer. Relative humidity is generally low in the summer, with particularly dry afternoons. These clear, dry conditions result in intense solar radiation that, combined with high temperatures, is highly conducive to photochemical smog formation.

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

Wind direction and speed (which in turn affect atmospheric stability) are the most important climatological elements affecting the ambient air quality within the project area. The on-shore dominant daytime wind pattern (from the west) occurs between 12:00 p.m. and 7:00 p.m., following the peak travel period (6:00 a.m. to 9:00 a.m.) in the Los Angeles/Orange County area. Consequently, during periods of low inversions and low wind speeds, the photochemical smog formed in these areas is transported downwind into Riverside County and San Bernardino County. Within the vicinity of the project site the wind direction is generally in a southeast direction. The Coachella Valley rarely experiences the summer temperature inversions that frequently "cap" polluted air layers in the Los Angeles basin area. However, inversions can form during cold nights with mild winds (typically during winter months), but are usually removed during daytime heating. When these desert inversions form, they may trap pollutants near low-level emission sources such as freeways or parking lots.

2.2.6.2.3 Attainment Status

Criteria pollutants are defined as those pollutants for which the federal and state governments have established ambient air quality standards, based on health criteria, for outdoor concentrations to protect public health and prevent degradation of the environment. The state and federal ambient air quality standards, and attainment statuses for all criteria pollutants are provided in Table 2.2.6-1, State and Federal Criteria Air Pollutant Standards, Effects, And Sources. As shown in Table 2.2.6-1, the Basin is an attainment area for CO, NO_2, SO_2, and $PM_{2.5}$ for both state and federal standards. The Basin is a nonattainment area for O_3 and PM_{10} under both state and federal standards.

2.2.6.2.4 Transportation Conformity Rule

The EPA, in conjunction with the DOT, 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. Transportation Conformity Regulations apply to all programs and projects requiring funding or approval from the DOT, the FHWA, the FTA, or the MPO. The Transportation Conformity Rule applies to highways and mass transit, while the General Conformity Rule applies to all other actions.

It should be noted that the 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.[2]

[2] Refer to §93.101 of the Transportation Conformity Rule.

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)	1 hour	0.09 ppm[3]	--- [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.	Extreme-Nonattainment	Severe 15 Nonattainment
	8 hours	0.070 ppm	0.070 ppm (4^{th} highest in 3 years)			Nonattainment	
Carbon Monoxide (CO)	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	Unclassified/Attainment
	8 hours	9.0 ppm [1]	9 ppm				
	8 hours (Lake Tahoe)	6 ppm	---				
Respirable Particulate Matter (PM_{10})[5]	24 hours	50 µg/m^3 [6]	150 µg/m^3 (expected number of days above standard < or equal to 1)	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 Nonattainment
	Annual	20 µg/m^3	--- [5]				
Fine Particulate Matter ($PM_{2.5}$)[5]	24 hours	---	35 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.	Attainment	Attainment
	Annual	12 µg/m^3	12.0 µg/m^3				
	24 hours (conformity process[7])	---	65 µg/m^3				
	Secondary Standard (annual; also for conformity process[5])	---	15 µg/m^3 (98^{th} percentile over 3 years)				
Nitrogen Dioxide (NO_2)	1 hour	0.18 ppm	0.100 ppm[8]	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	Unclassified/Attainment
	Annual	0.030 ppm	0.053 ppm				

Table 2.2.6-1: State and Federal Criteria Air Pollutant Standards, Effects, and Sources [continued]

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)	1 hour	0.25 ppm	0.075 ppm[9] (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	Unclassified/ Attainment
	3 hours	---	0.5 ppm[10]				
	24 hours	0.04 ppm	0.14 ppm (for certain areas)				
	Annual	---	0.030 ppm (for certain areas)				
Lead (Pb)[11]	Monthly	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	Attainment
	Calendar Quarter	---	1.5 µg/m^3 (for certain areas)				
	Rolling 3-month average	---	0.15 µg/m^3 [12]				
Sulfate	24 hours	25 µg/m^3	---	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.	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.	Unclassified	N/A
Visibility Reducing Particles (VRP)	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity less than 70%	---	Reduces visibility. Produces haze. NOTE: not directly related to the Regional Haze program under the Federal Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other "Class I" areas. However, some issues and measurement methods are similar.	See particulate matter above. May be related more to aerosols than to solid particles.	Unclassified	N/A
Vinyl Chloride[11]	24 hours	0.01 ppm	---	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes	Unclassified	N/A

Adapted from Sonoma-Marin Narrows Draft EIR and 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. State standards are "not to exceed" or "not to be equaled or exceeded" unless stated otherwise.
2. Federal standards are "not to exceed more than once a year" or as described above.
3. ppm = parts per million
4. Prior to 6/2005, the 1-hour ozone NAAQS was 0.12 ppm. Emission budgets for 1-hour ozone are still be in use in some areas where 8-hour ozone emission budgets have not been developed, such as the S.F. Bay Area.
5. Annual PM_{10} NAAQS revoked October 2006; was 50 µg/m^3. 24-hr. $PM_{2.5}$ NAAQS tightened October 2006; was 65 µg/m^3. Annual $PM_{2.5}$ NAAQS tightened from 15 µg/m^3 to 12 µg/m^3 December 2012 and secondary annual standard set at 15 µg/m^3.
6. µg/m^3 = micrograms per cubic meter
7. The 65 µg/m^3 $PM_{2.5}$ (24-hr) NAAQS was not revoked when the 35 µg/m^3 NAAQS was promulgated in 2006. The 15 µg/m^3 annual $PM_{2.5}$ standard was not revoked when the 12 µg/m^3 standard was promulgated in 2012. The 0.08 ppm 1997 ozone standard is revoked FOR CONFORMITY PURPOSES ONLY when area designations for the 2008 0.75 ppm standard become effective for conformity use (7/20/2013). Conformity requirements apply for all NAAQS, including revoked NAAQS, until emission budgets for newer NAAQS are found adequate, SIP amendments for the newer NAAQS are approved with an emission budget, EPA specifically revokes conformity requirements for an older standard, or the area becomes attainment/unclassified. SIP-approved emission budgets remain in force indefinitely unless explicitly replaced or eliminated by a subsequent approved SIP amendment. During the "Interim" period prior to availability of emission budgets, conformity tests may include some combination of build vs. no build, build vs. baseline, or compliance with prior emission budgets for the same pollutant.
8. 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.
9. EPA finalized a 1-hour SO_2 standard of 75 ppb (parts per billion [thousand million]) in June 2010. Nonattainment areas have not yet been designated as of 9/2012.
10. Secondary standard, set to protect public welfare rather than health. Conformity and environmental analysis address both primary and secondary NAAQS.
11. 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.
12. Lead NAAQS are not considered in Transportation Conformity analysis.

The Transportation Conformity Rule has been amended several times since 1993 to address updates to the NAAQS and revise conformity provisions and procedures. Enacted in August 2005, the Safe, Accountable, Flexible, Efficient Transportation Act: A Legacy for Users (SAFETEA-LU) authorizes funding of the nation's transportation infrastructure and made several changes to the conformity portion of the FCAA. SAFETEA-LU was superseded by the Moving Ahead for Progress in the 21st Century Act (MAP-21), which was enacted on July 6, 2012. MAP-21 governs the use of federal funds for transportation investments. Additionally, the Fixing America's Surface Transportation Act (FAST Act) was enacted on December 4, 2015 and builds on the changes made by MAP-21. The FAST Act provides long-term funding certainty for surface transportation infrastructure planning and investment. It authorizes $305 billion over fiscal years 2016 through 2020 for highway, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs. The FAST Act also maintains a focus on safety, keeps intact the established structure of the various highway-related programs managed by FHWA, continues efforts to streamline project delivery, and provides a dedicated source of federal funding for freight projects.

2.2.6.2.5 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. According to the SCAQMD, a sensitive receptor is a person in the population who is particularly susceptible to health effects due to exposure to an air contaminant. Land uses considered sensitive receptors include residences, motels/hotels, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The closest sensitive receptors to the proposed project include residential uses that are along the north and south of the existing Avenue 50, residents along Tyler Street, and a single-family residence immediately west of SR-86 and north of the Coachella Valley Stormwater Channel (CVSC).

2.2.6.2.6 Local Ambient Air Quality

The SCAQMD operates several air quality monitoring stations throughout the SSAB. The project site is located within Source Receptor Area (SRA) 30 (Coachella Valley). The communities within an SRA are expected to have similar climatology and subsequently, similar ambient air pollutant concentrations. The Indio-Jackson Street Monitoring Station is the closest monitoring station to the site (approximately 3.2 miles west) within SRA 30. This station monitors O_3, PM_{10}, and $PM_{2.5}$. The next closest monitoring station is the Palm Springs Fire Station Monitoring Station (approximately 25 miles northwest). This station monitors NO_2 and CO. The data collected at these stations is considered to be representative of the air quality experienced on-site. Air quality data from 2014 to 2016 is provided in Table 2.2.6-2, Local Air Quality Levels. The following air quality information briefly describes the various types of pollutants.

2.2.6.2.7 Mobile Source Air Toxics

In addition to the criteria air pollutants addressed by NAAQS, EPA also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., drycleaners), and stationary sources (e.g., factories or refineries). Mobile Source Air Toxics (MSATs) are a subset of the 188 air toxics defined by the Federal Clean Air Act. The MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted

to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

Table 2.2.6-2: Local Air Quality Levels

Pollutant	Primary Standard		Year	Maximum Concentration[1]	Number of Days State/Federal Std. Exceeded
	California	Federal			
Carbon Monoxide (CO) [2] (1-Hour)	20 ppm for 1 hour	35 ppm for 1 hour	2014 2015 2016	2.23 ppm 1.98 3.05	0/0 0/0 0/0
Ozone (O_3) [3] (1-Hour)	0.09 ppm for 1 hour	N/A	2014 2015 2016	0.095 ppm 0.093 0.099	2/0 0/0 3/0
Ozone (O_3) [3] (8-Hour)	0.07ppm for 8 hours	0.070 ppm for 8 hours	2014 2015 2016	0.091ppm 0.085 0.089	30/10 12/4 29/27
Nitrogen Dioxide (NO_X) [2] (1-Hour)	0.18 ppm for 1 hour	0.100 ppm for 1 hour	2014 2015 2016	0.463 ppm 0.415 0.0426	0/0 0/0 0/0
Particulate Matter (PM_{10}) [3, 4, 5] (24-Hour)	50 µg/m^3 for 24 hours	150 µg/m^3 for 24 hours	2014 2015 2016	322.3 µg/m^3 381.0 393.2	15/6 13/3 NM/2
Fine Particulate Matter ($PM_{2.5}$) [3, 5] (24-Hour)	No Separate State Standard	35 µg/m^3 for 24 hours	2014 2015 2016	18.3 µg/m^3 24.6 25.8	NM/0 NM/0 NM/0

ppm = parts per million
µg/m^3 = micrograms per cubic meter
NM = Not Measured
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$ = particulate matter 2.5 microns in diameter or less
NA = Not Applicable

Notes:
1. Maximum concentration is measured over the same period as the California Standard.
2. Measurements taken at the Palm Springs Fire Station Monitoring Station located at 590 East Racquet Club Avenue, Palm Springs, California 92262.
3. Measurements taken at the Indio-Jackson Street Monitoring Station located at 46990 Jackson Street, Indio, California 92201.
4. PM_{10} exceedances are based on State thresholds established prior to amendments adopted on June 20, 2002.
5. PM_{10} and $PM_{2.5}$ exceedances are derived from the number of samples exceeded, not days.

Source: California Air Resources Board, ADAM Air Quality Data Statistics, http://www.arb.ca.gov/adam/welcome.html.

The EPA issued a Final Rule on Controlling Emissions of Hazardous Air Pollutants from Mobile Sources, 66 FR 17229 (March 29, 2001). This rule was issued under the authority in Section 202 of the Federal Clean Air Act. In its rule, the EPA examined the impacts of existing and newly promulgated mobile source control programs, including its reformulated gasoline (RFG) program, its national low emission vehicle (NLEV) standards, its Tier 2 motor vehicle emissions standards and gasoline sulfur control requirements, and its proposed heavy-duty engine and vehicle standards and on-highway diesel fuel sulfur control requirements. Even if vehicle miles traveled (VMT) increases by 45 percent as assumed between years 2010 and 2050, FHWA projects would reduce on-highway emissions by an average of 72 percent. Thus, the EPA concluded that no further motor vehicle emissions standards or fuel standards were necessary to control MSATs.

The EPA is preparing a subsequent rule under the authority of Section 202(l) of the Federal Clean Air Act that would address these issues and make adjustments to the primary and secondary MSATs. Depending on the specific project circumstances, FHWA has identified three tiers of analysis:

- No analysis for projects with no potential for meaningful MSAT effects;
- Qualitative analysis for projects with low potential MSAT effects; or
- Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

According to the Air Quality Report prepared for the proposed project, the project would fall into the second category above, and the qualitative analysis was performed.

2.2.6.2.8 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, the California Air Resources Board (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.

2.2.6.3 Environmental Consequences

2.2.6.3.1 Temporary Construction Impacts

The proposed project would construct a new bridge spanning over the CVSC, realign and widen Avenue 50 from the existing two-lane roadway to a six-lane major arterial, and realign Tyler Street on both the east and west side of SR-86 (Phase 1); and convert a portion of SR-86 from an at-grade signalized intersection into a grade-separated full interchange with a new overcrossing bridge and access ramps (Phase 2). Temporary impacts to air quality would occur during demolition, grading/trenching, new pavement construction, and the restriping phase. Additional sources of construction-related emissions include exhaust emissions and potential odors from construction equipment used on the construction site as well as the vehicles used to transport materials to and from the site, in addition to exhaust emissions from the motor vehicles of the construction crew.

Construction of the first phase of the project is planned to commence in November of 2020 and would be open to traffic in approximately 12 months. Due to funding considerations, construction of the second phase is planned to commence in November 2023 and would be open to traffic in approximately 15 months. As currently planned, both phases of the project are planned to be completed and fully operational by the third quarter of 2025. As a result,

construction activities would not last for more than five years at one general location, so construction-related emissions do not need to be included in regional and project-level conformity analysis (40 CFR 93.123(c)(5)).

Project construction would result in temporary emissions of ROG, CO, NO_X, PM_{10}, and $PM_{2.5}$. Stationary or mobile powered on-site construction equipment would include trucks, tractors, signal boards (temporary messaging signs), excavators, backhoes, graders, scrapers, and pavers. Based on the nominal amount of daily work trips required for project construction, construction worker trips are not anticipated to substantially contribute to or affect traffic flow on local roadways and are therefore not considered substantial. During the demolition phase, asphalt concrete (AC) pavement would have to be removed.

Table 2.2.6-3, Estimated Daily Construction Emissions depicts the estimated daily emissions associated with each construction phase for Build (Alternatives 7 and 8) conditions. The emissions were estimated based on the assumptions described above and using the Roadway Construction Emissions Model (RCEM) (Version 8.1.0) developed by the Sacramento Metropolitan Air Quality Management District (SMAQMD). The emissions modeling is based on an estimate of 311,337 total cubic yards (CY) of earthwork (import) for Alternative 7 and 308,971 CY of import for Alternative 8.

Table 2.2.6-3: Estimated Daily Construction Emissions

Construction Phase	Pollutant (pounds/day)[1]				
	ROG	CO	NO_X	PM_{10}[2, 3]	$PM_{2.5}$[2, 3]
Alternative 7					
Grubbing/Land Clearing	1.93	14.93	20.85	50.92	11.23
Grading/Excavation	5.48	46.82	58.40	52.70	12.84
Drainage/Utilities/Sub-Grade	3.88	36.05	37.53	51.77	12.03
Paving	1.31	17.10	12.33	0.67	0.59
Maximum	*5.48*	*46.82*	*58.40*	*52.70*	*12.84*
Alternative 8					
Grubbing/Land Clearing	0.97	6.99	10.70	50.45	10.80
Grading/Excavation	5.23	43.75	55.76	52.57	12.73
Drainage/Utilities/Sub-Grade	3.88	36.05	37.53	51.77	12.03
Paving	1.31	17.10	12.33	0.67	0.59
Maximum	*5.23*	*43.75*	*55.76*	*52.57*	*12.73*

ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} = particulate matter up to 10 microns; $PM_{2.5}$ = particulate matter up to 2.5 microns

Notes:
1. Emissions were calculated using the Roadway Construction Emissions Model (RCEM) (Version 8.1.0) developed by the Sacramento Metropolitan Air Quality Management District (SMAQMD).
2. PM_{10} and $PM_{2.5}$ estimates assume control of fugitive dust from watering and associated dust control measures.
3. Emissions include the sum of exhaust and fugitive dust.

RCEM is a data-entry spreadsheet that utilizes various sources to estimate construction emissions, including OFFROAD and EMFAC2014. RCEM is recommended by Caltrans and the SCAQMD as it is specifically developed to estimate emissions associated with roadway construction projects since the default equipment, activities, and typical phasing are different than those of land use development projects and building construction projects. The RCEM phasing assumptions were used to allocate the project specific construction equipment to the specific phases. The methodologies and assumptions used in RCEM are appropriate for road

construction projects, including new road construction, road widening and bridge or overpass construction.

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 proposed project 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, project construction is not anticipated to violate state or federal air quality standards or contribute to the existing air quality violations in the SSAB.

2.2.6.3.2 Regional Conformity

The proposed project is listed in the SCAG 2016 financially constrained Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) which was found to conform by FHWA and FTA on December 16, 2016. The project is also included in SCAG 2017 FTIP (Local Highway Amendments 1-13, page 3 of 29 [RIV110825], and State Highway Amendments 1-13, page 10 of 17 [RIV061159]). The SCAG 2017 FTIP was also determined to conform by FHWA and FTA on December 16, 2016. The project will also be included in the SCAG 2019 FTIP. The design concept and scope of the proposed project is consistent with the project description in the SCAG 2016 RTP/SCS, 2017 SCAG FTIP, and the open to traffic assumptions of the SCAG regional emissions analysis.

2.2.6.3.3 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 Basin is an attainment area for CO, NO_2, SO_2, and $PM_{2.5}$ for both state and federal standards. The Basin is a nonattainment area for O_3 and PM_{10} under both state and federal standards; refer to Table 2.2.6-1.

2.2.6.3.4 Particulate Matter Hot-Spot Analysis

A hot-spot analysis is required in nonattainment and maintenance areas for CO, PM_{10}, and $PM_{2.5}$. Transportation conformity requirements become effective one year after an area is designated as nonattainment. A hot-spot analysis is required for a project of air quality concern (POAQC). The Build Alternatives are within a maintenance area for federal PM_{10} standards and nonattainment area for federal $PM_{2.5}$ 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:

i. New or expanded highway projects that have a significant number of or significant increase in diesel vehicles.

Existing traffic volumes along the roadway segments in the project study area are provided in Table 2.2.6-4, Existing Daily Traffic Volumes. As depicted in Table 2.2.6-4, traffic volumes range from 10,144 to 31,477 daily vehicles. Trucks make up approximately 5.4 to 7.9 percent of the traffic on Avenue 50, and 19.4 percent of the traffic on SR-86.

Table 2.2.6-4: Existing Daily Traffic Volumes

Segment	Existing		
	Total ADT[1,2]	% Trucks[1,2]	# Trucks[1,2]
SR-86 Mainline			
South of Avenue 50	25,082	19.4%	4,866
North of Avenue 50	31,477	19.4%	6,107
Avenue 50			
Bridge, Between Tyler Street & SR-86	10,473	7.9%	827
Between Leoco Lane and Peter Rabbit Lane	16,203	5.5%	891
West of Harrison Street	10,144	5.4%	548

Notes:
1. Total ADTs, and SR-86 truck volumes and percentages were derived from the State Route 86/Avenue 50 New Interchange Project Traffic Operations Report (November 2017), prepared by Fehr and Peers.
2. Avenue 50 truck volumes and percentages were derived from the Traffic Report for Avenue 50 Bridge Over Coachella Valley Stormwater Channel (CVSC), May 2016.

Table 2.2.6-5, Opening Year Traffic Volumes depicts the opening year traffic volumes along the roadways study segment for both the no build alternative and the build alternatives. It is noted that there are two opening years for the proposed project: 2021 and 2025. Opening Year 2021 is when the Avenue 50 bridge construction would be complete, and Opening Year 2025 reflects the completion of SR-86/Avenue 50 interchange construction. As shown in Table 2.2.6-5, the highest opening year no build average daily traffic (ADT) volumes would be 42,520, which include truck volumes of 8,249 ADT. The highest opening year build (with project) ADT volumes would be 43,130, which include truck volumes of 8,367 ADT. The proposed project would not significantly change the truck traffic volumes and percentages in the area, and would not result in a higher proportion of trucks overall. As indicated in Table 2.2.6-5, both Build Alternatives would have daily traffic volumes less than 125,000 ADT. Additionally, daily truck volumes would be less than 10,000 ADT.

Table 2.2.6-5: Opening Year Traffic Volumes

Location	Opening Year No Build[1]			Opening Year Build[1,2]			# Trucks Percent Change
	ADT	% Trucks	# Trucks	ADT	% Trucks	# Trucks	
SR-86 Mainline							
South of Avenue 50	30,280	19.4%	5,874	31,470	19.4%	6,105	3.9%
North of Avenue 50	42,520	19.4%	8,249	43,130	19.4%	8,367	1.6%
SR-86 Northbound Ramps							
Avenue 50 Off-Ramp	N/A	N/A	N/A	1,830	19.4%	355	N/A
Direct On-Ramp	N/A	N/A	N/A	640	19.4%	124	N/A
Loop On-Ramp	N/A	N/A	N/A	6,200	19.4%	1,203	N/A
SR-86 Southbound Ramps							
Avenue 50 Off-Ramp	N/A	N/A	N/A	7,710	19.4%	1,496	N/A
On-Ramp[1]	N/A	N/A	N/A	1,060	19.4%	206	N/A
Avenue 50							
Bridge, Between Tyler Street & SR-86	13,830	7.9%	1,093	15,480	7.9%	1,223	5.8
Between Leoco Lane and Peter Rabbit Lane	17,880	5.5%	983	18,500	5.5%	1,018	3.6
West of Harrison Street	11,020	5.4%	595	11,070	5.4%	598	10.1

ADT = Average Daily Traffic; SR-86 = State Route 86

Notes:
1. The traffic volumes along Avenue 50 and SR-86 are for Opening Year 2021, and 2025, respectively.
2. Build Alternatives 7 and 8 have different southbound on-ramp configurations, but the traffic volumes would be identical for both Alternatives. Therefore, the Opening Year Build traffic volumes would be the same for both Alternatives.

Source: Fehr and Peers, State Route 86/Avenue 50 New Interchange Project Traffic Operations Report, November 2017.

Table 2.2.6-6, Horizon Year Traffic Volumes depicts the horizon year volumes for the no build alternative and the build alternatives. Table 2.2.6-6 compares the no build and build traffic volumes along each roadway segment. As shown in Table 2.2.6-6, Horizon Year No Build ADT volumes range from 15,370 to 61,180, which include truck volumes that range from 830 to 11,869 ADT. Under Build conditions, ADTs would range from 1,060 to 62,140, and truck volumes would range from 355 to 12,055 ADT. Truck volumes would not exceed 12,055 on the SR-86 mainline and 2,556 on Avenue 50. Under No Build conditions, truck volumes along the SR-86 mainline (North of Avenue 50) would be 11,869 ADT; however, the Build Scenario/With Project increase would only be 1.6 percent. Overall project traffic and truck volumes would be relatively low in the Horizon Year Build conditions and truck percent increases would be low for roadway segments with higher volumes of trucks.

Table 2.2.6-6: Horizon Year Traffic Volumes

Location	Horizon Year No Build			Horizon Year Build[1]			# Trucks Percent Change
	ADT	% Trucks	# Trucks	ADT	% Trucks	# Trucks	
SR-86 Mainline							
South of Avenue 50	42,580	19.4%	8,261	44,220	19.4%	8,579	3.9%
North of Avenue 50	61,180	19.4%	11,869	62,140	19.4%	12,055	1.6%
SR-86 Northbound Ramps							
Avenue 50 Off-Ramp	N/A	N/A	N/A	2,470	19.4%	479	N/A
Direct On-Ramp	N/A	N/A	N/A	1,830	19.4%	355	N/A
Loop On-Ramp	N/A	N/A	N/A	9,240	19.4%	1,793	N/A
SR-86 Southbound Ramps							
Avenue 50 Off-Ramp	N/A	N/A	N/A	10,380	19.4%	2,014	N/A
On-Ramp[1]	N/A	N/A	N/A	1,060	19.4%	206	N/A
Avenue 50							
Bridge, Between Tyler Street & SR-86	30,570	7.9%	2,415	32,350	7.9%	2,556	5.8
Between Leoco Lane and Peter Rabbit Lane	26,270	5.5%	1,445	31,240	5.5%	1,718	3.6
West of Harrison Street	15,370	5.4%	830	16,930	5.4%	914	10.1

ADT = Average Daily Traffic; SR-86 = State Route 86

Notes:
1. Build Alternatives 7 and 8 have different southbound on-ramp configurations, but the traffic volumes would be identical for both Alternatives. Therefore, the Horizon Year Build traffic volumes would be the same for both Alternatives.

Source: Fehr and Peers, State Route 86/Avenue 50 New Interchange Project Traffic Operations Report, November 2017.

ii. Projects affecting intersections that are Level of Service (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 proposed project does not affect intersections that are at LOS D, E, or F with a significant number of diesel vehicles. Implementation of the project would enhance traffic flow in the project area for both truck traffic and general traffic. Based on the traffic data in Tables 2.2.6-5 and 2.2.6-6, the proposed project would not result in significant changes in traffic volume, vehicle mix, or other factors that would cause an increase in emissions.

Table 2.2.6-7, Opening Year (2021) Level of Service summarizes the delay and corresponding Level of Service (LOS) within the project area during the 2021 Opening Year, which includes Phase 1 (Avenue 50 bridge). As shown in Table 2.2.6-7, LOS would improve (i.e., delay would be reduced). Additionally, Table 2.2.6-8, Opening Year (2025) Level of Service depicts the delay and corresponding Level of Service (LOS) within the project area during the 2025 Opening Year, which includes Phase 1 and Phase 2 (two Build Alternatives for SR-86/Avenue 50 Interchange). The additional capacity proposed by the SR-86/Avenue 50 New Interchange project would attract more traffic using the SR-86/Avenue 50 interchange and result in higher delay at the ramp terminals. All other study intersections would operate at acceptable LOS D or better conditions under both Opening Year Build conditions.

Table 2.2.6-7: Opening Year 2021 Level of Service

Study Intersection	Opening Year No Build Peak Hour LOS[1]		Opening Year (2021) Build Peak Hour LOS	
	AM	PM	AM	PM
Avenue 50/Leoco Lane	A	B	A	A
Avenue 50/Peter Rabbit Lane	A	A	A	B
Avenue 50/Tyler Street	**F**	**F**	C	C
Tyler Street/Calle Mendoza	C	B	C	C

Bold = Exceeds LOS D threshold.

Source: Fehr and Peers, State Route 86/Avenue 50 New Interchange Project Traffic Operations Report, November 2017.

Table 2.2.6-8: Opening Year 2025 Level of Service

Study Intersection	Opening Year No Build Peak Hour LOS[1]		Alternative 7 Opening Year (2025) Build Peak Hour LOS[1]		Alternative 8 Opening Year (2025) Build Peak Hour LOS[1]	
	AM	PM	AM	PM	AM	PM
Avenue 50/Southbound SR-86 Ramps	**F**	**F**	B	C	B	B
Avenue 50/Northbound SR-86 Ramps			B	B	B	B
Dillon Road/Southbound SR-86 Ramps	B	C	B	B	B	B
Dillon Road/Northbound SR-86 Ramps	B	B	B	B	B	B
Avenue 52/Southbound SR-86 Ramps	B	A	B	B	B	B
Avenue 52/Northbound SR-86 Ramps	B	B	B	B	B	B

Bold = Exceeds LOS D threshold.

Source: Fehr and Peers, State Route 86/Avenue 50 New Interchange Project Traffic Operations Report, November 2017.

Additionally, Table 2.2.6-9, Horizon Year Level of Service summarizes the horizon year delay and corresponding LOS within the project area. As shown in Table 2.2.6-9, LOS would generally improve (i.e., delay would be reduced) under build conditions.

Table 2.2.6-9: Horizon Year Level of Service

Study Intersection	Horizon Year No Build Peak Hour LOS		Alternative 7 Horizon Year Build Peak Hour LOS		Alternative 8 Horizon Year Build Peak Hour LOS	
	AM	PM	AM	PM	AM	PM
Avenue 50/Leoco Lane	B	C	B	D	B	D
Avenue 50/Peter Rabbit Lane	A	A	B	B	B	B
Avenue 50/Tyler Street	**F**	**F**	C	C	C	C
Avenue 50/Southbound SR-86 Ramps	**F**	**F**	B	C	B	B
Avenue 50/Northbound SR-86 Ramps			A	B	B	B
Dillon Road/Southbound SR-86 Ramps	B	C	B	C	B	C
Dillon Road/Northbound SR-86 Ramps	C	B	C	C	C	C
Avenue 52/Southbound SR-86 Ramps	B	B	B	C	B	C
Avenue 52/Northbound SR-86 Ramps	B	A	B	B	B	B
Tyler Street/Calle Mendoza	C	C	C	C	C	C

Bold = Exceeds LOS D threshold.

Source: Fehr and Peers, State Route 86/Avenue 50 New Interchange Project Traffic Operations Report, November 2017.

iii. New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location.

The proposed project does not involve new bus or rail terminals or transfer points with a significant number of diesel vehicles congregating at a single location. The proposed project would enhance traffic flow in the project area for both truck traffic and general traffic.

iv. Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location.

The proposed project does not involve expanded bus or rail terminals or transfer points with a significant number of diesel vehicles congregating at a single location. As stated above, the proposed project involves proposed roadway widening and a new SR-86/Avenue 50 interchange and overcrossing bridge structure, as well as another new bridge spanning over the CVSC.

v. Projects in or affecting locations, areas, or categories of sites that are identified in the $PM_{2.5}$ and PM_{10} applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

The proposed project is consistent with SCAG RTP and FTIP (Project IDs RIV110825 and RIV061159) and is intended to meet the traffic needs in the area based on local land use plans.

EPA's March 2006 guidance document, *Transportation Guidance for Qualitative Hot-spot Analysis in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas,* references a two-step criteria to identify "a significant volume of diesel truck traffic." The first criterion is facilities with greater than 125,000 ADT volumes. If the first criterion is met, the

second criterion is that 8 percent or more of said traffic volumes (i.e., 10,000 vehicles or more) are diesel truck traffic volumes. As discussed above, traffic volumes within the project limits would not exceed 125,000 vehicles daily. The truck percentage is also projected to remain the same for both the opening year and the horizon year.

As demonstrated above, the proposed project 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 project meets 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 $PM_{2.5}$.

The SCAG's Transportation Conformity Working Group (TCWG) determined that the proposed project is not a POAQC; refer to subsection, 2.2.6.3.7, Interagency Consultation, 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 the identification of the Preferred Alternative, after public circulation of the IS/EA.

2.2.6.3.6 Carbon Monoxide

A hot-spot analysis is required in nonattainment and maintenance areas for CO, PM_{10}, and $PM_{2.5}$. In California, the procedures of the local analysis for CO are modified pursuant to 40 CFR 93.123(a)(1) of the Transportation Conformity Rule. The Transportation Project-Level Carbon Monoxide Protocol (CO Protocol) developed by the Institute of Transportation Studies at the University of California Davis was used to provide the CO quantitative analysis on this project. The CO Protocol outlines the procedure for performing a CO analysis, which was approved by David P. Howekamp, Director of the Air Division of the EPA Region IX, in October 1997. The EPA deemed the CO Protocol as an acceptable option to the mandated quantitative analysis. The CO Protocol incorporates 40 CFR 93.115 through 93.117, and 40 CFR 93.126 through 93.128 into its rules and procedures. As discussed in the Air Quality Report, the CO screening analysis concluded that project implementation would reduce congestion and overall travel time due to overall improvements in Level of Service (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. As a result, the proposed project has sufficiently addressed the carbon monoxide impact and no further analysis is needed.

2.2.6.3.7 Interagency Consultation

Because the project is located within a serious nonattainment area for federal PM_{10}, analyses are required for conformity purposes per 40 CFR Part 93. A qualitative 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.

Pursuant to the interagency consultation requirement of 40 CFR 93.105 (c)(1)(i), the project completed interagency coordination via SCAG's TCWG, at two separate meetings due to the phasing of the project. The first meeting was held on June 28, 2016 [Project ID RIV110825] and

the second meeting was held on March 27, 2018 [Project ID RIV061159 and RIV110825]. At these meetings, the TCWG determined that the proposed project is not a POAQC. Therefore, the proposed project would not be considered a POAQC under 40 CFR 93.123 (b)(1), as it would not create a new or worsen an existing PM_{10} violation.

2.2.6.3.8 Mobile Source Air Toxics

As discussed in the Air Quality Report, the proposed project would not result in an increase in MSATs between Build and No Build conditions. The MSAT analysis determined that a slight increase in vehicle miles traveled (VMT) would occur; however, VHT would decrease as a result of project improvements to accommodate growth and enhance mobility. Additionally, as previously discussed, the project would not result in a significant increase in truck ADT between the Build and No Build conditions. The project does not involve a truck route, would not add diesel truck capacity, or be a major truck traffic generator, and traffic volumes would be less than 125,000 ADT. Additionally, the project would result in less congestion and vehicle idling in the project area. MSAT emissions under the Build conditions would be offset somewhat compared to the No Build conditions due to traffic flow improvements. Based on the Air Quality Report, emissions of all of the priority MSATs (with the exception of diesel particulate matter) decrease as speed increases. The extent to which these speed-related emissions decreases offset MSATs cannot be reliably projected due to the inherent deficiencies of technical models. Furthermore, emissions would likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by 80 percent between 2010 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases. Therefore, there would be no significant impacts arising from the proposed project's operational condition.

2.2.6.3.9 Naturally Occurring Asbestos

The California Geological Survey Geological Map Index was searched for available geological maps, which cover the project study area and surrounding areas. These geological maps indicate geological formations, which are overlaid on a topographic map. Some maps focus on specific issues (i.e., bedrock, sedimentary rocks, etc.), while others may identify artificial fills (including landfills). Geological maps can be effective in estimating permeability and other factors that influence the spread of contamination. According to the California Geological Survey (formerly the California Division of Mines and Geology [CDMG]) document entitled A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report (August 2000), the proposed project is not located in an area where NOA is likely to be present.

2.2.6.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.2.6.5 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

2.2.7.1 Regulatory Setting

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

2.2.7.1.1 California Environmental Quality Act

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The rest of this section will focus on the NEPA/23 Code of Federal Regulations Part 772 (23 CFR 772) noise analysis; please see Chapter 3 of this document for further information on noise analysis under CEQA.

2.2.7.1.2 National Environmental Policy Act and 23 CFR 772

For highway transportation projects with Federal Highway Administration (FHWA) involvement (and Caltrans, as assigned), the Federal-Aid Highway Act of 1970 and its implementing regulations (23 Code of Federal Regulations [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). Table 2.2.7-1 lists the noise abatement criteria for use in the NEPA/23 CFR 772 analysis.

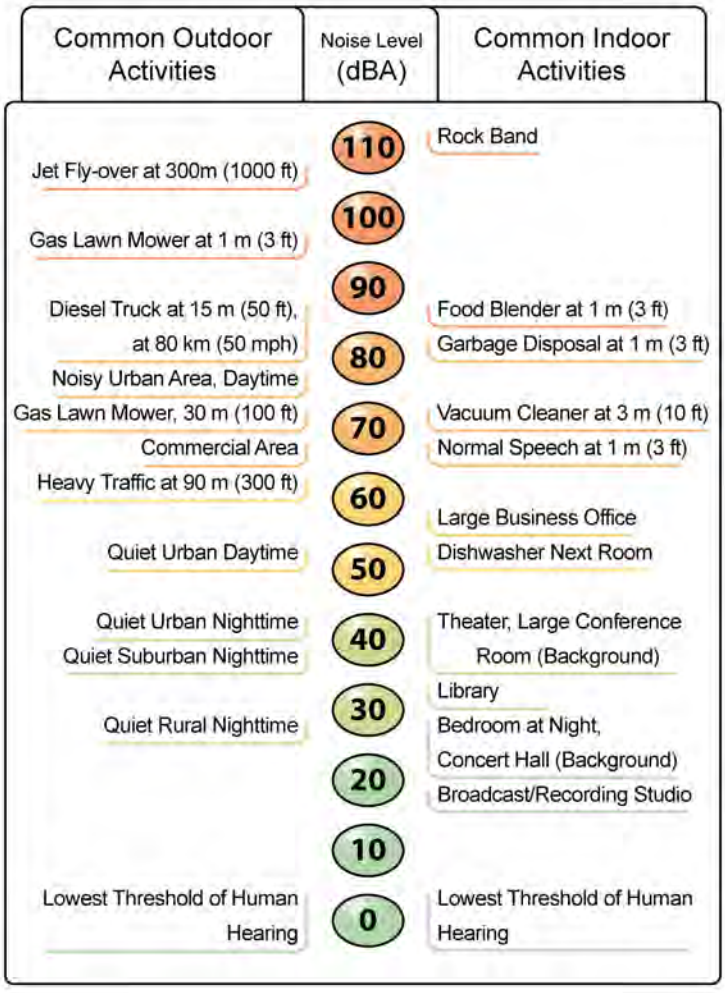
Table 2.2.7-1: Noise Abatement Criteria

Activity Category	NAC, Hourly A-Weighted Noise Level, $L_{eq}(h)$	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[1]	67 (Exterior)	Residential.
C[1]	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F	No NAC—reporting only	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No NAC—reporting only	Undeveloped lands that are not permitted.

Note:
1. Includes undeveloped lands permitted for this activity category.

Figure 2.2.7-1, Noise Levels of Common Activities, 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 of Common Activities



According to Department's Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, May 2011, a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12 dBA or more increase) or when the future noise level with the project approaches or exceeds the NAC. Approaching the NAC is defined as coming within 1 dBA of the NAC.

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

The Department's Traffic Noise Analysis Protocol sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 5 dBA reduction for all impacted receptors in the future noise

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

2.2.7.2 Affected Environment

This section is based on the State Route 86/Avenue 50 New Interchange Project Noise Study Report (August 20, 2018).

2.2.7.2.1 Land Uses and Sensitive Receptors

An inventory of developed and undeveloped land uses within the project area was identified through a field inspection on June 8, 2016. Land uses within the project area were categorized by land use type, NAC Activity Category (as defined in Table 2.2.7-1 above), and frequency of human use.

Residential uses (Activity Category B) are located to the north and south of Avenue 50, as well as to the east of Tyler Street. Other land uses in the project vicinity include park land (Activity Category C) located to the east of Tyler Street, and agricultural land (Activity Category F) located to the south of Avenue 50 (west of Tyler Street) and east of SR-86.

Vehicular traffic along Avenue 50 and Tyler Street represent the two primary noise sources within the project area. The closest sensitive receptors (residential uses) are located approximately 35 feet to the east of the project's proposed construction area along Tyler Street.

Short-Term Monitoring

On June 8, 2016, six short-term measurements were conducted at Activity Category B, C, and F land uses; refer to Figures 2.2.7-2a, Noise Measurement and Modeling Locations (Alternative 7) and 2.2.7-2b, Noise Measurement and Modeling Locations (Alternative 8). Two noise measurements (locations 12 and 14) were taken at Activity Category C and F land uses as background noise measurements. Short-term noise measurement locations were selected within the project area to determine existing noise levels, and verify or calibrate the noise prediction model. Measurements occurred over a 15-minute duration at each site.

Table 2.2.7-2, Summary of Short-Term Measurements, summarizes the results of the short-term noise monitoring conducted in the project area. Measured traffic noise levels were compared with modeled noise levels at field measurement locations using the FHWA's Traffic Noise Model Version 2.5 (TNM 2.5). Table 2.2.7-3 compares measured and modeled noise levels at the measurement locations; refer to Figures 2.2.7-2a and 2.2.7-2b. As concluded within Table 2.2.7-3, the project's modeled (predicted) sound levels are within 2 dB of the measured traffic sound levels and are therefore considered to be in reasonable agreement with the measured sound levels. Therefore, no calibration to the model was necessary.



Source: Google Earth Pro Aerial.

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Noise Measurement and Modeling Locations (Alternative 7)

11/18 | JN 159814

Figure 2.2.7-2a



Source: Google Earth Pro Aerial.

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Noise Measurement and Modeling Locations (Alternative 8)

11/18 | JN 159814

Figure 2.2.7-2b

Table 2.2.7-2: Summary of Short-Term Measurements

Location[1]	APN	Area/ Land Use	Date	Duration (minutes)	Start Time	Measured L_{eq}	Autos		Medium Trucks		Heavy Trucks		Observed Speed (mph)
							EB	WB	EB	WB	EB	WB	
2	603-471-072	B/Residential	6/8/16	15	10:30 a.m.	57.0	178	12	4	192	9	3	45
5	603-461-056	B/Residential			10:08 a.m.	58.4	277	16	6	259	14	7	45
7[2]	778-170-009	B/Residential			10:53 a.m.	55.7	98	2	0	109	3	1	45
12[3]	778-170-011	F/Agricultural			11:11 a.m.	57.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14[3]	763-020-018	C/Park			11:38 a.m.	56.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16[4]	763-041-001	B/Residential			12:40 p.m.	67.1	92	5	1	96	6	0	50

APN = Assessor's Parcel Number; L_{eq} = Equivalent Sound Level; EB = Eastbound; WB = Westbound; mph = miles per hour

Notes:
1. Refer to Figures 2.2.7-2a and 2.2.7-2b for measurement locations.
2. The noise measurement location was taken at an acoustically equivalent area approximately 155 feet east of the modeled receptor location, as the residential property was not accessible on June 8, 2016.
3. This noise measurement was recorded as a background noise measurement, and does not include traffic counts.
4. The noise measurement location was taken in the front of the residence at an acoustically equivalent area (along Tyler Street), as the backyard area of this property was not accessible on June 8, 2016.

Source: State Route 86/Avenue 50 New Interchange Project Noise Study Report, August 2018.

Table 2.2.7-3: Comparison of Measured to Predicted Sound Levels in the TNM Model

Measurement Location[1,2]	Measured Sound Level (dBA)	Predicted Sound Level (dBA)	Measured minus Predicted (dB)
2	57.0	56.5	0.5
5	58.4	58.1	0.3
7	55.7	57.4	-1.7
16	67.1[2]	67.4	-0.3

dBA= A-Weighted Decibel; dB= Decibel

Note:
1. Refer to Figures 2.2.7-2a and 2.2.7-2b for measurement locations.
2. Noise measurement locations 12 and 14 were used for short-term background noise. Therefore, locations 12 and 14 were not validated with the TNM2.5 model.
3. The noise measurement location was taken in the front of the residence at an acoustically equivalent area (along Tyler Street), as the backyard area of this property was not accessible on June 8, 2016.

Source: State Route 86/Avenue 50 New Interchange Project Noise Study Report, August 2018.

Long-Term Monitoring

Long-term monitoring was conducted at one NAC Activity Category C (park) use located approximately 35 feet east of the Tyler Street edge-of-pavement, within Sierra Vista Park; refer to Measurement Location 14 on Figures 2.2.7-2a and 2.2.7-2b. The purpose of this measurement was to describe variations in sound levels throughout the day, rather than absolute sound levels at a specific receptor of concern. The long-term sound level data was collected over a 24-hour period, beginning Wednesday, June 8, 2016, and ending Thursday, June 9, 2016.

Table 2.2.7-4, Summary of Long-Term Monitoring at Location 14, and Figure 2.2.7-3, Long Term Monitoring at Location 14, summarizes the results of the long-term noise monitoring conducted in the project area.

Table 2.2.7-4: Summary of Long-Term Monitoring at Location 14

Hour Beginning	Average (dBA L_{eq}[h])[1]	Difference from Loudest Hour (dB)[2]
11:37 a.m.	55.8	-4.4
12:00 p.m.	56.7	-3.5
1:00 p.m.	58.0	-2.2
2:00 p.m.	**60.2**	0.0
3:00 p.m.	59.7	-0.5
4:00 p.m.	59.9	-0.3
5:00 p.m.	57.6	-2.6
6:00 p.m.	57.8	-2.4
7:00 p.m.	57.2	-3.0
8:00 p.m.	58.3	-1.9
9:00 p.m.	54.3	-5.9
10:00 p.m.	50.0	-10.2
11:00 p.m.	50.0	-10.2
12:00 a.m.	48.8	-11.4
1:00 a.m.	48.0	-12.2
2:00 a.m.	47.2	-13.0
3:00 a.m.	47.0	-13.2
4:00 a.m.	47.1	-13.1
5:00 a.m.	50.5	-9.7
6:00 a.m.	50.0	-10.2
7:00 a.m.	52.1	-8.1
8:00 a.m.	54.2	-6.0
9:00 a.m.	52.3	-7.9
10:00 a.m.	54.4	-5.8
11:00 a.m.	56.3	-3.9
dBA L_{eq}(h) = A-Weighted Decibel Equivalent Sound Level; dB= Decibel		
Source: State Route 86/Avenue 50 New Interchange Project Noise Study Report, August 2018.		

As indicated Table 2.2.7-4, average loudest-hour sound level measured at Measurement Location 14 was 60.2 dBA Leq(h) during the 2:00 p.m. hour.

Existing Noise Levels

The worst-case (noisiest-hour) traffic volumes and posted vehicle speeds were coded into TNM 2.5 with existing roadway conditions. The results of the existing traffic noise modeling are shown in Table 2.2.7-5, Existing Traffic Noise Levels.

Figure 2.2.7-3: Long-Term Monitoring at Location 14, June 8-9, 2016

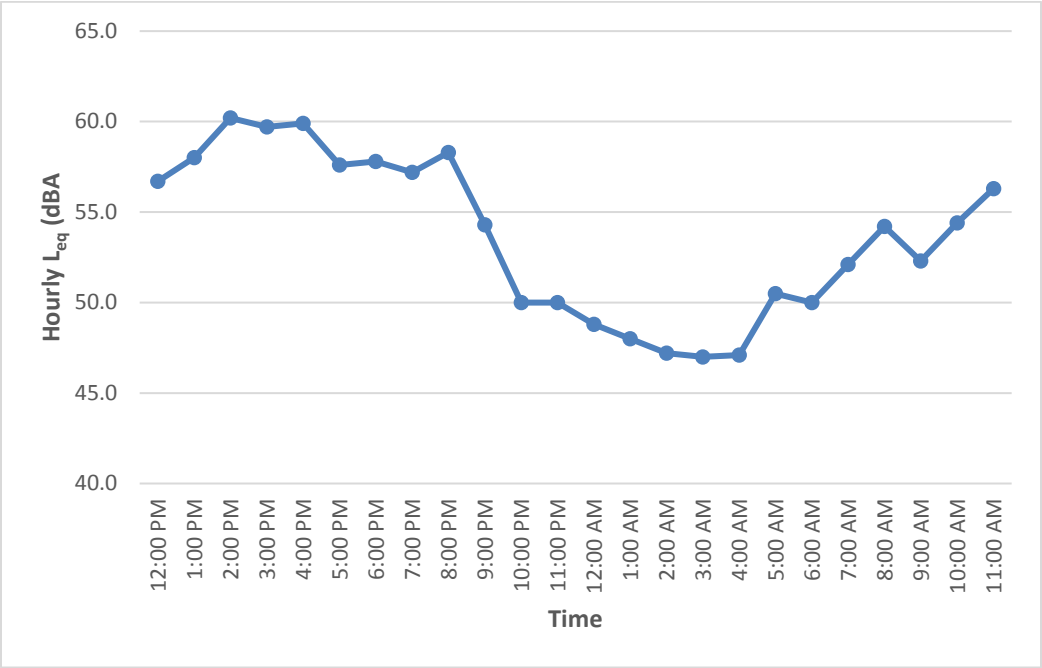


Table 2.2.7-5: Existing Traffic Noise Levels

Receptor No.	Assessor's Parcel Number	Land Use	Noise Abatement Category	Impact Criteria	Measured Noise Level[1]	Modeled Existing Noise Level[2,3]
1	603-471-071	Residential	B	67	N/A	55
2	603-471-072	Residential	B	67	57.0	55
3	603-471-073	Residential	B	67	N/A	56
4	603-471-075	Residential	B	67	N/A	55
5	603-461-056	Residential	B	67	58.4	55
6	603-461-057	Residential	B	67	N/A	56
7	778-170-009	Residential	B	67	55.7	59
8	778-170-005	Residential	B	67	N/A	61
9	778-170-006	Residential	B	67	N/A	55
10	778-170-007	Residential	B	67	N/A	52
11	778-170-011	Agricultural	F	N/A[4]	N/A	63
12	778-170-011	Agricultural	F	N/A[4]	57.6	52
13	778-170-011	Agricultural	F	N/A[4]	N/A	57
14	763-020-018	Park	C	67	56.9	62
15	763-042-001	Residential	B	67	N/A	62
16	763-041-001	Residential	B	67	67.1[5]	58[6]
17	763-041-002	Residential	B	67	N/A	57
18	763-041-003	Residential	B	67	N/A	57
19	763-041-004	Residential	B	67	N/A	57
20	763-041-005	Residential	B	67	N/A	57
21	763-041-006	Residential	B	67	N/A	57
22	763-042-006	Residential	B	67	N/A	49

Table 2.2.7-5: Existing Traffic Noise Levels [continued]

Receptor No.	Assessor's Parcel Number	Land Use	Noise Abatement Category	Impact Criteria	Measured Noise Level[1]	Modeled Existing Noise Level[2,3]
23	763-042-008	Residential	B	67	N/A	48
24	763-042-010	Residential	B	67	N/A	48
25	763-042-012	Residential	B	67	N/A	48
26	603-300-027	Agricultural	F	N/A[4]	N/A	69
27	603-330-010	Agricultural	F	N/A[4]	N/A	65
28	603-330-003	Utilities	F	N/A[4]	N/A	59
29	603-330-006	Residential	B	67	N/A	59
30	763-020-023	Agricultural	F	N/A[4]	N/A	60

dBA = A-weighted decibel; N/A = not available

Notes:
1. The measured noise levels were taken during off-peak noise hours.
2. The modeled noise levels are based on worst-case traffic volumes that correspond to LOS C or existing p.m. peak hour traffic volumes from the State Route 86/Avenue 50 New Interchange Project Traffic Operations Report prepared by Fehr and Peers (November 2017).
3. P.M. peak hour traffic data is not provided for Tyler Street and/or Avenue 50 to the north/east of SR-86 in the State Route 86/Avenue 50 New Interchange Project Traffic Operations Report prepared by Fehr and Peers (November 2017). Therefore, the LOS C maximum traffic volume of 668 vehicles per hour per lane (vphpl) was used to model these roadways.
4. Noise Abatement Category F does not have noise abatement criteria levels, but the existing agricultural areas were modeled as required by the Protocol.
5. The noise measurement location was taken in the front of the residence at an acoustically equivalent area (along Tyler Street), as the backyard area of this property was not accessible on June 8, 2016.
6. This modeled receptor was positioned in the backyard of this property rather than in front of the residence along Tyler Street (i.e., where the noise measurement was taken), as this is the primary activity area on the property.

Source: State Route 86/Avenue 50 New Interchange Project Noise Study Report, August 2018.

As indicated in Table 2.2.7-5, none of the 30 modeled receptor locations approach or exceed the applicable NAC under existing conditions.

2.2.7.3 Environmental Consequences

2.2.7.3.1 Permanent Impacts

The project is considered a Type I project under 23 CFR 772 since 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." All Type I projects are required to consider noise abatement measures.

To determine traffic-related noise attributed to the project, model runs for the No-Build and Build Alternatives were developed using TNM 2.5 computer modeling. As discussed in the Noise Study Report, 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 NAC or if the predicted traffic noise level is 12 dBA or more over the corresponding modeled existing peak noise level at the sensitive receiver locations analyzed. When traffic noise impacts occur, noise abatement measures must be considered.

Alternative 1 (No-Build Alternative)

Table 2.2.7-6, Existing and Predicted Traffic Noise Levels, summarizes the traffic noise modeling results for existing conditions and design year conditions without the project. The modeling results are based on the Traffic Operations Report (November 2017) prepared for the

project, which assumes an existing year of 2016, and a design year of 2045. To determine whether a traffic noise impact would occur, predicted design-year traffic noise levels without the project (No-Build Alternative) are compared to the predicted design-year (2045) conditions without the project. The modeled future noise levels for each receiver were also compared to their respective NAC Activity Category. Refer to Table 2.2.7-1 for a summary of NAC Activity Categories and their respective land use categories.

As indicated in Table 2.2.7-6, noise levels under the No-Build Alternative would not approach or exceed the NAC of 67 dBA L_{eq}(h) for Category B or C land uses or result in a substantial increase in noise. Thus, the No-Build Alternative would not involve permanent noise impacts which would require avoidance, minimization, and/or mitigation measures.

Alternatives 7 and 8 (Build Alternatives)

Traffic noise modeling results for existing conditions (2016) and design year (2045) conditions under Alternative 7 and Alternative 8 are presented in Table 2.2.7-6, below. To determine whether a traffic noise impact would occur, predicted design-year traffic noise levels with the project (Build Alternatives) are compared to the predicted design-year (2045) conditions with the project. The modeled future noise levels for each receiver were also compared to their respective NAC Activity Category. Refer to Table 2.2.7-1 for a summary of NAC Activity Categories and their respective land use categories.

As concluded in Table 2.2.7-6, noise levels under Alternatives 7 and 8 would not approach or exceed the NAC of 67 dBA L_{eq}(h) for Category B or C land uses or result in a substantial increase in noise. In fact, future traffic noise levels at several modeled receptors (i.e., receptors 1, 2, 3, 11, 14, 15, and 16) would experience lower noise levels under design-year conditions plus Alternatives 7 and 8 (compared to future no build conditions) due to an increase in distance between the roadways and receptors. Specifically, receptors 1, 2, and 3 would be located approximately 92 feet, 59 feet, and 22 feet further from Avenue 50, respectively, and receptors 14, 15, and 16 would be positioned approximately 162 feet, 121 feet, and 55 feet further, respectively, from Tyler Street under future build conditions compared to existing and future no build conditions. Additionally, although Avenue 50 would be closer to Receptor 11 under future build conditions, this receptor would experience a decrease in traffic noise levels due to an increase in distance to Tyler Street (i.e., Tyler Street would be positioned approximately 360 feet from Receptor 11 under future build conditions, compared to approximately 130 feet under existing and future no-build conditions). The highest noise level (72 dBA) would occur at Receptor 26; however, there is no NAC for this receptor (Activity Category F). Therefore, the Build Alternatives would not involve permanent noise impacts which would require noise abatement or avoidance, minimization, and/or mitigation measures.

2.2.7.3.2 Temporary Impacts

Alternative 1 (No-Build Alternative)

Project improvements would not occur under the No-Build Alternative; therefore, the No-Build Alternative would not result in temporary noise impacts.

Table 2.2.7-6: Existing and Predicted Traffic Noise Levels

Receptor No.	Assessor's Parcel Number	Land Use	NAC Activity Category	Impact Criteria	Measured Noise Level[1]	Modeled Existing Noise Level[2,3]	Future No Build[2,3]	Alternative 7[2,3]	Impact Type	Alternative 8[1,2]	Impact Type
1	603-471-071	Residential	E	67	N/A	55	57	56	None	56	None
2	603-471-072	Residential	B	67	57.0	55	57	55	None	55	None
3	603-471-073	Residential	B	67	N/A	56	57	56	None	56	None
4	603-471-075	Residential	B	67	N/A	55	56	56	None	56	None
5	603-461-056	Residential	B	67	58.4	55	56	56	None	56	None
6	603-461-057	Residential	B	67	N/A	56	57	56	None	56	None
7	778-170-009	Residential	B	67	55.7	59	60	62	None	62	None
8	778-170-005	Residential	B	67	N/A	61	62	63	None	63	None
9	778-170-006	Residential	B	67	N/A	55	56	57	None	57	None
10	778-170-007	Residential	B	67	N/A	52	53	55	None	55	None
11	778-170-011	Agricultural	B	N/A[4]	N/A	63	65	62	None	62	None
12	778-170-011	Agricultural	B	N/A[4]	57.6	52	54	60	None	60	None
13	778-170-011	Agricultural	B	N/A[4]	N/A	57	59	63	None	63	None
14	763-020-018	Park	C	67	56.9	62	65	57	None	57	None
15	763-042-001	Residential	B	67	N/A	62	65	58	None	58	None
16	763-041-001	Residential	B	67	67.1[5]	58[6]	61[6]	60[6]	None	60[6]	None
17	763-041-002	Residential	B	67	N/A	57	60	60	None	60	None
18	763-041-003	Residential	B	67	N/A	57	60	61	None	61	None
19	763-041-004	Residential	B	67	N/A	57	60	61	None	61	None
20	763-041-005	Residential	B	67	N/A	57	60	62	None	62	None
21	763-041-006	Residential	B	67	N/A	57	60	62	None	62	None
22	763-042-006	Residential	B	67	N/A	49	52	53	None	53	None
23	763-042-008	Residential	B	67	N/A	48	51	53	None	53	None
24	763-042-010	Residential	B	67	N/A	48	51	52	None	52	None
25	763-042-012	Residential	B	67	N/A	48	51	52	None	52	None
26	603-300-027	Agricultural	F	N/A[4]	N/A	69	71	72	None	72	None
27	603-330-010	Agricultural	F	N/A[4]	N/A	65	67	N/A[7]	None	N/A[7]	None
28	603-330-003	Utilities	F	N/A[4]	N/A	59	60	62	None	62	None
29	603-330-006	Residential	B	67	N/A	59	60	62	None	62	None
30	763-020-023	Agricultural	F	N/A[4]	N/A	60	61	64	None	64	None

Notes:
1. The measured noise level was taken during off-peak hours.
2. The modeled noise levels are based on worst-case traffic volumes that correspond to LOS C or peak hour traffic volumes from the State Route 86/Avenue 50 New Interchange Project Traffic Operations Report prepared by Fehr and Peers (November 2017).
3. P.M. peak hour traffic data is not provided for Tyler Street and/or Avenue 50 to the north/east of SR-86 in the State Route 86/Avenue 50 New Interchange Project Traffic Operations Report prepared by Fehr and Peers (November 2017). Therefore, the LOS C maximum traffic volume of 668 vehicles per hour per lane (vphpl) was used to model these roadways.
4. Noise Abatement Category F does not have noise abatement criteria levels, but the existing agricultural areas were modeled as required by the Protocol.
5. The noise measurement location was taken in the front of the residence at an acoustically equivalent area (along Tyler Street), as the backyard area of this property was not accessible on June 8, 2016.
6. This modeled receptor was positioned in the backyard of this property rather than in front of the residence along Tyler Street (i.e., where the noise measurement was taken), as this is the primary activity area on the property.
7. Build Alternatives 7 and 8 would require partial acquisition (approximately 8.18 acres) of this property for construction of the new SR-86/Avenue 50 interchange, and allow for Tyler Street to transverse it. Therefore, noise modeling was not conducted at this receptor in the Future Plus Build Alternative 7 or Future Plus Build Alternative 8 scenarios.

Source: State Route 86/Avenue 50 New Interchange Project Noise Study Report, August 2018.

Alternatives 7 and 8 (Build Alternatives)

Construction noise would result from the transport of construction workers and equipment and materials to and from the project site, as well as from roadway and bridge construction activities. These activities could represent a nuisance to nearby residential uses and other sensitive receptors. The Federal Transit Administration (FTA) has compiled data regarding noise levels produced by construction equipment that is commonly used on roadway construction projects; refer to Table 2.2.7-7, Construction Equipment Noise. Construction equipment noise would decrease with distance at a rate of approximately 6 dB per doubling of distance.

Table 2.2.7-7: Construction Equipment Noise

Equipment	Maximum Noise Level (dBA at 25 feet)	Maximum Noise Level (dBA at 50 feet)	Maximum Noise Level (dBA at 100 feet)	Maximum Noise Level (dBA at 600 feet)
Scrapers	95	89	83	67
Bulldozers	91	85	79	63
Heavy Trucks	94	88	82	66
Backhoe	86	80	74	58
Pneumatic Tools	91	85	79	63
Concrete Pump	88	82	76	30
dBA= A-Weighted Decibel				
Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, 2006.**Error! Bookmark not defined.**				

As discussed, the closest sensitive receptors to the project include residential uses located approximately 35 feet to the east of the project construction area along Tyler Street. Construction activities associated with the Build Alternatives could expose these uses to temporary noise levels between approximately 83 and 92 dBA L_{max}. Construction-related noise associated with Alternatives 7 and 8 would be temporary and would cease upon project completion. Additionally, construction would comply with Caltrans Standard Specifications Section 14-8.02, "Noise Control," and applicable local noise standards. These measures provide guidance on maximum noise levels resulting from work activities as well as allowable construction activities. Accordingly, temporary impacts related to the Build Alternatives would not be adverse.

2.2.7.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation measures are required.

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 (Section 2.3.5). Wetlands and other waters are also discussed below in Section 2.3.2.

2.3.1.1 Affected Environment

This section is based upon the Natural Environment Study (NES) prepared for the project dated November 2018. 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 includes the two build alternatives and a 500-foot radius buffer around the project footprint for both build alternatives.

2.3.1.1.1 Existing Conditions

Two natural plant communities are present within the BSA: arrowweed scrub and saltbush scrub. However, neither of these communities is identified as a natural community of special concern. In addition, the BSA supports three human-modified areas: agriculture, disturbed, and developed. The natural plant communities and human-modified areas that occur in the BSA are described in Table 2.3.1-1, Vegetation, and are depicted on Figure 2.3.1-2, Vegetation.

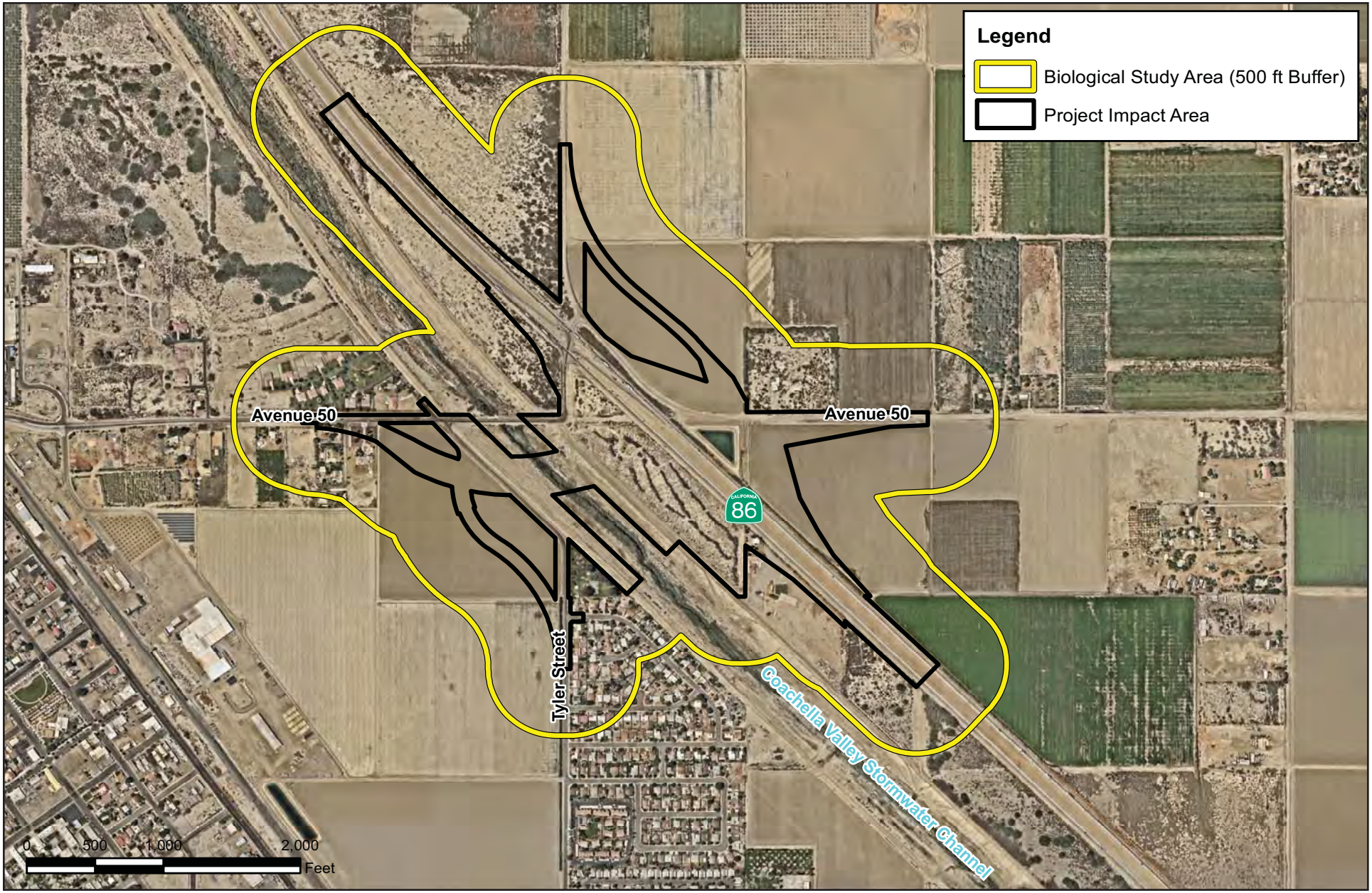
Table 2.3.1-1: Vegetation

Vegetation Types and Other Areas in the BSA	Existing Acres
Arrowweed scrub	7.2
Saltbush scrub	75.5
Agriculture	141.0
Disturbed	120.0
Developed	62.3
Total	**406.0**

Source: Natural Environment Study, May 2018.

Arrowweed Scrub

The arrowweed scrub plant community encompasses approximately 7.2 acres of the BSA. This plant community is located within the active channel of the CVSC throughout the BSA. Plant species occurring within this plant community include arrowweed (*Pluchea sericea*), salt heliotrope (*Heliotropium curassavicum*), sea purslane (*Sesuvium verrucosum*), salt grass (*Distichlis spicata*), pigweed (*amaranthus spp.*), common reed (*Phragmites australis*), fringed willowherb (*Epilobium ciliatum*), jimsonweed (*Datura wrightii*), tree tobacco (*Nicotiana glauca*), Bermuda grass (*Cynodon dactylon*), five hook bassia (*Bassia hyssopifolia*), bulrush (*Schoenoplectus acutus*), and cattail (*Typha domingensis*). Isolated stands of black willow (*Salix gooddingii*) and tamarisk (*Tamarix ramosissima*) also occur.



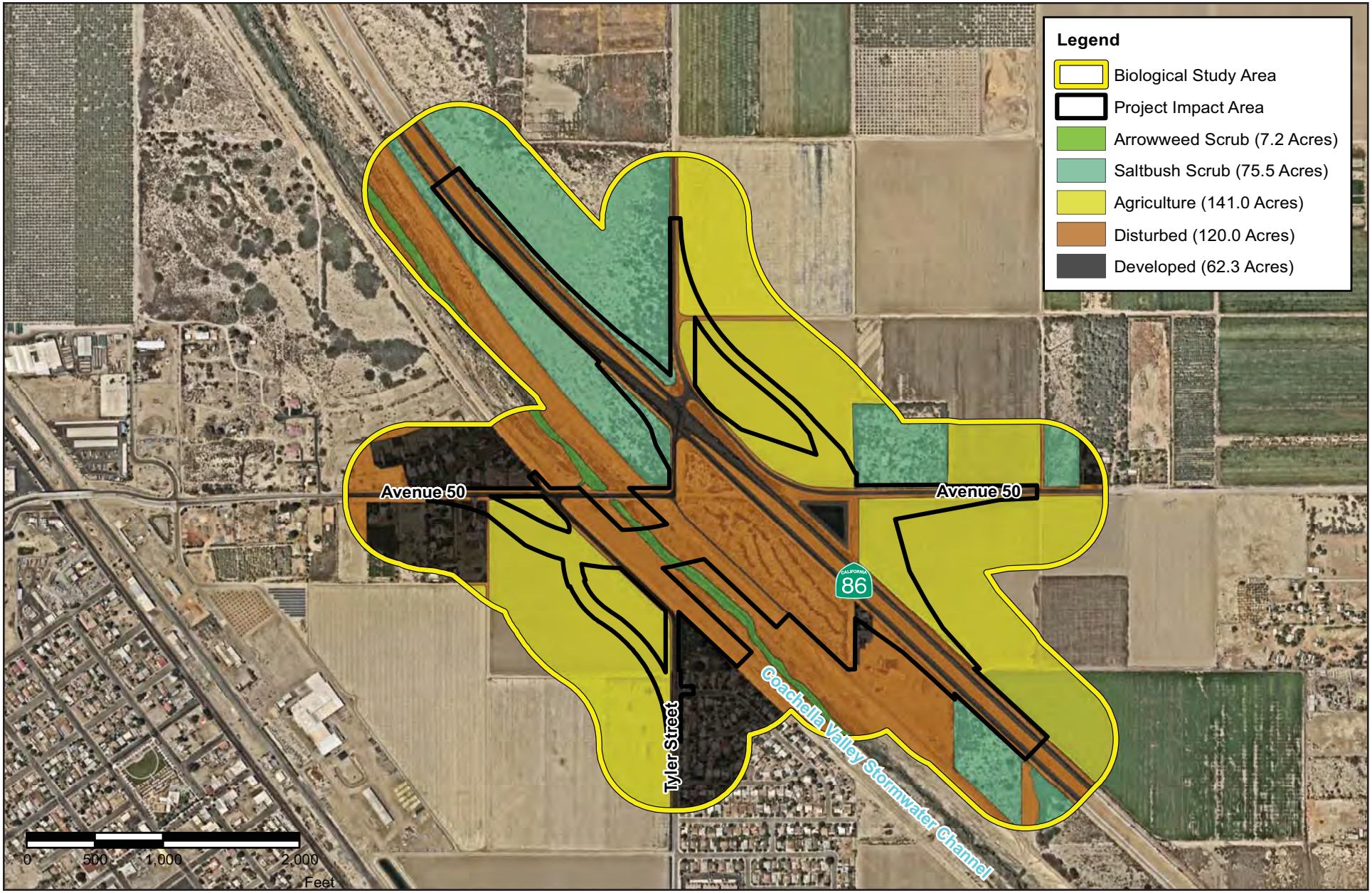
Source: Natural Environment Study, May 2018.

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
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Biologicial Study Area

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Figure 2.3.1-1



Source: Natural Environment Study, May 2018.

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Vegetation

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Figure 2.3.1-2

Saltbush Scrub

The saltbush scrub plant community encompasses approximately 75.5 acres of the BSA. This plant community is located on the northeastern portion of the BSA east of the CVSC and west of SR-86, north of Avenue 50. Plant species occurring within this plant community include big saltbush (*Atriplex lentiformis*), white bursage (*Ambrosia dumosa*), burrowbrush (*Ambrosia salsola*), smoke tree (*Psorothamnus spinosus*), desert thorn (*Lycium brevipes*), leaved cambess (*Oligomeris linifolia*), and bush seepweed (*Suaeda nigra*). In addition, isolated stands of honey mesquite (*Prosopis glandulosa*), catclaw (*Senegalia greggii*), and tamarisk occur in this plant community adjacent to Avenue 50 and SR-86.

Agriculture

Agriculture land uses encompass approximately 141.0 acres of the BSA. Agricultural land is located south of Avenue 50, west of Tyler Street, and east of SR-86. This area supports planted row crops that are currently active and are exposed to routine irrigation practices.

Disturbed

Disturbed areas encompass approximately 120.0 acres of the BSA. Disturbed areas within the BSA generally consist of unpaved areas that no longer support vegetation or comprise a plant community. These areas include unimproved access roads and land that has been routinely cleared or graded during maintenance and/or weed abatement activities. The areas immediately west and east of the active channel, but within the limits of the CVSC are routinely graded/maintained and no longer support a native plant community. In addition, the area south of Avenue 50, west of SR-86, and east of the CVSC has also been subject to grading and maintenance activities and no longer supports a native plant community.

Developed

Developed areas encompass approximately 62.3 acres of the BSA and consist of residential properties and paved, impervious surfaces. Developed areas within the BSA include the Sierra Vista Park, residential properties, Avenue 50, Tyler Street, and SR-86, city streets, and other paved roadways.

The BSA is not affected by a certified Local Coastal Program (LCP) or within 100 feet of a potentially environmentally sensitive habitat area (ESHA) as defined by the Coastal Act. Thus, no special resource protection areas are located within the BSA.

2.3.1.1.2 Habitat Connectivity

Habitat linkages provide links between larger undeveloped habitat areas that are separated by development. Wildlife corridors are similar to linkages but provide specific opportunities for animals to disperse or migrate between areas. A corridor can be defined as a linear landscape feature of sufficient width to allow animal movement between two comparatively undisturbed habitat fragments. Adequate cover is essential for a corridor to function as a wildlife movement area. It is possible for a habitat corridor to be adequate for one species but inadequate for others. Wildlife corridors are significant features for dispersal, seasonal migration, breeding, and foraging. Additionally, open space can provide a buffer against both human disturbance and natural fluctuations in resources.

There are no known habitat linkages or wildlife corridors within the BSA. Further, the CVSC has not been identified in the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) as a habitat linkage or wildlife corridor. Areas surrounding the BSA are completely developed and comprised of residential, transportation, and agricultural land uses which have eliminated the connection between the BSA and naturally occurring vegetation communities.

2.3.1.3 Environmental Consequences

2.3.1.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Project improvements would not occur under the No-Build Alternative; therefore, the No-Build Alternative would not impact natural communities of special concern.

Alternatives 7 and 8 (Build Alternatives)

As indicated above, two natural plant communities occur within the BSA: arrowweed scrub and saltbush scrub. Although these plant communities provide suitable nesting and foraging opportunities for avian and mammalian species, no natural communities of special concern were identified in the BSA. Therefore, no temporary impacts to natural communities of special concern are anticipated to occur as a result of the Build Alternatives.

2.3.1.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Project improvements would not occur under the No-Build Alternative; therefore, the No-Build Alternative would not impact natural communities of special concern.

Alternatives 7 and 8 (Build Alternatives)

As noted above, although the arrowweed scrub and saltbush scrub provide suitable nesting and foraging opportunities for avian species and mammalian species, no natural communities of special concern were identified within the BSA. Therefore, no permanent impacts to natural communities of special concern would occur as a result of the Build Alternatives.

As noted above, there are no known habitat linkages or wildlife corridors within the BSA. Further, the CVSC has not been identified in the CVMSHCP as a habitat linkage or wildlife corridor. Areas surrounding the BSA are completely developed and comprised of residential, transportation, and agricultural land uses which have eliminated the connection between the BSA and naturally occurring vegetation communities. Accordingly, impacts related to wildlife corridors and habitat fragmentation would not be adverse.

2.3.1.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

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2.3.2 Wetlands and Other Waters

2.3.2.1 Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. 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.

2.3.2.2 Affected Environment

This section is based upon the Natural Environment Study (NES) prepared for the project dated November 2018, which included preparation of a Jurisdictional Delineation Report.

2.3.2.2.1 Methodology

Prior to the field delineation, a literature review and records search was conducted to determine watershed characteristics and the locations/types of aquatic resources that may be present within the Biological Study Area (BSA). 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 BSA.

The delineation was conducted on foot and included a systematic inspection and evaluation of all drainage features present within the survey area. The channel widths within drainage features were measured based on the discernible OHWM in order to quantify acreage and linear feet of potential waters of the United States. 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 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. Data are also recorded through the use of an Apple iPad using an ArcGIS application.

2.3.2.2.2 Existing Conditions

Vegetation: Site conditions are characteristic of the arid west environment and typical of arrowweed scrub habitat. Emergent riparian vegetation was documented adjacent to the Coachella Valley Stormwater Channel (CVSC). Vegetation within the BSA consists of tamarisk (*Tamarix ramosissima*), cattail (*Typha domingensis*), common reed (*Phragmites australis*), and black willow (*Salix gooddingii*) within the bed of the channel. Along the banks big saltbush (*Atriplex lentiformis*), sea purslane (*Sesuvium verrucosum*), arrowweed (*Pluchea sericea*), salt heliotrope (*Heliotropium curassavicum*), and saltgrass (*Distichlis spicata*) were documented. Based on the review of aerial photography and on-site conditions, portions of the CVSC are maintained for flood control purposes.

Upland vegetation along the existing SR-86 alignment consists of big saltbush, bush seepweed (*Suaeda nigra*), burrobrush (*Ambrosia salsola*), and leaved cambess (*Oligomeris linifolia*).

Hydrology: The active channel, Whitewater River, delineated throughout the CVSC is characterized by perennial flows, with surrounding areas comprised of earthen material and a combination of native and non-native vegetation. The study area receives flows from connected subsurface evacuation channels throughout the valley. All waters are conveyed through the site south to the Salton Sea. Two existing culverts convey flows to the BSA.

The active channel mapped during this delineation exhibited clear evidence of hydrological processes such as sediment deposition and the destruction of terrestrial vegetation. The active channel also exhibited large accumulations of drift deposits on the upstream side of the channel. The active channel inventoried during the course of the field work was comprised of a single channel form, ranging between 6 and 20 feet in width. Generally, the active channel exhibited a very flat (i.e., planar) bed topography. One large pond utilized for agricultural purposes can be seen immediately south of Avenue 50; refer to Figures 2.3.2-1a and 2.3.2-1b, Overview of Jurisdictional Features. This pond is wholly excavated in the uplands and does not exhibit a connection to the CVSC. Further, a large culvert with a trash screen, concrete wing walls, and rip rap energy dissipaters contribute storm flows to the Whitewater River, with portions downstream of the culvert within the project footprint.

The higher elevations along SR-86 contained no other hydrological features; refer to Figures 2.3.2-2a and 2.3.2-2b, Jurisdictional Areas.

Soils: Soils found primarily consisted of sandy loams and sandy clay. In addition, conditions on-site are disturbed as a result of maintenance occurring within the flood control channel. Based on field investigations, it was determined hydric soils were preset within the project site. The Indio very fine sandy loam, wet and Gilman fine sandy loam, wet, 0 to 2 percent slopes, were located along the road in conjunction with the agricultural fields.

According to the results of the field delineation, approximately 0.97-acre of USACE/RWQCB jurisdiction is located within the project site. Of the 0.97-acre, approximately 0.08-acre would be considered non-wetland waters and 0.89-acre wetland waters. In addition, approximately 5.11-acres of CDFW jurisdiction (0.89-acre vegetated streambed and 4.22-acres non-vegetated streambed) is located within the project site.



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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
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Overview of Jurisdictional Features

Figure 2.3.2-1a



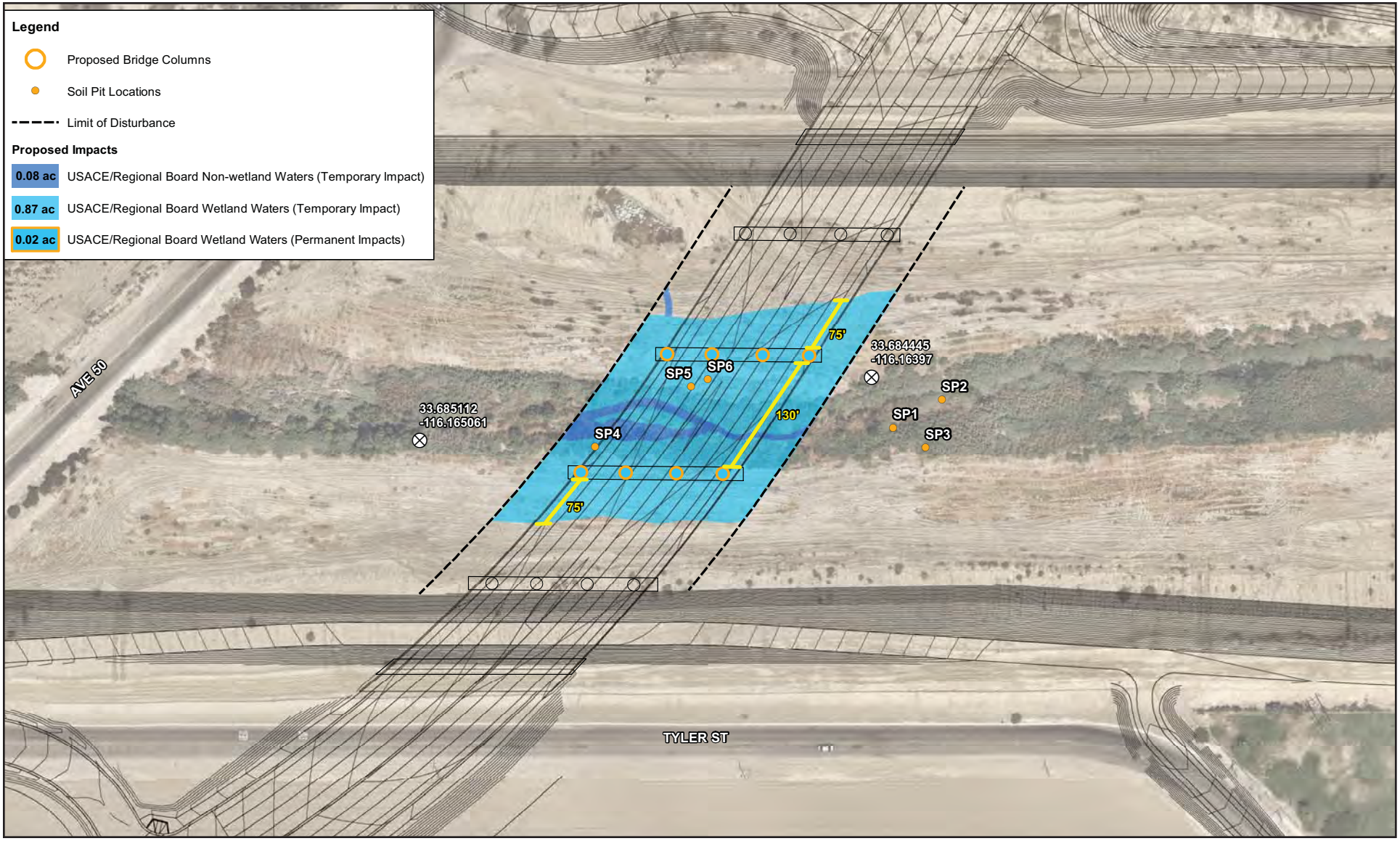
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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
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Overview of Jurisdictional Features

Figure 2.3.2-1b



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Jurisdictional Areas

Figure 2.3.2-2a



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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Jurisdictional Areas

Figure 2.3.2-2b

2.3.2.3 Environmental Consequences

2.3.2.3.1 Temporary Impacts

Alternative 1 (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.

Alternatives 7 and 8 (Build Alternatives)

The proposed Avenue 50 bridge supporting columns and related construction activities would span the active CVSC channel. Both Build Alternatives would result in temporary project impacts to 0.95-acre (0.08 of non-wetland waters and 0.87 of wetland) of USACE jurisdiction and RWQCB jurisdiction, and 1.88-acre (0.87 of vegetated streambed and 0.99 of unvegetated streambed) of CDFW jurisdiction (refer to Table 2.3.2-1, Jurisdictional Impact Summary and Figure 2.3.2-1b).

The City of Coachella will obtain the USACE CWA Section 404 Permit, SWRCB CWA Section 401 Water Quality Certification, and CDFW Section 1602 Streambed Alteration Agreement (SAA) prior to impacting areas under the jurisdiction of the USACE, RWQCB, and CDFW. Measures WET-1, WET-2a, and WET-2b are expected to minimize potential impacts associated with construction of the proposed project. Measure WET-1 would require impacts to jurisdictional waters of the U.S. and State be mitigated at a minimum 1:1 ratio at an approved mitigation bank, applicant-sponsored mitigation area, or on-site; thereby reducing these potential impacts. The project will include a restoration plan that will provide requirements for site selection, implementation, monitoring, long-term maintenance, and performance standards, in consultation with the resource agencies. Measures WET-2a and WET-2b would require a delineated no work buffer around riparian and riverine communities to minimize and/or avoid potential impacts to these communities.

Prior to vegetation clearing or construction, highly visible barriers (such as orange construction fencing) will be installed providing a no work buffer around riparian and riverine communities adjacent to the project footprint and flagged as Environmentally Sensitive Areas (ESAs) to be preserved. The ESAs will serve as an exclusionary buffer delineating areas where no work shall be performed. In particular, no grading or fill activity of any type will be permitted within these ESAs. In addition, heavy equipment, including motor vehicles, will not be allowed to operate within the ESAs. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby preserved areas. No structure of any kind, or incidental storage of equipment or supplies, shall be allowed within these protected zones. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities. Installation of ESA fencing and silt fence barriers is identified in Measures WET-2a and WET-2b, below.

Thus, with adherence to Measures WET-1, WET-2a, and WET-2b, CWA Section 404 Permit, CWA Section 401 Certification, and Section 1602 SAA, temporary effects related to project implementation would not be adverse in this regard.

2.3.2.3.2 Permanent Impacts

Alternative 1 (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.

Alternatives 7 and 8 (Build Alternatives)

The CVSC runs northwest to southeast through the BSA and is characterized by perennial flows, with surrounding areas comprised of earthen material and a combination of native and non-native vegetation. The CVSC is a relatively permanent water and flows to the Salton Sea, a traditional navigable water.

The project would result in approximately 3.25-acres (0.02-acres of vegetated streambed and 3.23-acres of non-vegetated streambed) of permanent impacts to streambeds associated with CVSC, which are under CDFW jurisdiction; refer to Figure 2.3.2-1b, above.

According to the results of the field delineation, as shown in Table 2.3.2-1, the proposed project would result in approximately 0.02-acres of permanent impacts to wetlands associated with CVSC; refer to Figure 2.3.2-1a, above. The proposed project would result in no permanent impacts to non-wetland waters under USACE and RWQCB jurisdiction.

Table 2.3.2-1: Jurisdictional Impact Summary

Acreage	USACE		RWQCB		CDFW	
	Non-Wetland Waters	Wetland	Non-Wetland Waters	Wetland	Vegetated Streambed	Non-Vegetated Streambed
Permanent Impacts	0 acre	0.02 acre	0 acre	0.02 acre	0.02 acre	3.23 acres
Temporary Impacts	0.08 acre	0.87 acre	0.08 acre	0.87 acre	0.87 acre	0.99 acre

Source: Jurisdictional Delineation Report, November 2018.

Two-hundredths of an acre is approximately 2.24% of the .89 acres of wetland waters located within the project footprint, which are under USACE and RWQCB jurisdiction. Although the actual area of wetlands expected to be permanently impacted by the proposed project is nominal, changing the design of the bridge over the CVSC in order to avoid permanent impacts to the 0.02 acres of wetlands is not practicable due to the substantial increases in the cost of the project that would result.

Based upon an evaluation of the parameters of the wetlands, the piers, which would be the source of the permanent impacts to the wetlands, would need to be moved approximately 75 feet towards the outer banks of the channel; refer to Figure 2.3.2-2a, above.

Relocating the two sets of bridge columns to avoid wetlands would more than double the length of the center span of the bridge from 130 feet to approximately 280 feet, an increase of 150 feet due to shifting each set of bridge columns approximately 75 feet closer to the CVSC's outer banks. A comparison of the current preliminary engineering design, for both build alternatives, a five-span bridge span bridge structure versus the three-span bridge structure that would be

based upon avoiding permanent impacts to the 0.02 acres of wetlands is provided in Table 2.3.2-2.

Table 2.3.2-2: Preliminary Bridge Span Results

	5-SPAN STRUCTURE (Current Design, both Build Alternatives)			3-SPAN STRUCTURE (Wetlands Avoidance Design)		
	Span Length	Girder Depth	Column size	Span Length	Girder Depth	Column size
Span# 1	107'-6"	5'-6"	5'-6"	175'-6"	11'-3"	7'-10" x 10'-6" oblong
Span# 2	130'-0"	5'-6"	5'-6"	280'-0"	11'-3"	7'-10" x 10'-6" oblong
Span# 3	130'-0"	5'-6"	5'-6"	149'-6"	11'-3"	7'-10" x 10'-6" oblong
Span# 4	130'-0"	5'-6"	5'-6"	N/A	N/A	N/A
Span# 5	107'-6"	5'-6"	5'-6"	N/A	N/A	N/A
Note: Total bridge length = 605 feet						

Using a 280-foot center span on a 3-span river bridge would not be consistent with the characteristics of the setting of the proposed project. This span length is typically used to span over a river (with navigable water) and/or "high-flying" freeway connectors. A bridge with a 280-foot span would require that the superstructure depth more than double, from 5'-6" to 11'-3". Additionally, with a 280-foot center span, in order to maintain the same water surface elevation and freeboard, the roadway vertical profile would need to be higher by approximately six feet. For the proposed project, this would result in the following:

1. Larger project footprint would require additional acquisition, including impacts to adjacent private driveways;

2. Proposed CV Link ramp profiles would lengthen and flatten, resulting in impacts to the existing Sierra Vista Park sidewalk;

3. A 280-foot center span would change the design and construction costs. The unit price for the current design, for either build alternative, is $285/square foot, totaling to a $21,726,000 project cost. The design necessary to avoid permanently impacting the 0.032 acres of wetlands would be approximately $450/ square foot, totaling to a $34,304,000 project cost. The additional $12.6 million cost of the bridge, would be a 58% increase, just for the structure alone, the costs associated with the additional right of way and changes to the approach roadway would be additional.

Based on the information provided above, a bridge design that avoids impacts to wetlands is not considered practicable. The center span of the bridge under the proposed Build Alternatives is 130 feet. As depicted in Figure 2.3.2-2a, in order to avoid impacts to wetlands, each set of columns would need to be shifted closer to the CVSC's outer banks by approximately 75 feet (a total increase in the center span of the bridge of 150 feet).

The design team further evaluated the current proposed 5-span design to maximize the center span length. The maximum feasible distance the columns could be shifted is estimated to be approximately 10 additional feet farther away from the centerline of CVSC channel. However, this increase of 20 feet (2 x10 feet) in the center span, a total center of 150 feet, would be insufficient to avoid permanent impacts to wetlands.

The Jurisdictional Delineation prepared for the project (dated April 2018) was provided to the USACE for review and concurrence. The Jurisdictional Delineation was updated in October

2018 and resubmitted to USACE for review and concurrence. Written concurrence from the USACE on the results and findings of the Jurisdictional Delineation is anticipated prior to completion of the final environmental document. The City of Coachella will obtain the required USACE 404 Standard Individual Permit, Colorado River Basin Regional Water Quality Control Board (CRBRWQCB) 401 Water Quality Certification, and CDFW 1602 SAA, satisfying all associated requirements, prior to completion of final design. Anticipated potential impacts to jurisdictional waters of the U.S. and State will be addressed at a minimum 1:1 ratio, which may involve purchase of land or land credits and/or a restoration plan. Impacts following completion of this project are not anticipated to be substantial.

2.3.2.4 Avoidance, Minimization, and/or Mitigation Measures

WET-1 Permanent and temporary impacts to jurisdictional waters will be mitigated at a minimum 1:1 ratio at an approved mitigation bank, applicant-sponsored mitigation area, or on-site. The project will include a restoration plan that will provide requirements for site selection, implementation, monitoring, long-term maintenance, and performance standards, in consultation with the resource agencies.

WET-2a Prior to any construction related ground disturbing activities, ESA fencing will be installed where and as specified on project plans.

WET-2b Silt fence barriers will be installed at the ESA boundary.

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2.3.3 Plant Species

2.3.3.1 Regulatory Setting

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

2.3.3.2 Affected Environment

This section is based on the Natural Environment Study (NES) prepared for the proposed project, dated November 2018.

2.3.3.2.1 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 Biological Study Area (BSA). The record search was focused on the Indio United States Geological Survey (USGS) 7.5-minute quadrangle. Previously recorded occurrences of special-status plant and animal species and their proximity to the BSA were determined through a query of the CDFW California Natural Diversity Database (CNDDB) Rarefind 5, CDFW Biogeographic Information & Observation System (BIOS), the California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California, Calflora Database, compendia of special-status species published by CDFW, and the USFWS species listings. In addition, a Species List was obtained from the Carlsbad Field Office of the USFWS via the Information for Planning and Conservation (IPaC) database on September 24, 2018.

Literature detailing biological resources previously documented in the vicinity of the BSA and historical land uses were reviewed to understand the extent of disturbances to the habitats on-site. Standard field guides and texts on special-status and non-special-status biological resources were reviewed for habitat requirements, as well as the following resources:

- Google Earth Pro Historic Aerial Imagery (1996 – 2016);

- United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Soil Survey;

- USFWS Critical Habitat designations for Threatened and Endangered Species and Primary Constituent Elements for least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), Yuma clapper rail (*Rallus longirostris yumanensis*), Coachella Valley fringe-toed lizard (*Uma inornata*), desert tortoise (*Gopherus agassizii*), and Coachella Valley milkvetch (*Astragalus lentiginosus* var. *coachellae*);

- Delineation of State and Federal Jurisdictional Waters for the State Route 86/Avenue 50 New Interchange Project (April 2018); and

- eBird database.

The literature review provided a baseline from which to inventory the biological resources potentially occurring within the BSA. Additional recorded occurrences of these species found within or near the BSA were derived from database queries. The CNDDB database was used, in conjunction with ArcGIS software, to locate the nearest special-status plant species occurrences and determine the distance from the BSA. In addition, the goals and objectives of the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) were reviewed for applicability to the BSA.

Following the literature review and records search, an evaluation of the extent and condition of plant communities found within the boundaries of the BSA was conducted on April 26, 2017. Plant communities identified on aerial photographs during the literature review were verified in the field by walking meandering transects through the plant communities and along boundaries between plant communities. The plant communities were evaluated for their potential to support special-status plant species.

Special attention was given to special status habitats and/or undeveloped areas, which have higher potential to support special status plant species such as those identified during the records search. All plant species observed, as well as dominant plant species within each plant community, were recorded in a field notebook. Site characteristics such as soil condition, topography, hydrology, anthropogenic disturbances, indicator species, and condition of on-site plant communities were noted.

2.3.3.2.2 Existing Conditions

The Natural Environment Study (NES) prepared for the project analyzes impacts to sensitive plant species. Based on the NES, two natural communities were observed within the BSA during the site investigation on April 26, 2017: arrowweed scrub and saltbush scrub; refer to Section 2.3.1 above for a discussion of natural communities. In addition, there were three human-modified areas observed within the BSA: agriculture, disturbed, and developed.

A total of 12 special status plant species were identified during the CNDDB, CNPS, and IPaC records search as potentially occurring on the BSA. However, none of the twelve special status plant species were found to be present within the BSA during the assessment. According to the NES, none of the twelve special status plant species are expected to occur within the BSA and are presumed absent based on habitat requirements for specific species, availability, and quality of habitats needed by special status plant species. Refer to Table 2.3.3-1, Potentially Occurring Special-Status Plant Species, below.

Table 2.3.3-1: Potentially Occurring Special-Status Plant Species

Common Name	Scientific Name	Status		General Habitat Requirements	Habitat Present/Absent	Rationale
chaparral sand-verbena	*Abronia villosa var. aurita*	Fed: CA: CNPS: CVMSHCP:	None None 1B.1 Not Covered	Habitats include chaparral, coastal scrub, and desert dunes. Found at elevations ranging from 246 to 5,250 feet above mean sea level (msl). Blooming period is from January to September.	Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or comprised of agricultural and residential land uses.
Coachella Valley milk-vetch	*Astragalus lentiginosus var. coachellae*	Fed: CA: CNPS: CVMSHCP:	FE None 1B.2 Covered	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 to 2,150 feet above msl. Blooming period is February to May.	Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or comprised of agricultural and residential land uses.
Lancaster milk-vetch	*Astragalus preussii var. laxiflorus*	Fed: CA: CNPS: CVMSHCP:	None None 1B.1 Not Covered	Occurs on alkaline clay in flat, gravelly or sandy washes in chenopod scrub. Found at elevations ranging from 0 to 2,300 feet above msl. Blooming period is from March to May.	Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or comprised of agricultural and residential land uses.
gravel milk-vetch	*Astragalus sabulonum*	Fed: CA: CNPS: CVMSHCP:	None None 2B.2 Not Covered	Associated with sandy, sometimes gravelly flats, washes, and roadsides. Habitats include desert dunes, Mojavean desert scrub, and Sonoran Desert scrub. Found at elevations ranging from -200 to 3,050 feet above msl. Blooming period is from February to July.	Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or comprised of agricultural and residential land uses.

Table 2.3.3-1: Potentially Occurring Special-Status Plant Species [continued]

Common Name	Scientific Name	Status	General Habitat Requirements	Habitat Present/Absent	Rationale	Common Name
ribbed cryptantha	*Cryptantha costata*	Fed: CA: CNPS: CVMSHCP:	None None 4.3 Not Covered	Occurs on sandy habitats in desert dunes, Mojavean desert scrub, and Sonoran Desert scrub. Found at elevations ranging from -200 to 1,640 feet above msl. Blooming period is from February to May.	Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or comprised of agricultural and residential land uses.
glandular ditaxis	*Ditaxis claryana*	Fed: CA: CNPS: CVMSHCP:	None None 2B.2 Not Covered	Occurs on sandy habitats in Mojavean desert scrub and Sonoran Desert scrub. Found at elevations ranging from 0 to 1,525 feet above msl. Blooming period is from October to March.	Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or comprised of agricultural and residential land uses.
Joshua Tree poppy	*Eschscholzia androuxii*	Fed: CA: CNPS: CVMSHCP:	None None 4.3 Not Covered	Occurs on sandy, gravelly, and/or rocky desert washes, flats, and slopes in Joshua tree woodland and Mojavean desert scrub. Found at elevations ranging from 1,900 to 5,530 feet above msl. Blooming period is February to June.	Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or comprised of agricultural and residential land uses.
pink velvet-mallow	*Horsfordia alata*	Fed: CA: CNPS: CVMSHCP:	None None 4.3 Not Covered	Grows in Sonoran Desert scrub. Found at elevations ranging from 330 to 1,640 feet above msl. Blooming period is from February to December.	Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or comprised of agricultural and residential land uses.
Newberry's velvet-mallow	*Horsfordia newberryi*	Fed: CA: CNPS: CVMSHCP:	None None 4.3 Not Covered	Grows in Sonoran Desert scrub. Found at elevations ranging from 0 to 2,625 feet above msl. Blooming period is from February to December.	Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or comprised of agricultural and residential land uses.

Table 2.3.3-1: Potentially Occurring Special-Status Plant Species [continued]

Common Name	Scientific Name	Status	General Habitat Requirements	Habitat Present/Absent	Rationale	Common Name
southwestern spiny rush	*Juncus acutus ssp. leopoldii*	Fed: CA: CNPS: CVMSHCP:	None None 4.2 Not Covered	Occurs in wetlands, seeps, meadows, salt-marsh, and dunes. Found at elevations ranging from 0 to 2,955 feet above msl. Blooming period is from May to June.	Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or comprised of agricultural and residential land uses.
creamy blazing star	*Mentzelia tridentate*	Fed: CA: CNPS: CVMSHCP:	None None 1B.3 Not Covered	Occurs on rocky, gravelly, and sandy soils within Mojavean desert scrub. Found at elevations ranging from 2,300 to 3,850 feet above msl. Blooming period is from March to May.	Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or comprised of agricultural and residential land uses.
Mecca-aster	*Xylorhiza cognate*	Fed: CA: CNPS: CVMSHCP:	None None 1B.2 Covered	Occurs in Sonoran Desert scrub within the Indio Hills and Mecca Hills. Found at elevations ranging from 65 to 1,310 feet above msl. Blooming period is from January to June.	Absent	There is no suitable habitat within or adjacent to the BSA. Habitat within the BSA is generally disturbed and/or comprised of agricultural and residential land uses.

Notes:
California Rare Plant Rank
1B - Plants Rare, Threatened, or Endangered in California and Elsewhere
2B - Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere
4 - Plants of Limited Distribution – A Watch List

Threat Ranks
0.1 - Seriously threatened in California
0.2 - Moderately threatened in California
0.3 - Not very threatened in California

Source: SR-86/Avenue 50 New Interchange Project NES, Appendix E (Potentially Occurring Special Status Biological Resources).

2.3.3.3 Environmental Consequences

2.3.3.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Project improvements would not occur under the No-Build Alternative; therefore, the No-Build Alternative would not impact plant species.

Alternatives 7 and 8 (Build Alternatives)

As noted above, a total of 12 special status plant species were identified during the CNDDB, CNPS, and IPaC records search as potentially occurring in the BSA. However, none of the twelve special status plant species were found to be present within the BSA during the assessment. According to the NES, none of the twelve special status plant species are expected to occur within the BSA and are presumed absent based on habitat requirements for specific species, availability, and quality of habitats needed by special status plant species.

Due to a lack of suitable habitat, the NES determined that the BSA does not support any of the special-status plant species known to occur in the general vicinity of the BSA. Therefore, no direct impacts to special-status plant species are anticipated to occur as a result of the proposed project. However, development of the project has the potential to result in indirect impacts to special-status plant species that may occur within habitats surrounding the BSA such as 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.

2.3.3.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Project improvements would not occur under the No-Build Alternative; therefore, the No-Build Alternative would not impact plant species.

Alternatives 7 and 8 (Build Alternatives)

Due to a lack of suitable habitat, the NES determined that the BSA does not support any of the special-status plant species known to occur in the general vicinity of the BSA. No direct or indirect permanent impacts to special-status plant species are anticipated to occur as a result of the Build Alternatives.

2.3.3.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.3.4 Animal Species

2.3.4.1 Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service), and the California Department of Fish and Wildlife (CDFW) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in 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 Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

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

State laws and regulations relevant to wildlife include the following:

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

2.3.4.2 Affected Environment

This section is based on the Natural Environment Study (NES) prepared for the proposed project, dated November 2018.

2.3.4.2.1 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 Biological Study Area (BSA). The record search was focused on the Indio USGS 7.5-minute quadrangle. Previously recorded occurrences of special status plant and animal species and their proximity to the BSA were determined through a query of the CDFW California Natural Diversity Database (CNDDB) Rarefind 5, CDFW Biogeographic Information & Observation System (BIOS), the California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California, Calflora Database, compendia of special status species published by CDFW, and the USFWS species listings. In addition, a Species List was obtained from the Carlsbad Field Office of the USFWS via the Information for Planning and Conservation (IPaC) database on September 24, 2018.

Literature detailing biological resources previously documented in the vicinity of the BSA and historical land uses were reviewed to understand the extent of disturbances to the habitats on-site. Standard field guides and texts on special status and non-special status biological resources were reviewed for habitat requirements, as well as the following resources:

- Google Earth Pro Historic Aerial Imagery (1996 – 2016);
- United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Soil Survey;
- USFWS Critical Habitat designations for Threatened and Endangered Species and Primary Constituent Elements for least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), Yuma clapper rail (*Rallus longirostris yumanensis*), Coachella Valley fringe-toed lizard (*Uma inornata*), desert tortoise (*Gopherus agassizii*), and Coachella Valley milkvetch (*Astragalus lentiginosus* var. *coachellae*);
- Delineation of State and Federal Jurisdictional Waters for the State Route 86/Avenue 50 New Interchange Project (Michael Baker 2018); and
- eBird database.

The literature review provided a baseline from which to inventory the biological resources potentially occurring within the BSA. Additional recorded occurrences of these species found within or near the BSA were derived from database queries. The CNDDB database was used, in conjunction with ArcGIS software, to locate the nearest special status animal species occurrences and determine the distance from the BSA. In addition, the goals and objectives of the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) were reviewed for applicability to the BSA.

Following the literature review and records search, an evaluation of the extent and condition of plant communities found within the boundaries of the BSA was conducted on April 26, 2017. Plant communities within the BSA were evaluated for their potential to support special status animal species. In addition, field staff identified any corridors and linkages that may support the movement of wildlife through the area.

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. Areas providing suitable habitat for burrowing owl were closely surveyed for suitable burrows during the habitat assessment. The survey included searching for burrowing owls and suitable burrows in all areas of the BSA that provide suitable habitat. Walking transects were spaced approximately 10 meters (33 feet) apart or less to ensure visual coverage of all areas. Methods to detect the presence of burrowing owl included direct observation, aural detection, and signs of presence including pellets, white wash, feathers, or prey remains. Suitable burrows or nests, including rock piles and non-natural substrates (e.g., drainpipes), were thoroughly examined for signs of presence. All suitable burrows encountered were thoroughly examined for shape, scat, pellets, feathers, tracks, and prey remains. The location of remnant and occupied burrows were documented, if found.

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.

2.3.4.2.2 Existing Conditions

The NES prepared for the project analyzes impacts to sensitive animal species. Based on the NES, no fish were observed within the BSA; however, one amphibian (American bullfrog [*Lithobates catesbeianus*]) was detected, and two reptilian species (Western side-blotched

lizard [*Uta stansburiana elegans*] and Great Basin whiptail [*Aspidoscelis tigris tigris*]) and one mammal (desert cottontail [*Sylvilagus audubonii*] were observed within the BSA during the site investigation on April 26, 2017. In addition, an American badger (*Taxidea taxus*) burrow and sign (i.e., paw print, and bones) was observed within the BSA in the Coachella Valley Stormwater Channel (CVSC) by Caltrans biologists on September 5, 2017. Avian species detected during the site investigation included Cooper's hawk *(Accipiter cooperii)*, burrowing owl *(Athene cunicularia)*, verdin (*Auriparus flaviceps*), Gambel's quail (*Callipepla gambelii*), rock pigeon (*Columba livia*), common raven (*Corvus corax*), greater roadrunner (*Geococcyx californianus*), common yellowthroat (*Geothlypis trichas*), house finch (*Haemorhous mexicanus*), song sparrow (*Melospiza melodia*), northern mockingbird (*Mimus polyglottos*), house sparrow (*Passer domesticus*), band-tailed pigeon (*Patagioenas fasciata*), double-crested cormorant (*Phalacrocorax auritus*), western tanager (*Piranga ludoviciana*), black-tailed gnatcatcher (*Polioptila melanura*), great-tailed grackle (*Quiscalus mexicanus*), Eurasian collared dove (*Streptopelia decaocto*), and mourning dove (*Zenaida macroura*).

A total of 23 special status animal species were identified by the CNDDB and IPaC records searches as potentially occurring within the BSA; refer to Table 2.3.4-1, Potentially Occurring Special Status Animal Species. Four special status animal species were identified within the BSA during the site investigation on April 26, 2017: Cooper's hawk, burrowing owl, black-tailed gnatcatcher, and American badger. Based on the results of the field survey, it was determined that the habitats within and adjacent to the BSA have a low potential to support summer tanager, vermillion flycatcher, Crissal thrasher, Le Conte's thrasher, least Bell's vireo, and yellow-headed blackbird. All other special status animal species are not expected to occur within the BSA and are presumed absent based on habitat requirements for specific species, availability and quality of habitats needed by special status animal species and known distributions.

Cooper's Hawk (Accipiter cooperii) (USFWS/Federal status: none; CDFW/California status: Watch List [WL])

According to the NES, one Cooper's hawk was observed foraging within the BSA during the field survey. This species is a California watch list species that is adapted to urban environments and commonly occurs within the vicinity of the BSA. The species typically forages along broken woodlands and habitat edges and usually nests in decidious trees in dense woodland and riparian areas, usually near streams. The breeding season for Cooper's hawk generally extends from March 1st through August 31st, but can vary slightly from year to year based upon seasonal weather conditions. The agriculture, arrowweed scrub, and saltbush scrub plant communities within the BSA provide suitable foraging habitat for Cooper's hawk. However, no nests or nesting behaviors were detected during the field survey and there is no suitable nesting habitat within the BSA.

Table 2.3.4-1: Potentially Occurring Special Status Animal Species

Common Name	Scientific Name	Status		General Habitat Requirements	Habitat Present/Absent	Rationale
Cooper's hawk	*Accipiter cooperii*	Fed: CA: CVMSHCP:	None WL Not Covered	Common yearlong resident of California. Typically forages in broken woodland and habitat edges with dense stands of coast live oak (*Quercus agrifolia*), riparian deciduous, or other forest habitat near water. Usually nests in dense riparian areas, usually near streams.	Present/Habitat Present	The agriculture, arrowweed scrub, and saltbush scrub plant communities within and adjacent to the BSA provide suitable foraging habitat. Further, the species was observed foraging within the BSA during the 2017 field investigation.
burrowing owl	*Athene cunicularia*	Fed: CA: CVMSHCP:	None SSC Covered	Common yearlong resident of southern California. Prefers open, annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Requires fossorial burrows for roosting and nesting surrounded by relatively short vegetation and open habitat for foraging and watching for predators. Also known to occupy man-made structures including drain pipes, debris piles, and development pads.	Present/Habitat Present	The agriculture, saltbush scrub, and disturbed land within and adjacent to the BSA provides suitable foraging/nesting habitat. Further, two (2) burrowing owls occupying two separate burrows were observed within the BSA during the 2017 field investigation.
ferruginous hawk	*Buteo regalis*	Fed: CA: CVMSHCP:	None WL Not Covered	Common winter resident of grasslands and agricultural areas in southwestern California. Frequents open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats. Does not breed in California.	Absent	There is suitable foraging habitat within agricultural areas to the east of the BSA. However, the species does not nest in California and is not expected to roost within the BSA during winter.
San Diego banded gecko	*Coleonyx variegatus abbotti*	Fed: CA: CVMSHCP:	None SSC Not Covered	Occurs in creosote flats, sagebrush desert, pinyon juniper woodlands, and chaparral habitats. Prefers rocky coastal sage and chaparral habitat with granite outcrops. Also occurs in dry, rocky riverbeds. Species avoids areas with a high intensity of artificial night lighting.	Absent	There is no suitable habitat within or adjacent to the BSA.

Table 2.3.4-1: Potentially Occurring Special-Status Animal Species [continued]

Common Name	Scientific Name	Status		General Habitat Requirements	Habitat Present/Absent	Rationale
Southwestern willow Flycatcher	*Empidonax traillii extimus*	Fed: CA: CVMSHCP:	FE SE Covered	Uncommon summer resident of southern California. Occurs in riparian woodlands in southern California. Typically requires large areas of willow thickets in broad valleys, canyon bottoms, or around ponds and lakes. These areas typically have standing or running water, or rare at least moist.	Absent	There is no suitable nesting habitat within or adjacent to the BSA. The arrowweed scrub plant community within the low-flow channel of the CVSC is routinely maintained and lacks the preferred density and structure of plant species required for nesting. Further, there have been no recorded occurrences of this species within the Indio quadrangle by the CNDDB.
western mastiff bat	*Eumops perotis californicus*	Fed: CA: CVMSHCP:	None SSC Not Covered	Primarily a cliff-dwelling species, roost generally under exfoliating rock slabs. Roosts are generally high above the ground, usually allowing a clear vertical drop of at least 3 meters below the entrance for flight. In California, it is most frequently encountered in broad open areas. Its foraging habitat includes dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas.	Absent	There is no suitable roosting habitat (i.e., cliffs, caves, bridges) within or adjacent to the BSA.
desert tortoise	*Gopherus agassizii*	Fed: CA: CVMSHCP:	FT ST Covered	Occurs in desert scrub, desert wash, and Joshua tree habitats with friable, sandy, well-drained soils for nest and burrow construction. Highest densities occur in creosote bush scrub with extensive annual wildflower blooms and succulents with little to no non-native plant species.	Absent	There is no suitable habitat within or adjacent to the BSA.
western yellow bat	*Lasiurus xanthinus*	Fed: CA: CVMSHCP:	None SSC Covered	Uncommon in California, known only in Los Angeles and San Bernardino Counties. Occurs in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Prefers to roost and	Absent	There is no suitable roosting habitat (i.e., palm trees) within or adjacent to the BSA.

Table 2.3.4-1: Potentially Occurring Special-Status Animal Species [continued]

Common Name	Scientific Name	Status		General Habitat Requirements	Habitat Present/Absent	Rationale
				feed in, and near, palm oases and riparian habitats.		
lowland leopard frog	*Lithobates yavapaiensis*	Fed: CA: CVMSHCP:	None SSC Not Covered	Occurs along streams, river side channels, springs, ponds, and stock ponds in desert scrub, grassland, woodland, and pinyon-juniper woodland habitats. In California, species inhabited slackwater aquatic habitat dominated by bulrushes (*Schoenoplectus* ssp.), cattails (*Typha* ssp.), and riparian grasses near or under an overstory of cottonwoods (*Populus fremontii*) and willows (*Salix* ssp.). The species is currently considered extirpated from California.	Absent	Although there is marginal suitable habitat within the low-flow channel of the CVSC, the species is currently considered extirpated from California.
Coachella giant sand treader cricket	*Macrobaenetes valgum*	Fed: CA: CVMSHCP:	None None Covered	Depends on the active dunes and ephemeral sand fields at the west end of the Coachella Valley. In windblown environments, habitats are dominated by creosote bush, burrobush, honey mesquite, Mormon tea, desert willow, and sandpaper bush.	Absent	There is no suitable habitat within or adjacent to the BSA.
Palm Springs pocket mouse	*Perognathus longimembris bangsi*	Fed: CA: CVMSHCP:	None SSC Covered	Known from various vegetation communities, including creosote scrub, desert scrub, and grasslands, generally occurring on loosely packed or sandy soils with sparse to moderately dense vegetative cover. No longer occur on the valley floor from Palm Springs to the Salton Sea in areas developed for urban and agricultural land uses.	Absent	Although the BSA is within modeled habitat, the species is no longer presumed to occur on the valley floor from Palm Springs to the Salton Sea in areas developed for urban and agricultural land uses. Further, the high-level of routine maintenance within the CVSC and agriculture land has eliminated any suitable habitat within the BSA.

Table 2.3.4-1: Potentially Occurring Special-Status Animal Species [continued]

Common Name	Scientific Name	Status		General Habitat Requirements	Habitat Present/Absent	Rationale
flat-tailed horned lizard	*Phrynosoma mcallii*	Fed: CA: CVMSHCP:	None SSC Covered	Typical habitat is sandy desert hardpan or gravel flats with scattered sparse vegetation of low species diversity. Most common in areas with high density of harvester ants and fine windblown sand, but do not normally occur in habitats characterized as marshes and tamarisk arrowweed thickets, and agricultural and developed areas.	Absent	There is no suitable habitat within or adjacent to the BSA. Further, the BSA is located outside of the current distribution.
summer tanager	*Piranga rubra*	Fed: CA: CVMSHCP:	None SSC Covered	Uncommon summer resident occurring within open oak, hickory, and mixed oak-pine woodlands. Also found in parks, orchards, and along roadsides.	Habitat Present	The arrowweed scrub and saltbush scrub plant communities within and adjacent to the BSA provide suitable nesting/foraging habitat.
black-tailed gnatcatcher	*Polioptila melanura*	Fed: CA: CVMSHCP:	None WL Not Covered	In Mojave, Great Basin, Colorado and Sonoran Desert communities, prefers nesting and foraging in densely lined arroyos and washes dominated by creosote bush and salt bush with scattered bursage, burrowed, ocotillo, saguaro, barrel cactus, prickly pear cactus and cholla.	Present/Habitat Present	The arrowweed scrub and saltbush scrub plant communities within and adjacent to the BSA provide suitable nesting/foraging habitat. Multiple individuals were observed foraging along the low-flow channel of the CVSC during the during the 2017 field investigation.
Vermilion flycatcher	*Pyrocephalus rubinus*	Fed: CA: CVMSHCP:	None SSC Not Covered	Occurs in a variety of open habitats including open woodland, clearings, desert scrub, savannah, agricultural land, golf courses, and recreational parks. The species tends to stay near water, often occurring in riparian vegetation characterized by cottonwoods, mesquite (*Prosopis* ssp.), willows, and sycamores (*Platanus* ssp.).	Habitat Present	The agriculture, arrowweed scrub, and saltbush scrub plant communities within and adjacent to the BSA provide suitable nesting/foraging habitat.
Yuma clapper rail	*Rallus longirostris yumanensis*	Fed: CA: CVMSHCP:	FE ST, FP Covered	Rare yearlong resident of southern California. Restricted to the Salton Sea and immediate surrounding habitats. Generally found in freshwater and alkali	Absent	There is no suitable habitat within or adjacent to the BSA. The arrowweed scrub plant community within the CVSC is exposed to a

Table 2.3.4-1: Potentially Occurring Special-Status Animal Species [continued]

Common Name	Scientific Name	Status		General Habitat Requirements	Habitat Present/Absent	Rationale
				marshes dominated by stands of emergent vegetation interspersed with areas of open water and drier upland benches. Prefers mature marsh stands along margins of shallow ponds with stable water levels.		high-level of routine maintenance and does not provide suitable nesting habitat. Further, the BSA is located outside of the current distribution and there have been no recorded occurrences of this species within the Indio quadrangle by the CNDDB.
American badger	*Taxidea taxus*	Fed: CA: CVMSHCP:	None SSC Not Covered	Occupies a wide variety of habitats including dry, open grassland, sagebrush, and woodland habitats. Require dry, friable, often sandy soil to dig burrows for cover, food storage, and giving birth.	Present/Habitat Present	There is suitable foraging and denning habitat within and adjacent to the BSA. In addition, a burrow and sign (i.e., pawprint and bones) was observed within the BSA in the CVSC by Caltrans biologists during a site assessment conducted on September 5, 2017.
Crissal thrasher	*Toxostoma crissale*	Fed: CA: CVMSHCP:	None SSC Covered	Common yearlong resident in southern California. Occupies arid habitats including desert washes, riparian brush, and mesquite thickets at lower elevations and dense scrub in arroyos at higher elevations. Occurs in areas dominated by mesquite hummocks and thickets with acacias, arrowweed, and in desert saltbush scrub.	Habitat Present	The arrowweed scrub and saltbush scrub plant communities within and adjacent to the BSA provides suitable foraging/nesting habitat.
Le Conte's thrasher	*Toxostoma lecontei*	Fed: CA: CVMSHCP:	None SSC Covered	Common yearlong resident in southern California. Typically occurs in habitats consisting of sparsely vegetated desert flats, dunes, alluvial fans, or gently rolling hills having a high proportion of one or more species of saltbush (*Atriplex* spp.) and/or cylindrical cholla cactus (*Cylindropuntia* spp.). The ground is generally bare or with sparse patches of	Habitat Present	The arrowweed scrub and saltbush scrub plant communities within and adjacent to the BSA provides suitable foraging/nesting habitat.

Table 2.3.4-1: Potentially Occurring Special-Status Animal Species [continued]

Common Name	Scientific Name	Status		General Habitat Requirements	Habitat Present/Absent	Rationale
				grasses and annuals forming low ground cover. Prefers thick, dense, and thorny shrubs or cholla cactus for nesting.		
Coachella Valley fringe-toed lizard	*Uma inornata*	Fed: CA: CVMSHCP:	FT SE Covered	Sparsely-vegetated arid areas with fine wind-blown sand, including dunes, washes, alkali scrub, and flats with sandy hummocks formed around the bases of vegetation. Requires fine, loose, wind-blown sand for burrowing.	Absent	There is no suitable habitat within or adjacent to the BSA.
least Bell's vireo	*Vireo bellii pusillus*	Fed: CA: CVMSHCP:	FE SE Covered	Uncommon summer resident of southern California. Prefers riparian habitat in close proximity to waterbodies that typically feature a dense, stratified canopy. Species is typically associated with southern willow scrub, cottonwood-willow forest, mulefat scrub, sycamore alluvial woodlands, coast live oak riparian forest, willow riparian forest, or mesquite in desert regions.	Habitat Present	The arrowweed scrub plant community within the low-flow channel of the CVSC provides low quality nesting habitat. However, vegetation within the CVSC is routinely maintained and the arrowweed scrub plant community lacks the preferred density and structure of plant species which reduces the likelihood that the species would occur within the BSA. Further, there have been no recorded occurrences of this species within the Indio quadrangle by the CNDDB.
yellow-headed blackbird	*Xanthocephalus xanthocephalus*	Fed: CA: CVMSHCP:	None SSC Not Covered	Uncommon yearlong resident of southern California throughout freshwater emergent wetlands, and moist, open areas along agricultural areas, and mudflats of lacustrine habitats. Prefers to nest in dense wetland vegetation characterized by cattails, tules, or other similar plant species along the border of lakes and ponds.	Habitat Present	The arrowweed scrub and agricultural land within and adjacent to the BSA provides suitable foraging/nesting habitat.

Table 2.3.4-1: Potentially Occurring Special-Status Animal Species [continued]

Common Name	Scientific Name	Status		General Habitat Requirements	Habitat Present/Absent	Rationale
Palm Springs round-tailed ground squirrel	*Xerospermophilus tereticaudus chlorus*	Fed: CA: CVMSHCP:	None None Covered	Prefers open, flat, grassy areas in fine-textured, sandy soil. Habitats include mesquite- and creosote-dominated sand dunes, creosote bush scrub, creosote-palo verde, and saltbush/alkali scrub. Substrates include wind-blown sand, coarse sand, and packed silt with desert pavement.	Absent	There is no suitable habitat within or adjacent to the BSA.

Notes:
U.S. Fish and Wildlife Service (Fed) - Federal
FE – Federal Endangered
FT – Federal Threatened

California Department of Fish and Wildlife (CA) - California
SE – State Endangered
ST – State Threatened
FP – Fully Protected
SSC – State Species of Special Concern
WL – Watch List

Source: SR-86/Avenue 50 New Interchange Project NES, Appendix E (Potentially Occurring Special Status Biological Resources).

Burrowing Owl (Athene cunicularia) (USFWS/Federal status: none; CDFW/California status: Species of Special Concern [SSC])

Based on the NES, two individual burrowing owls occupying two separate burrows were observed within the northern portion of the BSA along the east bank of the CVSC during the field survey. No additional burrowing owls or occupied burrows were observed within the BSA during the habitat assessment. This species is a California Species of Special Concern and a grassland specialist where it occupies open areas with short vegetation and bare ground within shrub, desert, and grassland environments. The saltbush scrub plant community, agriculture, and disturbed land within the BSA is primarily comprised of open habitat with low-growing open vegetation that allows for line-of-sight observation and foraging habitat favored by burrowing owl. Burrowing owls rarely dig their own burrows and are instead dependent upon the presence of burrowing mammals whose burrows are used for roosting and nesting. Where mammal burrows are scarce, burrowing owls have been found occupying man-made cavities, such as buried and non-functioning drain pipes, dry culverts, and concrete demolition piles. The breeding season for burrowing owl generally extends from February 1st through August 31st, but can vary slightly from year to year based upon seasonal weather conditions. Several burrows capable of providing suitable roosting/nesting opportunities for burrowing owls occur along the banks of the CVSC.

Summer Tanager (Piranga rubra) (USFWS/Federal status: none; CDFW/California status: SSC)

According to the NES, no summer tanagers, nests, or nesting behaviors were detected within the BSA during the field survey. This species is a California Species of Special Concern and uncommon summer resident that inhabits riparian woodlands and, at higher elevations, woodlands dominated by mesquite and tamarisk. The summer tanager winters from central Mexico south through Central America to Bolivia and Brazil. Habitats utilized during migration including desert dry wash woodland, mesquite bosque, mesquite hummocks, and desert saltbush scrub. The breeding season for summer tanager generally extends from May 1st through August 31st, but can vary slightly from year to year based upon seasonal weather conditions. The arrowweed scrub and saltbush scrub plant communities within the BSA provide suitable foraging and nesting habitat for summer tanager. However, no nests or nesting behaviors were detected during the field survey and there is no suitable nesting habitat within the BSA. As a result, summer tanager was determined to have a low potential to occur within the BSA.

Black-Tailed Gnatcatcher (Polioptila melanura) (USFWS/Federal status: none; CDFW/California status: WL)

Based on the NES, multiple black-tailed gnatcatchers were observed foraging throughout the CVSC during the field survey. This species is a CDFW Watch List Species that prefers nesting and foraging in densely lined arroyos and washes dominated by creosote bush and saltbush with scattered bursage, burrowed, ocotillo, saguaro, barrel cactus, prickly pear cactus and cholla. The species is a fairly common resident below 300 feet above mean sea level in desert wash habitat from Palm Springs and Joshua Tree National Monument south, and common along the Colorado River. The breeding season for black-tailed gnatcatcher generally extends from March 1st through August 31st, but can vary slightly from year to year based upon seasonal weather conditions. The arrowweed scrub and saltbush scrub plant communities within the BSA provide suitable foraging and nesting habitat for black-tailed gnatcatcher. However, no nests or nesting behaviors were detected.

Vermillion Flycatcher (Pyrocephalus rubinus) (USFWS/Federal status: none; CDFW/California status: SSC)

According to the NES, no Vermillion flycatchers, nests, or nesting behaviors were detected within the BSA during the field survey. Vermillion flycatcher is a California Species of Special Concern that occurs in a variety of open habitats including desert riparian habitat adjacent to irrigated fields, irrigation ditches, pastures, and agricultural land. The species tends to stay near water, often occurring in riparian vegetation characterized by cottonwoods (*Populus fremontii*), mesquite, willows (*Salix* ssp.), and California sycamore (*Platanus racemosa*). The breeding season for Vermillion flycatcher generally extends from March 1st through August 31st, but can vary slightly from year to year based upon seasonal weather conditions. The agriculture, arrowweed scrub, and saltbush scrub plant communities within the BSA provides suitable foraging and nesting habitat for Vermillion flycatcher. However, no nests or nesting behaviors were detected. As a result, Vermillion flycatcher was determined to have a low potential to occur within the BSA.

American Badger (Taxidea taxus) (USFWS/Federal status: none; CDFW/California status: SSC)

According to the NES, no American badgers were observed within the BSA during the field survey. American badger is a California Species of Special Concern that occupies a wide variety of open habitats including grassland, farmland, desert scrub, and the edges of woodlands. The species requires dry, friable, often sandy soil to dig burrows that are used for shelter, food storage, and giving birth. The arrowweed scrub and saltbush scrub plant communities and agricultural land within the BSA provide suitable foraging habitat for American badger. In addition, there are several burrows along the banks of the CVSC that provide suitable denning habitat. An American badger burrow and sign (i.e., pawprint and bones) was also observed within the BSA in the CVSC by Caltrans during a site assessment conducted on September 5, 2017.

Crissal Thrasher (Toxostoma crissale) (USFWS/Federal status: none; CDFW/California status: SSC)

Based on the NES, no Crissal thrashers, nests, or nesting behaviors were detected within the BSA during the field survey. Crissal thrasher is a California Species of Special Concern and common yearlong resident in southern California. The species occupies arid habitats including desert washes, riparian brush, and mesquite thickets at lower elevations and dense scrub in arroyos at higher elevations. Occurs in areas dominated by mesquite hummocks and thickets with acacias, arrowweed, and in desert saltbush scrub. The breeding season for Crissal thrasher generally extends from January 15th through June 15th, but can vary slightly from year to year based upon seasonal weather conditions. The arrowweed scrub and saltbush scrub plant communities within the BSA provide suitable foraging and nesting habitat for Crissal thrashers. However, no nests or nesting behaviors were detected. As a result, Crissal thrasher was determined to have a low potential to occur within the BSA.

Le Conte's Thrasher (Toxostoma lecontei) (USFWS/Federal status: none; CDFW/California status: SSC)

Based on the NES, no Le Conte's thrashers, nests, or nesting behaviors were detected within the BSA during the field survey. Le Conte's thrasher is a California Species of Special Concern and common yearlong resident in southern California. The species typically occurs in habitats consisting of sparsely vegetated desert flats, dunes, alluvial fans, or gently rolling hills having a

high proportion of one or more species of saltbush (*Atriplex* spp.) and/or cylindrical cholla cactus (*Cylindropuntia* spp.). The ground is generally bare or with sparse patches of grasses and annuals forming low ground cover. Prefers thick, dense, and thorny shrubs or cholla cactus for nesting. The breeding season for Le Conte's thrasher generally extends from January 15th through June 15th, but can vary slightly from year to year based upon seasonal weather conditions. The arrowweed scrub and saltbush scrub plant communities within the BSA provide suitable foraging and nesting habitat for Le Conte's thrashers. However, no nests or nesting behaviors were detected. As a result, Le Conte's thrasher was determined to have a low potential to occur within the BSA.

Yellow-Headed Blackbird (Xanthocephalus xanthocephalus) (USFWS/Federal status: none; CDFW/California status: SSC)

According on the NES, no yellow-headed blackbirds, nests, or nesting behaviors were detected within the BSA during the field survey. Yellow-headed blackbird is a California Species of Special Concern and an uncommon yearlong resident of southern California where it occurs throughout freshwater emergent wetlands, and moist, open areas along agricultural areas, and mudflats of lacustrine habitats. The species prefers to nest in dense wetland vegetation characterized by cattails, tules, or other similar plant species along the border of lakes and ponds. The breeding season for yellow-headed blackbird generally extends from April 1st through July 31st, but can vary slightly from year to year based upon seasonal weather conditions. The agriculture and arrowweed scrub plant communities within the BSA provides suitable foraging and nesting habitat for summer tanager. However, no nests or nesting behaviors were detected. As a result, yellow-headed blackbird was determined to have a low potential to occur within the BSA.

2.3.4.3 Environmental Consequences

2.3.4.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Project improvements would not occur under the No-Build Alternative; therefore, the No-Build Alternative would not impact animal species.

Alternative 7 and 8 (Build Alternatives)

Cooper's Hawk (Accipiter cooperii)

Based on the NES, Build Alternative 7 would result in approximately 34.6 acres of temporary impacts to suitable foraging habitat for Cooper's hawk. Under Build Alternative 8, approximately 34.3 acres of temporary impacts to suitable foraging habitat would occur. One Cooper's hawk was observed foraging within the BSA during the field survey. Due to a lack of suitable nesting habitat within the BSA, no direct impacts to Cooper's hawks are anticipated to occur as a result of proposed project. Although no nests or nesting behaviors were detected, construction-related activities during the Cooper's hawk breeding season (March 1st to August 31st) may result in temporary impacts. 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, a pre-construction clearance survey would be performed if project activities occur during the nesting season (March 1st through August 31st) (Measures AS-2 and AS-3a through AS-3c). Additionally, workers would receive

environmental awareness training prior to the initiation of work (Measures AS-1a through AS-1d). Thus, construction effects on the Cooper's hawk would not be adverse.

Burrowing Owl (Athene cunicularia)

Based on the NES, Build Alternative 7 would result in approximately 80.6 acres of temporary impacts to suitable foraging/nesting habitat for burrowing owl. Under Build Alternative 8, approximately 72.8 acres of temporary impacts to suitable foraging/nesting habitat would occur. Two individual burrowing owls occupying two separate burrows were observed within the northern portion of the BSA along the east bank of the CVSC during the field survey and several suitable burrows occur along the banks of the CVSC and may become occupied by burrowing owls occurring in the immediate vicinity. Therefore, implementation of the proposed project has the potential to have both direct and indirect impacts to burrowing owl. In addition, construction-related disturbance may have an adverse impact on this species, especially during the burrowing owl breeding season (February 1st to August 31st). Per the CVMSHCP, Measures AS-4a through AS-4d would require pre-construction surveys, and if determined present, would require avoidance and/or relocation as necessary. Additionally, Measures AS-1a through AS-3c would further reduce potential adverse effects to burrowing owls.

Summer Tanager (Piranga rubra)

Based on the NES, Build Alternative 7 would result in approximately 4.0 acres of temporary impacts to foraging/nesting habitat for summer tanager. Under Build Alternative 8, approximately 3.7 acres of temporary impacts to suitable foraging/nesting habitat would occur. Although no summer tanagers, nests, or nesting behaviors were detected within the BSA during the field survey, project implementation has the potential to result in direct impacts to summer tanager nests that may be located within the BSA. In addition, construction-related activities during the summer tanager breeding season (May 1st to August 31st) may result in indirect impacts. However, a pre-construction clearance survey would be performed if project activities occur during the nesting season (Measures AS-2 and AS-3a through AS-3c). Additionally, workers would receive environmental awareness training prior to the initiation of work (Measures AS-1a through AS-1d). Thus, construction effects on the summer tanager would not be adverse.

Black-Tailed Gnatcatcher (Polioptila melanura)

Based on the NES, Build Alternative 7 would result in approximately 4.0 acres of temporary impacts to suitable foraging/nesting habitat for black-tailed gnatcatcher. Under Build Alternative 8, approximately 3.7 acres of temporary impacts to suitable foraging/nesting habitat will occur. Multiple black-tailed gnatcatchers were observed foraging throughout the CVSC during the field survey. Although no nests or nesting behaviors were detected during the field survey, project implementation has the potential to result in direct impacts to black-tailed gnatcatcher nests that may be located within the BSA. In addition, construction-related activities during the black-tailed gnatcatcher breeding season (March 1st to August 31st) may result in indirect impacts. However, a pre-construction clearance survey would be performed if project activities occur during the nesting season (Measures AS-2 and AS-3a through AS-3c). Additionally, workers would receive environmental awareness training prior to the initiation of work (Measures AS-1a through AS-1d). Thus, construction effects on the black-tailed gnatcatcher would not be adverse.

Vermillion flycatcher (Pyrocephalus rubinus)

Based on the NES, Build Alternative 7 would result in approximately 34.6 acres of temporary impacts to suitable foraging/nesting habitat for Vermillion flycatcher. Under Build Alternative 8, approximately 34.3 acres of temporary impacts to suitable foraging/nesting habitat will occur. Although no Vermillion flycatchers, nests, or nesting behaviors were detected within the BSA during the field survey, project implementation has the potential to result in direct impacts to Vermillion flycatcher nests that may be located within the BSA. In addition, construction-related activities during the Vermillion flycatcher breeding season (May 1st to August 31st) may result in indirect impacts. However, a pre-construction clearance survey would be performed if project activities occur during the nesting season (Measures AS-2 and AS-3a through AS-3c). Additionally, workers would receive environmental awareness training prior to the initiation of work (Measures AS-1a through AS-1d). Thus, construction effects on the Vermillion flycatcher would not be adverse.

American Badger (Taxidea taxus)

Based on the NES, Build Alternative 7 would result in approximately 34.6 acres of temporary impacts to suitable foraging/denning habitat for American badger. Under Build Alternative 8, approximately 34.3 acres of temporary impacts to suitable foraging habitat will occur. No American badgers were observed within the BSA during the field survey. However, there are several burrows along the banks of the CVSC that provide suitable denning habitat. Additionally, an American badger burrow and sign (i.e., pawprint and bones) was observed within the BSA in the CVSC by Caltrans on September 5, 2017. Therefore, project implementation has the potential to result in direct impacts to American badgers that may be located within the BSA. In addition, construction-related activities may result in indirect impacts to individuals that may be attempting to raise young within close proximity to the BSA. Measures AS-5a through AS-5c would require pre-construction surveys, and if determined present, would require avoidance and/or relocation as necessary. Additionally, workers would receive environmental awareness training prior to the initiation of work (Measures AS-1a through AS-1d). Thus, construction effects on the American badger would not be adverse.

Crissal Thrasher (Toxostoma crissale)

Based on the NES, Build Alternative 7 would result in approximately 4.0 acres of temporary impacts to suitable foraging/nesting habitat for Crissal thrasher. Under Build Alternative 8, approximately 3.7 acres of temporary impacts to suitable foraging/nesting habitat will occur. Although no Crissal thrashers, nests, or nesting behaviors were detected within the BSA during the field survey, project implementation has the potential to result in direct impacts to Crissal thrasher nests that may be located within the BSA. In addition, construction-related activities during the Crissal thrasher breeding season (January 15th to June 15th) may result in indirect impacts. However, a pre-construction clearance survey would be performed if project activities occur during the nesting season (Measures AS-2 and AS-3a through AS-3c). Additionally, workers would receive environmental awareness training prior to the initiation of work (Measures AS-1a through AS-1d). Thus, construction effects on the Crissal thrasher would not be adverse.

Le Conte's Thrasher (Toxostoma lecontei)

Based on the NES, Build Alternative 7 would result in approximately 4.0 acres of temporary impacts to suitable foraging/nesting habitat for Le Conte's thrasher. Under Build Alternative 8, approximately 3.7 acres of temporary impacts to suitable foraging/nesting habitat will occur.

Although no Le Conte's thrashers, nests, or nesting behaviors were detected within the BSA during the field survey, project implementation has the potential to result in direct impacts to Le Conte's thrasher nests that may be located within the BSA. In addition, construction-related activities during the Le Conte's thrasher breeding season (January 15th to June 15th) may result in indirect impacts. However, a pre-construction clearance survey would be performed if project activities occur during the nesting season (Measures AS-2 and AS-3a through AS-3c). Additionally, workers would receive environmental awareness training prior to the initiation of work (Measures AS-1a through AS-1d). Thus, construction effects on the Le Conte's thrasher would not be adverse.

Yellow-Headed Blackbird (Xanthocephalus xanthocephalus)

Based on the NES, Build Alternative 7 would result in approximately 31.1 acres of temporary impacts to suitable foraging/nesting habitat for yellow-headed blackbird. Under Build Alternative 8, approximately 31.1 acres of temporary impacts to suitable foraging/nesting habitat will occur. Although no yellow-headed blackbirds, nests, or nesting behaviors were detected within the BSA during the field survey, project implementation has the potential to result in direct impacts to yellow-headed blackbird nests that may be located within the BSA. In addition, construction-related activities during the yellow-headed blackbird breeding season (April 1st to July 31st) may result in indirect impacts. However, a pre-construction clearance survey would be performed if project activities occur during the nesting season (Measures AS-2 and AS-3a through AS-3c). Additionally, workers would receive environmental awareness training prior to the initiation of work (Measures AS-1a through AS-1d). Thus, construction effects on the yellow-headed blackbird would not be adverse.

2.3.4.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Project improvements would not occur under the No-Build Alternative; therefore, the No-Build Alternative would not impact animal species.

Alternative 7 and 8 (Build Alternatives)

Cooper's Hawk (Accipiter cooperii)

Based on the NES, Build Alternative 7 would result in approximately 8.9 acres of permanent impacts to suitable foraging habitat for Cooper's hawk. Under Build Alternative 8, approximately 9.2 acres of permanent impacts to suitable foraging habitat would occur. However, no impacts to Cooper's hawk breeding behaviors are anticipated due to a lack of suitable nesting habitat within the BSA. As such, no direct impacts to Cooper's hawks are anticipated to occur as a result of the proposed project. However, construction-related activities during the Cooper's hawk breeding season (March 1st to August 31st) may result in indirect impacts. A pre-construction clearance survey would be performed if project activities occur during the nesting season (Measures AS-2 and AS-3a through AS-3c). Additionally, workers would receive environmental awareness training prior to the initiation of work (Measures AS-1a through AS-1d). Thus, long-term effects on the Cooper's hawk would not be adverse.

Burrowing Owl (Athene cunicularia)

Based on the NES, Build Alternative 7 would result in approximately 20.2 acres of permanent impacts to suitable foraging/nesting habitat for burrowing owl. Under Build Alternative 8,

approximately 20.3 acres of permanent impacts to suitable foraging/nesting habitat would occur. Two individual burrowing owls occupying two separate burrows were observed within the northern portion of the BSA along the east bank of the CVSC during the field survey and several suitable burrows occur along the banks of the CVSC and may become occupied by burrowing owls occurring in the immediate vicinity. Therefore, implementation of the proposed project has the potential to have both direct and indirect impacts to burrowing owl. In addition, construction-related disturbance may have an adverse impact on this species, especially during the burrowing owl breeding season (February 1st to August 31st). Per the CVMSHCP, Measures AS-4a through AS-4d would require pre-construction surveys, and if determined present, would require avoidance and/or relocation as necessary. Additionally, Measures AS-1a through AS-3c would further reduce potential adverse effects to burrowing owls.

Summer Tanager (Piranga rubra)

Based on the NES, Build Alternative 7 would result in approximately 0.2-acre of permanent impacts to foraging/nesting habitat for summer tanager. Under Build Alternative 8, approximately 0.5-acre of permanent impacts to suitable foraging/nesting habitat would occur. Although no summer tanagers, nests, or nesting behaviors were detected within the BSA during the field survey, project implementation has the potential to result in direct impacts to summer tanager nests that may be located within the BSA. In addition, construction-related activities during the summer tanager breeding season (May 1st to August 31st) may result in indirect impacts. However, a pre-construction clearance survey would be performed if project activities occur during the nesting season (Measures AS-2 and AS-3a through AS-3c). Additionally, workers would receive environmental awareness training prior to the initiation of work (Measures AS-1a through AS-1d). Thus, long-term effects on the summer tanager would not be adverse.

Black-Tailed Gnatcatcher (Polioptila melanura)

Based on the NES, Build Alternative 7 would result in approximately 0.2-acre of permanent impacts to suitable foraging/nesting habitat for black-tailed gnatcatcher. Under Build Alternative 8, approximately 0.5-acre of permanent impacts to suitable foraging/nesting habitat would occur. Multiple black-tailed gnatcatchers were observed foraging throughout the CVSC during the field survey. Although no nests or nesting behaviors were detected, implementation of the proposed project has the potential to result in direct impacts to black-tailed gnatcatcher nests that may be located within the BSA. In addition, construction-related activities during the black-tailed gnatcatcher breeding season (March 1st to August 31st) may result in indirect impacts. However, a pre-construction clearance survey would be performed if project activities occur during the nesting season (Measures AS-2 and AS-3a though AS-3c). Additionally, workers would receive environmental awareness training prior to the initiation of work (Measures AS-1a through AS-1d). Thus, long-term effects on the black-tailed gnatcatcher would not be adverse.

Vermillion Flycatcher (Pyrocephalus rubinus)

Based on the NES, Build Alternative 7 would result in approximately 8.9 acres of permanent impacts to suitable foraging/nesting habitat for Vermillion flycatcher. Under Build Alternative 8, approximately 9.2 acres of permanent impacts to suitable foraging/nesting habitat would occur. Although no Vermillion flycatchers, nests, or nesting behaviors were detected within the BSA during the field survey, implementation of the proposed project has the potential to result in direct impacts to Vermillion flycatcher nests that may be located within the BSA. In addition, construction-related activities during the Vermillion flycatcher breeding season (March 1st to August 31st) may result in indirect impacts. However, a pre-construction clearance survey

would be performed if project activities occur during the nesting season (Measures AS-2 and AS-3a through AS-3c). Additionally, workers would receive environmental awareness training prior to the initiation of work (Measures AS-1a through AS-1d). Thus, long-term effects on the Vermillion flycatcher would not be adverse.

American Badger (Taxidea taxus)

Based on the NES, Build Alternative 7 would result in approximately 8.9 acres of permanent impacts to suitable foraging/denning habitat for American badger. Under Build Alternative 8, approximately 9.2 acres of permanent impacts to suitable foraging habitat would occur. No American badgers were observed within the BSA during the field survey. However, there are several burrows along the banks of the CVSC that provide suitable denning habitat. Additionally, an American badger burrow and sign (i.e., pawprint and bones) was observed within the BSA in the CVSC by Caltrans on September 5, 2017. Therefore, implementation of the proposed project has the potential to result in direct impacts to American badgers that may be located within the BSA. In addition, construction-related activities may result in indirect impacts. Measures AS-5a through AS-5c would require pre-construction surveys, and if determined present, would require avoidance and/or relocation as necessary. Additionally, workers would receive environmental awareness training prior to the initiation of work (Measures AS-1a through AS-1d). Thus, long-term effects on the American badger would not be adverse.

Crissal Thrasher (Toxostoma crissale)

Based on the NES, Build Alternative 7 would result in approximately 0.2-acre of permanent impacts to suitable foraging/nesting habitat for Crissal thrasher. Under Build Alternative 8, approximately 0.5-acre of permanent impacts to suitable foraging/nesting habitat would occur. Although no Crissal thrashers, nests, or nesting behaviors were detected within the BSA during the field survey, implementation of the proposed project has the potential to result in direct impacts to Crissal thrasher nests that may be located within the BSA. In addition, construction-related activities during the Crissal thrasher breeding season (January 15th to June 15th) may result in indirect impacts. However, a pre-construction clearance survey would be performed if project activities occur during the nesting season (Measures AS-2 and AS-3a through AS-3c). Additionally, workers would receive environmental awareness training prior to the initiation of work (Measures AS-1a through AS-1d). Thus, long-term effects on the Crissal thrasher would not be adverse.

Le Conte's Thrasher (Toxostoma lecontei)

Based on the NES, Build Alternative 7 would result in approximately 0.2-acre of permanent impacts to suitable foraging/nesting habitat for Le Conte's thrasher. Under Build Alternative 8, approximately 0.5-acre of permanent impacts to suitable foraging/nesting habitat would occur. Although no Le Conte's thrashers, nests, or nesting behaviors were detected within the BSA during the field survey, implementation of the proposed project has the potential to result in direct impacts to Le Conte's thrasher nests that may be located within the BSA. In addition, construction-related activities during the Le Conte's thrasher breeding season (January 15th to June 15th) may result in indirect impacts. However, a pre-construction clearance survey would be performed if project activities occur during the nesting season (Measures AS-2 and AS-3a through AS-3c). Additionally, workers would receive environmental awareness training prior to the initiation of work (Measures AS-1a through AS-1d). Thus, long-term effects on the Le Conte's thrasher would not be adverse.

Yellow-Headed Blackbird (Xanthocephalus xanthocephalus)

Based on the NES, Build Alternative 7 would result in approximately 8.9 acres of permanent impacts to suitable foraging/nesting habitat for yellow-headed blackbird. Under Build Alternative 8, approximately 8.9 acres of permanent impacts to suitable foraging/nesting habitat would occur. Although no yellow-headed blackbirds, nests, or nesting behaviors were detected within the BSA during the field survey, implementation of the proposed project has the potential to result in direct impacts to yellow-headed blackbird nests that may be located within the BSA. In addition, construction-related activities during the yellow-headed blackbird breeding season (April 1st to July 31st) may result in indirect impacts. However, a pre-construction clearance survey would be performed if project activities occur during the nesting season (Measures AS-2 and AS-3a through AS-3c). Additionally, workers would receive environmental awareness training prior to the initiation of work (Measures AS-1a through AS-1d). Thus, long-term effects on the yellow-headed blackbird would not be adverse.

2.3.4.4 Avoidance, Minimization, and/or Mitigation Measures

AS-1a A Qualified Biologist shall present to each construction employee (including temporary, contractors, and subcontractors) a worker environmental awareness training prior to the initiation of work. Workers shall be advised of the special status animal species in the Biological Study Area (BSA), the steps to avoid impacts to the species, and the potential penalties for taking such species. At a minimum, the program shall include the following topics: occurrence of the listed and sensitive species in the area, their general ecology, sensitivity of the species to human activities, legal protection afforded to these species, penalties for violations of Federal and State laws, reporting requirements, and project features designed to reduce the impacts to these species and promote continued successful occupation of the project area environs.

AS-1b Color photographs of the listed species shall be included in this program, which shall be shown to the employees. Following the education program, the photographs shall be posted in the contractor and resident engineer office, where the photographs shall remain through the duration of the project.

AS-1c The contractor, resident engineer, and the Qualified Biologist shall be responsible for ensuring that employees are aware of the listed species.

AS-1d If additional employees are added to the project after initiation, they shall receive instruction prior to working on the project.

AS-2 Construction activities shall not be scheduled to occur during special status bird breeding season identified as January 15th to September 30th (up to 500 feet) of all suitable habitat unless one of the following exceptions apply:

i. Completed protocol-level surveys conducted by a Qualified Biologist during the year of implementation determined the site to not be occupied;

ii. Noise levels resulting from the project construction activities do not exceed the existing ambient noise level; or

iii. If this work window is not feasible, then pre-construction surveys for special status birds and migratory bird nests within a specified distance of

the project impact area will be conducted by a Qualified Biologist. If an active nest is found during the pre-construction nesting bird surveys, then consultation with the USFWS and/or CDFW may be initiated.

AS-3a If project activities cannot be avoided during the breeding season, a preconstruction nesting bird clearance survey shall be conducted by a Qualified Biologist for avian species, including Cooper's hawk, summer tanager, black-tailed gnatcatcher, Vermillion flycatcher, Crissal thrasher, Le Conte's thrasher, least Bell's vireo, and yellow-headed blackbird, no more than three days prior to ground breaking or vegetation removal activities to determine the presence of nesting birds by a Qualified Biologist. The surveys shall be conducted by a Qualified Biologist at the appropriate time(s) of day.

AS-3b If an active avian nest is located, the bird shall be identified to species and a "no construction" buffer (up to 500 feet) shall be established in accordance with the guidelines provided in the CVMSHCP and the sensitivity of the species. The "no construction" buffer shall remain in place until nesting has ceased or the young have fledged.

AS-3c The Qualified Biologist shall monitor the nest to ensure that impacts to nesting birds do not occur.

AS-4a Prior to implementation of the proposed project, the construction area and adjacent areas within 500 feet of the development footprint, or to the edge of the property if less than 500 feet, shall be surveyed by a Qualified Biologist for burrows that could be used by burrowing owl.

AS-4b If a burrow is located, the biologist shall determine if the burrow has recently been used or if an owl is present in the burrow. If the burrow is determined to be occupied, the burrow shall be flagged and a 160-foot buffer during the non-breeding season and a 250-foot buffer during the breeding season or a buffer to the edge of the property boundary if less than 500 feet, shall be established around the burrow, in accordance with the CVMSHCP. The buffer shall be staked and flagged. No construction activities shall be permitted within the buffer until the young are no longer dependent on the burrow. If the burrow is unoccupied, the burrow shall be made inaccessible to owls, and construction activities may proceed.

AS-4c If either a nesting or escape burrow is occupied, owls shall be relocated pursuant to accepted Wildlife Agency protocols. A burrow is assumed occupied if records indicate that, based on surveys conducted following protocol, at least one burrowing owl has been observed occupying a burrow on-site during the past three years. If there are no records for the site, surveys shall be conducted to determine, prior to construction, if burrowing owls are present. Determination of the appropriate method of relocation, such as eviction/passive relocation or active relocation, shall be based on the specific site conditions (e.g., distance to nearest suitable habitat and presence of burrows within that habitat) in coordination with the California Department of Fish and Wildlife (CDFW).

AS-4d Active relocation and eviction/passive relocation require the preservation and maintenance of suitable burrowing owl habitat determined through coordination with the CDFW.

AS-5a A Qualified Biologist shall conduct a pre-construction clearance survey for American badger no more than three days prior to the initiation of vegetation removal or ground disturbing activities to determine if American badger den sites are present within the work area. The clearance survey shall cover all areas of suitable habitat that would be directly and indirectly impacted by project activities, including areas within 100 feet of the project limits.

AS-5b All potential dens shall be assessed using non-intrusive methods (e.g., scope, mirror, camera) to determine the presence of badgers. Dens that are determined to be inactive by the Qualified Biologist shall be hand-excavated and collapsed with a shovel to prevent reoccupation between the time of the clearance survey and construction activities.

AS-5c If badgers are detected, the Qualified Biologist shall passively relocate badgers out of the work area prior to construction, if feasible. If an active den is detected within the work area, the den shall be avoided until the Qualified Biologist determines that the den is no longer active.

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2.3.5 Threatened and Endangered Species

2.3.5.1 Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA) (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 Service) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take statement or a Letter of Concurrence. Section 3 of 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.

2.3.5.2 Affected Environment

This section is based on the Natural Environment Study (NES) prepared for the proposed project, dated November 2018.

On September 24, 2018, an official USFWS List of Proposed, Threatened, and Endangered Species, and Critical Habitats was obtained through the USFWS Information System. According to the USFWS List and Information for Planning and Conservation (IPaC) Species

List, a total of six federally listed threatened or endangered plant or animal species have the potential to occur within the vicinity of the Biological Study Area (BSA); no critical habitats occur within the BSA. There were no additional listed species identified by the California Natural Diversity Database (CNDDB) and California Native Plant Society (CNPS) records searches. The NES prepared for the project analyzes impacts to threatened and endangered species. Based on the NES, no federally listed plant or animal species were observed within the BSA during the habitat assessment. Additionally, there is no suitable nesting habitat within or adjacent to the BSA for the federally listed threatened or endangered plant or animal species found to potentially occur within the vicinity of the BSA, with the exception of the least Bell's vireo (Vireo bellii pusillus). As such, only the least Bell's vireo is discussed in detail below. The project has no effect on all species listed below in Table 2.3.5-1, Effects Determination for Federal Species Identified in the Official USFWS Species List.

Table 2.3.5-1: Effects Determination for Federal Species Identified in the Official USFWS Species List

Scientific Name **Common Name**	**Status**		**General Habitat Requirements**	**Effects Finding**	**Reason for Finding**
	USFWS	**CDFW**			
Birds					
Empidonax traillii extimus southwestern willow flycatcher	FE	SE	Uncommon summer resident of southern California. Occurs in riparian woodlands in southern California. Typically requires large areas of willow thickets in broad valleys, canyon bottoms, or around ponds and lakes. These areas typically have standing or running water, or are at least moist.	No Effect	There is no suitable nesting habitat within or adjacent to the BSA. The arrowweed scrub plant community within the low-flow channel of the CVSC is routinely maintained and lacks the preferred density and structure of plant species required for nesting. Further, there have been no recorded occurrences of this species within the Indio quadrangle by the CNDDB. Therefore, Caltrans determined that the project has "No Effect" on the southwestern willow flycatcher.
Rallus longirostris yumanensis Yuma clapper rail	FE	ST, FP	Rare yearlong resident of southern California. Restricted to the Salton Sea and immediate surrounding habitats. Generally found in freshwater and alkali marshes dominated by stands of emergent vegetation interspersed with areas of open water and drier upland benches. Prefers mature marsh stands along margins of shallow ponds with stable water levels.	No Effect	There is no suitable habitat within or adjacent to the BSA. The arrowweed scrub plant community within the CVSC is exposed to a high-level of routine maintenance and does not provide suitable nesting habitat. Further, the BSA is located outside of the current distribution and there have been no recorded occurrences of this species within the Indio quadrangle by the CNDDB. Therefore, Caltrans determined that the proposed project would have "No Effect" on the Yuma clapper rail.

Table 2.3.5-1: Effects Determination for Federal Species Identified in the Official USFWS Species List [continued]

Scientific Name **Common Name**	**Status**		**General Habitat Requirements**	**Effects Finding**	**Reason for Finding**
	USFWS	**CDFW**			
Vireo bellii pusillus least Bell's vireo	FE	SE	Uncommon summer resident of southern California. Bell's vireos begin to arrive at their breeding grounds in southern California riparian areas from mid-March to early April leave the breeding grounds and migrate south mid- to late September. Prefers riparian habitat in close proximity to waterbodies that typically feature a dense, stratified canopy. Species is typically associated with southern willow scrub, cottonwoodwillow forest, mulefat scrub, sycamore alluvial woodlands, coast live oak riparian forest, willow riparian forest, or mesquite in desert regions. Preferred nesting habitat typically consists of a well-developed over-story and understory, along with low densities of aquatic and herbaceous plant cover. The understory frequently contains dense sub-shrub or shrub thickets that are often dominated by plants such as willow, mulefat, and one or more herbaceous species.	No Effect	The arrowweed scrub plant community within the low-flow channel of the CVSC provides a minimal amount of low quality nesting habitat for least Bell's vireo. However, vegetation within the CVSC is routinely maintained by the Coachella Valley Water District and the arrowweed scrub plant community lacks the preferred density and structure of plant species which reduces the likelihood that the species would occur within the BSA. Further, there have been no recorded occurrences of this species within the Indio quadrangle by the CNDDB. Based on current design plans, the proposed Avenue 50 Bridge will span the low-flow channel of the CVSC thereby avoiding direct impacts to low-quality nesting habitat for least Bell's vireo. Construction-related disturbances associated with the proposed project, including noise, vibration, and dust may result in indirect impacts to least Bell's vireo during the breeding season (March 15th to September 15th) when individuals may be attempting to incubate eggs or raise young within close proximity to the BSA. Therefore, with implementation of the avoidance and minimization measures identified in the NES, Caltrans determined that the proposed project would have "No Effect" on the least Bell's vireo.

Table 2.3.5-1: Effects Determination for Federal Species Identified in the Official USFWS Species List [continued]

Scientific Name Common Name	Status		General Habitat Requirements	Effects Finding	Reason for Finding
	USFWS	CDFW			
Reptiles					
Gopherus agassizii desert tortoise	FT	ST	Occurs in desert scrub, desert wash, and Joshua tree habitats with friable, sandy, well-drained soils for nest and burrow construction. Highest densities occur in creosote bush scrub with extensive annual wildflower blooms and succulents with little to no non-native plant species.	No Effect	No suitable habitat occurs within or adjacent to the BSA. Therefore, Caltrans determined that the proposed project would have "No Effect" on the desert tortoise.
Uma inornata Coachella Valley fringe-toed lizard	FT	SE	Sparsely-vegetated arid areas with fine wind-blown sand, including dunes, washes, alkali scrub, and flats with sandy hummocks formed around the bases of vegetation. Requires fine, loose, wind-blown sand for burrowing.	No Effect	No suitable habitat occurs within or adjacent to the BSA. Therefore, Caltrans determined that the proposed project would have "No Effect" on the Coachella Valley fringe-toed lizard.
Flowering Plants					
Astragalus lentiginosus var. coachellae Coachella Valley milkvetch	FT	-	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 to 2,150 feet above msl. Blooming period is February to May.	No Effect	No suitable habitat occurs within or adjacent to the BSA. Therefore, Caltrans determined that the proposed project would have "No Effect" on the Coachella Valley milk-vetch.

Notes:
USFWS
SE – Federally Endangered
ST – Federally Threatened

CDFW
SE – State Endangered
ST – State Threatened
FP – Fully Protected

Source: Natural Environment Study (NES), dated November 2018.

Least Bell's Vireo (Vireo bellii pusillus) (USFWS/Federal status: Federal Endangered [FE]; CDFW/California status: State Endangered [SE])

According to the NES, no least Bell's vireos, nests, or nesting behaviors were detected within the BSA during the field survey. Least Bell's vireo is a federally and State endangered species and an uncommon spring resident of southern California. Least Bell's vireos begin to arrive at their breeding grounds in southern California riparian areas from mid-March to early April and leave the breeding grounds and migrate south mid- to late September. Preferred nesting habitat typically consists of a well-developed over-story and understory, along with low densities of aquatic and herbaceous plant cover. The understory frequently contains dense sub-shrub or

shrub thickets that are often dominated by plants such as willow (*Salix* ssp.), mulefat (*Baccharis salicifolia*), and one or more herbaceous species. The breeding season for least Bell's vireo generally extends from March 15th through September 15th, but can vary slightly from year to year based upon seasonal weather conditions. The arrowweed scrub plant community within the low-flow channel of the Coachella Valley Stormwater Channel (CVSC) provides a minimal amount of low quality nesting habitat for least Bell's vireo. However, vegetation within the CVSC is routinely maintained by the Coachella Valley Water District and the arrowweed scrub plant community lacks the preferred density and structure of plant species which reduces the likelihood that the species would occur within the BSA. Further, there have been no recorded occurrences of least Bell's vireo within the Indio quadrangle by the CNDDB. Based on the results of the analysis, the potential for least Bell's vireo to be present within the BSA at any time during construction is considered to be low.

2.3.5.3 Environmental Consequences

2.3.5.3.1 Temporary Impacts

Alternative 1 (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.

Alternatives 7 and 8 (Build Alternatives)

Least Bell's Vireo (Vireo bellii pusillus)

The arrowweed scrub plant community within the low-flow channel of the CVSC provides a minimal amount of low quality nesting habitat for least Bell's vireo. However, vegetation within the CVSC is routinely maintained by the Coachella Valley Water District (CVWD) and the arrowweed scrub plant community lacks the preferred density and structure of plant species which reduces the likelihood that least Bell's vireo would occur within the BSA. Further, there have been no recorded occurrences of this species within the Indio quadrangle by the CNDDB. Construction-related disturbances associated with the proposed project, including noise, vibration, and dust may result in indirect impacts to least Bell's vireo during the breeding season (March 15th to September 15th) when individuals may be attempting to incubate eggs or raise young within close proximity to the BSA. Therefore, a pre-construction clearance survey will be performed if project activities occur during the nesting season (Measure AS-2). Additionally, workers will receive environmental awareness training prior to the initiation of work (Measures AS-1a through AS-1d). Thus, Caltrans determined that the proposed project would have "no effect" on the least Bell's vireo.

2.3.5.3.2 Permanent Impacts

Alternative 1 (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.

Alternatives 7 and 8 (Build Alternatives)

Least Bell's Vireo (Vireo bellii pusillus)

As noted above, the arrowweed scrub plant community within the low-flow channel of the CVSC provides a minimal amount of low quality nesting habitat for least Bell's vireo. However, vegetation within the CVSC is routinely maintained by CVWD and the arrowweed scrub plant community lacks the preferred density and structure of plant species which reduces the likelihood that least Bell's vireo would occur within the BSA. Further, there have been no recorded occurrences of this species within the Indio quadrangle by the CNDDB. Based on the NES, the proposed Avenue 50 Bridge will span the low-flow channel of the CVSC and the arrowweed scrub plant community would not be impacted by the bridge or bridge columns thereby avoiding direct impacts to low-quality nesting habitat for least Bell's vireo. Therefore, it was determined by Caltrans that the proposed project would have "no effect" on the least Bell's vireo.

2.3.5.4 Avoidance, Minimization, and/or Mitigation Measures

Refer to Measures AS-1a through AS-3c in Section 2.3.4, Animal Species.

2.3.6 Invasive Species

2.3.6.1 Regulatory Setting

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

2.3.6.2 Affected Environment

Noxious weed species include species designated as federal noxious weeds by the United States Department of Agriculture (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). Based on the Natural Environment Study (NES) prepared for the project dated November 2018, invasive plant species are abundant throughout much of the Biological Study Area (BSA). Some of the more commonly occurring exotic plants in the BSA include pigweed (*Amaranthus albus*), five hook bassia (*Bassia hyssopifolia*), Bermuda grass (*Cynodon dactylon*), tree tobacco (*Nicotiana glauca*), Russian thistle (*Salsola tragus*), London rocket (*Sisymbrium irio*), and tamarisk (*Tamarix ramosissima*).

2.3.6.3 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.

2.3.6.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

The No-Build Alternative would not include the construction of any of the proposed project improvements. As a result, as described under permanent impacts, 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.

Alternatives 7 and 8 (Build Alternatives)

Potential impacts from invasive species associated with construction and operation of transportation projects are considered permanent. Refer to Section 2.3.6.3.2, Permanent Impacts, for discussion regarding invasive species.

2.3.6.3.2 Permanent Impacts

Alternative 1 (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.

Alternatives 7 and 8 (Build Alternatives)

As noted above, invasive plant species are present in the BSA. It should be noted that the Coachella Valley Stormwater Channel (CVSC), an earthen flood control channel, traverses the BSA in a northwesterly to southeasterly orientation that eventually flows to the Salton Sea. The project includes replacing the existing low water crossing with a new bridge spanning over CVSC, which could have a potential threat of invasive species downstream. However, the project would be 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 project will 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 INV-1, all construction equipment and materials would be inspected for the presence of invasive species and cleaned if necessary. 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 7 and 8 would not increase the threat of invasive species beyond the existing condition associated with vehicle and pedestrian use on State Route 86 (SR-86) and Avenue 50.

2.3.6.4 Avoidance, Minimization, and/or Mitigation Measures

INV-1 All construction equipment and materials shall be inspected for the presence of invasive species and cleaned as necessary.

2.4 Cumulative Impacts

2.4.1 Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

The California Environmental Quality Act (CEQA) Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under the National Environmental Policy Act (NEPA) can be found in 40 Code of Federal Regulations (CFR) Section 1508.7.

2.4.2 Methodology

Caltrans' Guidance for Preparers of Cumulative Impact Analysis was consulted in conjunction with preparation of the cumulative analysis for the proposed SR-86/Avenue 50 New Interchange Project. The potential for cumulative impacts was evaluated by considering those resources potentially impacted by the proposed project, either directly or indirectly. In accordance with Caltrans' Guidance for Preparers of Cumulative Impact Analysis, if a project will not cause direct or indirect impacts on a resource, it will 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. Separate maps were prepared showing the RSAs identified for each resource that was evaluated. The RSA boundaries are shown in Figures 2.4-1 through 2.4-5. The reasonably foreseeable project list provided in Table 2.4-1 was developed based on information from City of Coachella staff. In addition, the projects relevant to each RSA are shown on Figures 2.4-1 through 2.4-5.

2.4.3 Resources Excluded from Cumulative Impacts Analysis

As stated in the guidelines provided above, if the proposed project would not result in a direct or indirect impact to a resource, it would not contribute to a cumulative impact on that resource and need not be evaluated with respect to potential cumulative impacts. Those resources for which cumulative effects are not anticipated are listed below.

- Natural Communities
- Cultural Resources
- Air Quality

- Noise
- Plant Species

2.4.4 Resources Evaluated for Cumulative Analysis

The following resources are evaluated in this section for cumulative impacts:

- Community (including Visual/Aesthetics)
- Farmlands
- Water Resources (including Hydraulics and Water Quality)
- Biological Resources (including Wetlands and Other Waters, Animal Species, and Threatened and Endangered Species)
- Paleontology

The discussion of potential cumulative impacts is presented by environmental resource area. Table 2.4-1, Reasonably Foreseeable Projects, includes the reasonably foreseeable projects within the City of Coachella considered in this analysis. In the context of the respective RSA, the project footprint for both Alternatives 7 and 8 are similar; therefore, the discussion of Alternatives 7 and 8 below is combined into a single discussion of Build Alternatives, since implementation of either Build Alternative would result in similar cumulative impacts.

2.4.4.1 Community (including Visual/Aesthetics)

Resource Study Area

The RSA for visual/aesthetic resources is shown on Figure 2.4-1. For purposes of the visual/aesthetic impact analysis, the RSA boundaries for cumulative visual/aesthetic resources include an approximately one-mile buffer area relative to the project site, generally considered to be within the viewshed of the proposed project.

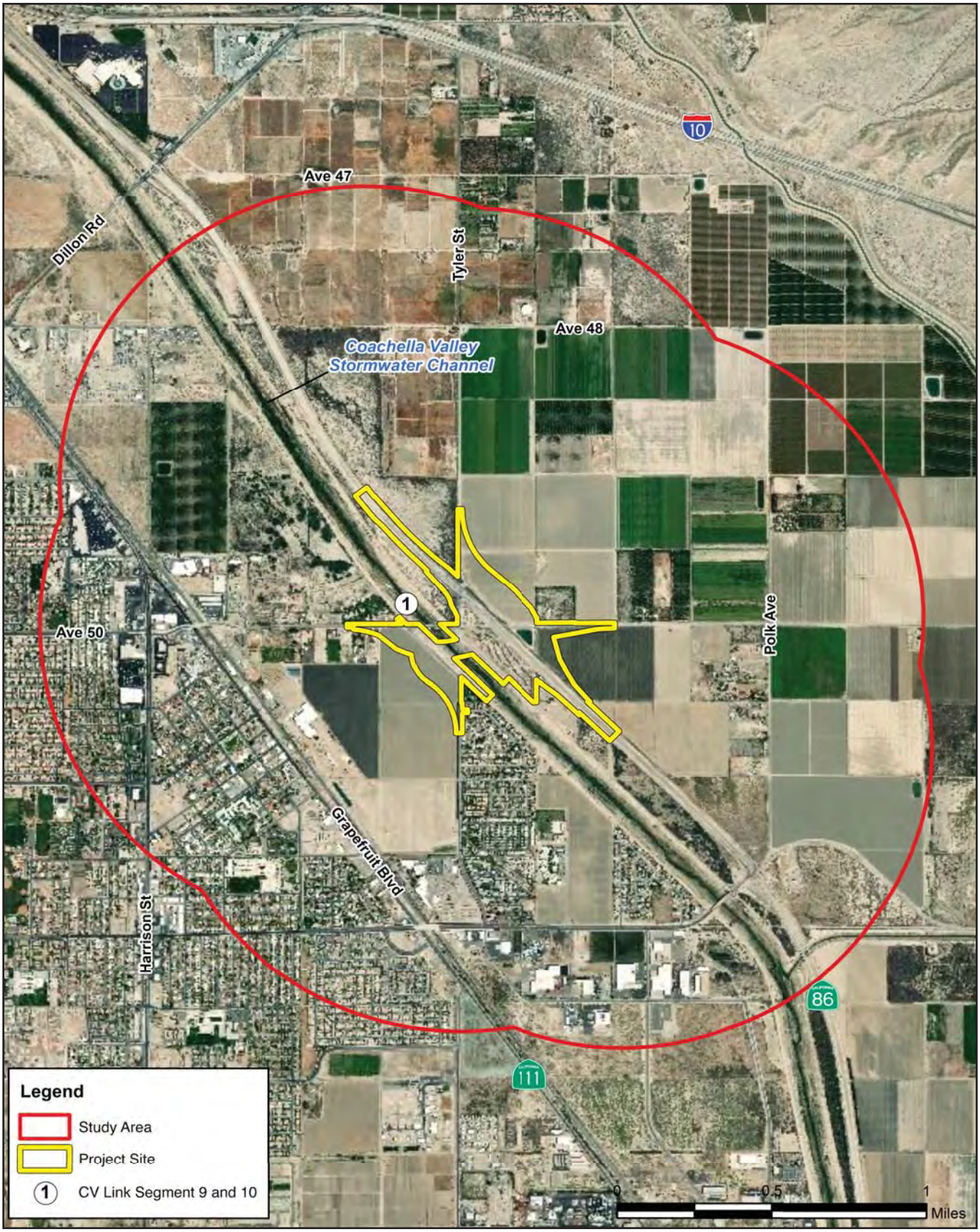
The RSA is defined by mainly developed and agricultural uses in the Coachella Valley, with surrounding views of the hillsides and ridgelines of Joshua Tree National Park to the north/east, eastern foothills of the San Bernardino National Forest to the northwest, Santa Rosa Mountains to the south, and San Jacinto Mountains to the west. The peaks, ridgelines, and hillsides associated with these topographic features are the most prominent visual resources in the RSA. These ridgelines are generally uniform in color and texture. Overall, the distant views toward these hills and ridgelines provide visual diversity in form, line, and color compared to the flat topography of the Coachella Valley.

Table 2.4-1: Reasonably Foreseeable Projects

Map ID[1]	Project Name	Project Description	Location	Status
1	CV Link Segments 9 and 10	3.5 miles of the total 50-mile CV Link alignment	Taylor Street to Airport Boulevard (Avenue 56)	First phase completed in Palm Springs, second phase commencing in La Quinta 2019.
1	Vista Escondida	282 single-family unit subdivision on 46.64 acres	Northwest corner of Shady Lane and Ave 54, Coachella, 92236	25 percent of homes built; park and off-site improvements complete. Future phases to begin construction in 2019.
2	AM/PM Expansion Project	Construct new carwash, drive-thru restaurant and retail buildings on 4.85 acres	Southwest corner of Ave 48 and Grapefruit Blvd, Coachella, 92236	Under construction. Phase 1 and 2 complete. Expected completion in 2020.
3	Baghdad Apartments/ Chelsea	General plan amendment from low-density residential; architectural review for 144-unit apts and parcel map modification	Southwest corner Calle Avila and Bagdad, Coachella, 92236	First phase complete (56 units); off-site improvements complete. Second phase to be completed on June 2018.
4	Prado	232 single-family unit subdivision	West of Frederick between Ave 50 and 51, Coachella, 92236	65 homes built; all off-site improvements complete. Next phase of construction expected in 2018.
5	Sundate II	169 single-family unit subdivision	Northwest corner Ave 53 and Frederick, Coachella, 92236	Tentative map revision approved. First phase of construction expected in 2020.
6	Nickel Creek	322 single-family unit subdivision on 64.64 acres	Ave 44, West of Dillon, Coachella, 92236	Tentative map approved. Construction expected in 2020 or later.
7	Brandenburg & Butters Specific Plan	Revised Plan includes 212 single-family unit subdivision	North of Ave 54, between Fillmore and Polk Street, Coachella, 92236	Tentative map approved. Construction expected in 2020 or later.
8	Eagle Falls Specific Plan	295 single-family unit subdivision on more than 90 acres	North of I-10 W of Harrison, Coachella, 92236	Tentative map approved. Construction expected in 2020.
9	Rancho Coachella Vineyards	272 single-family unit subdivision 80 acres	Northwest corner Ave 55 and Pierce, Coachella, 92236	Tentative map approved. Time extension granted. Construction expected in 2020 or later.
10	Shadow View Specific Plan	1,600 single-family unit subdivision on 368 acres	Southeast of Dillon Rd between I-10 and 86 Expressway, Coachella, 92236	Tentative maps expired. Construction expected in 2020 or later.
11	Villa Palmeras	111 single-family attached and detached residential units on 11.58 acres	South side of Ave 50 between Jackson and Calhoun St, Coachella, 92236	Tentative map approved. Construction expected in 2020 or later.
12	La Entrada Specific Plan	7,800 residential units; mixed uses including high-density residential, commercial, public facilities, and other non-residential uses; three elementary schools and one middle school; 345 acres of parks/ recreation uses, including multi- purpose trails; 112 acres of roadway uses; and 557 acres of open space	South of I-10 and east of All American Canal	Specific Plan, environmental document, and Development Agreement approved. First phase of construction expected by 2020.
13	I-10/Dillon Road Interchange (RTP ID: 3M0715)			PSR approved in 2010.
14	SR-86/Dillon Road Interchange (RTP ID: 3M0716)			PSR approved in 2010.
15	Avenue 50 Improvements (RTP ID: 3A04CV113)			Final design.
16	Avenue 50 Canal Crossing over All American Canal (RTP ID: 3A01CV002)			Final design.
17	Avenue 50 Extension (RTP ID: 3A01CV004)			Final design.
18	I-10/Avenue 50 New Interchange Project (RTP ID: RIV030901)			Final design.

Notes:
1. Mapping ID Nos. correspond to those identified in Figure 2.1.1-4, Planned Projects in the City of Coachella.

Source: *SR-86/Avenue 50 New Interchange Project Community Impact Assessment*, dated September 2018.



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Cumulative Impacts Resource Study Area for Visual/Aesthetics

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Figure 2.4-1

Visual/Aesthetics

Current Health and Historical Context

The current health of the visual/aesthetic resources in the RSA is generally considered to be good. The surrounding views of hillsides and ridgelines as well as other agricultural uses and natural elements within the RSA have high visual quality. The built environment within the RSA includes manmade features such as residential, commercial, and institutional buildings, as well as infrastructure such as local roadways and utility lines. Manmade features interact with the natural environment to either enhance or reduce aesthetic qualities. The scale, diversity, and color of manmade elements can block views or cause visual clutter to degrade views. In general, the height and mass of structures and buildings within the RSA do not obstruct views of surrounding hillsides and ridgelines.

There are no Officially Designated State Scenic Highways within the RSA. Nonetheless, the RSA includes uninhibited views of surrounding hillsides and ridgelines, which are designated as visual resources by the City of Coachella. According to General Plan Policy 6.1, the City encourages preservation of these visual resources.

Direct and Indirect Impacts

Build Alternatives: Implementation of the project would introduce additional hardscape surfaces within the RSA and some nominal view blockage of the surrounding hillsides and ridgelines may occur; however, more expansive views of these visual resources would be provided along Avenue 50 and Tyler Street to the west of the proposed project. As detailed in Section 2.1.7 of this IS/EA, measures will be implemented to ensure the character and quality of the project area is maintained and is not degraded.

Potential Cumulative Impacts

Similar to the proposed SR-86/Avenue 50 New Interchange Project, each of the projects depicted on Figure 2.4-1 would be required to address any potential impacts to visual/aesthetic resources that these respective projects may generate. Planned projects would be required to comply with applicable federal and State regulatory requirements, including the applicable General Plan goals and policies intended to reduce and/or eliminate potential adverse effects to visual/aesthetic resources.

The proposed project would include a new bridge over the Coachella Valley Stormwater Channel (CVSC) and new Avenue 50 overcrossing over SR-86, within an area where roadway infrastructure currently exists and developed/urbanized portions of the City of Coachella exist within 0.5-mile to the west. It is not anticipated that the project would alter the visual character of the project area such that it would have the capacity to substantially interact with other identified planned projects in the area. Accordingly, the proposed project is not expected to substantially contribute to cumulative impacts related to visual/aesthetic considerations.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.4.4.2 Farmlands

Resource Study Area

The RSA for farmlands is shown on Figure 2.4-2. For purposes of the farmland impact analysis, the RSA boundaries for cumulative farmland resources include the city limit boundaries of the City of Coachella. The City limit boundaries were selected for the RSA since farmland represents a predominant land use within the City, and the range of reasonably foreseeable projects also occurs within the City.

Current Health and Historical Context

The current health of farmlands in the RSA is considered to be declining. According to the City's General Plan, agricultural land is one of the predominant land uses within Coachella, covering approximately 40 percent (21,840 acres) of the City's planning area. Approximately 17 percent (3,800 acres) of the total agricultural land within the planning area is located within the City's incorporated area. Most of the agricultural land is located in the unincorporated areas (18,040 acres). However, while preservation of agriculture is considered integral to the City's future, Coachella has experienced a significant loss in farmland that continues as urbanization spreads.[1]

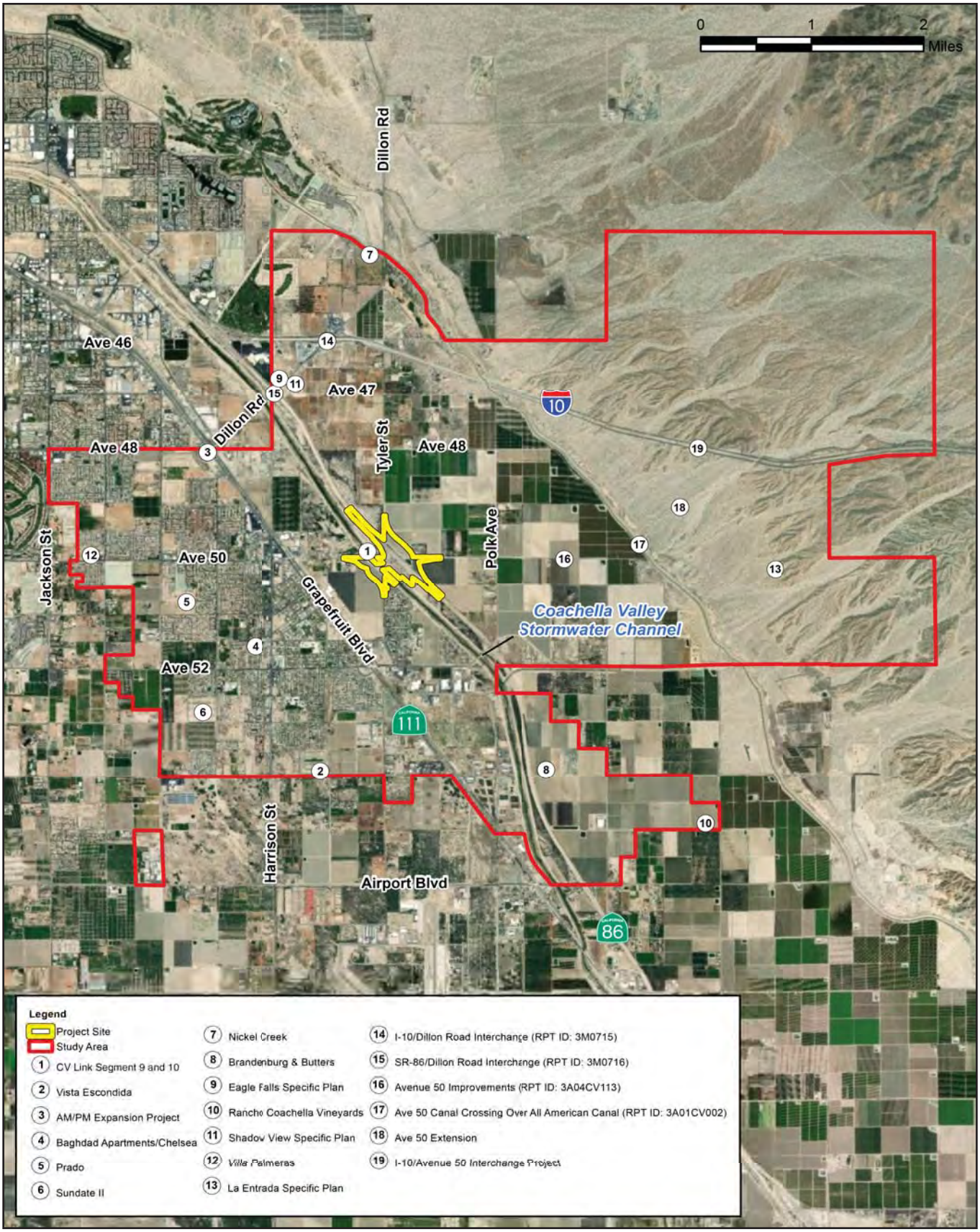
Direct and Indirect Impacts

Build Alternatives: Implementation of the project would result in the conversion of existing important farmlands to transportation uses within the RSA. However, as detailed in Section 2.1.2 of this IS/EA, measures will be implemented to ensure that all agricultural land that is converted to non-agricultural use will be addressed at a 1:1 ratio. Acquisition of farmlands will occur 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.

Potential Cumulative Impacts

Similar to the proposed SR-86/Avenue 50 New Interchange Project, each of the projects depicted on Figure 2.4-2 would be required to address any potential impacts to farmlands that these respective projects may generate. Planned projects would be required to comply with applicable federal requirements including the Farmland Protection Policy Act (FPPA), 7 USC 4201-4209; and its regulations, 7 CFR Part 658). The FPPA requires Federal agencies to "…coordinate with the Natural Resources Conservation Service (NRCS) to examine the effects of farmland conversion…" before they approve any activity that would convert farmland. Planned projects would be required to comply with applicable State requirements including the California Environmental Quality Act (CEQA), which requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. Planned projects would also be required to comply with the applicable General Plan goals and policies intended to preserve existing agricultural lands, specifically, policies 4.1 through 4.7 within the Land Use and Community Character Element.

[1] City of Coachella General Plan Update, April 22, 2015, Chapter 3 Existing Conditions, pp. 3-19, 3-20.



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Cumulative Impacts Resource Study Area for Farmlands

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Figure 2.4-2

It is not anticipated that the project would result in the conversion of a substantial amount of important farmlands within the project area such that it would have the capacity to substantially interact with other identified planned projects in the area. Accordingly, the proposed project is not expected to substantially contribute to cumulative impacts related to farmland considerations.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.4.4.3 Water Resources (including Hydraulics and Water Quality)

Resource Study Area

The RSA for water resources is depicted on Figure 2.4-3. For purposes of hydraulics and water quality analyses, cumulative impacts are considered for projects located within the same hydrologic sub-area of the Whitewater River watershed. The RSA boundaries were chosen in order to capture minor and major water features located within the RSA which may be impacted during construction of planned projects located within the RSA. It should be noted that although the Salton Sea itself is not included within the RSA boundaries (the Indio Hydrologic Sub-Area of the Whitewater River watershed), it is still considered to be a potentially affected water resource since water from the CVSC flows south into the Salton Sea.

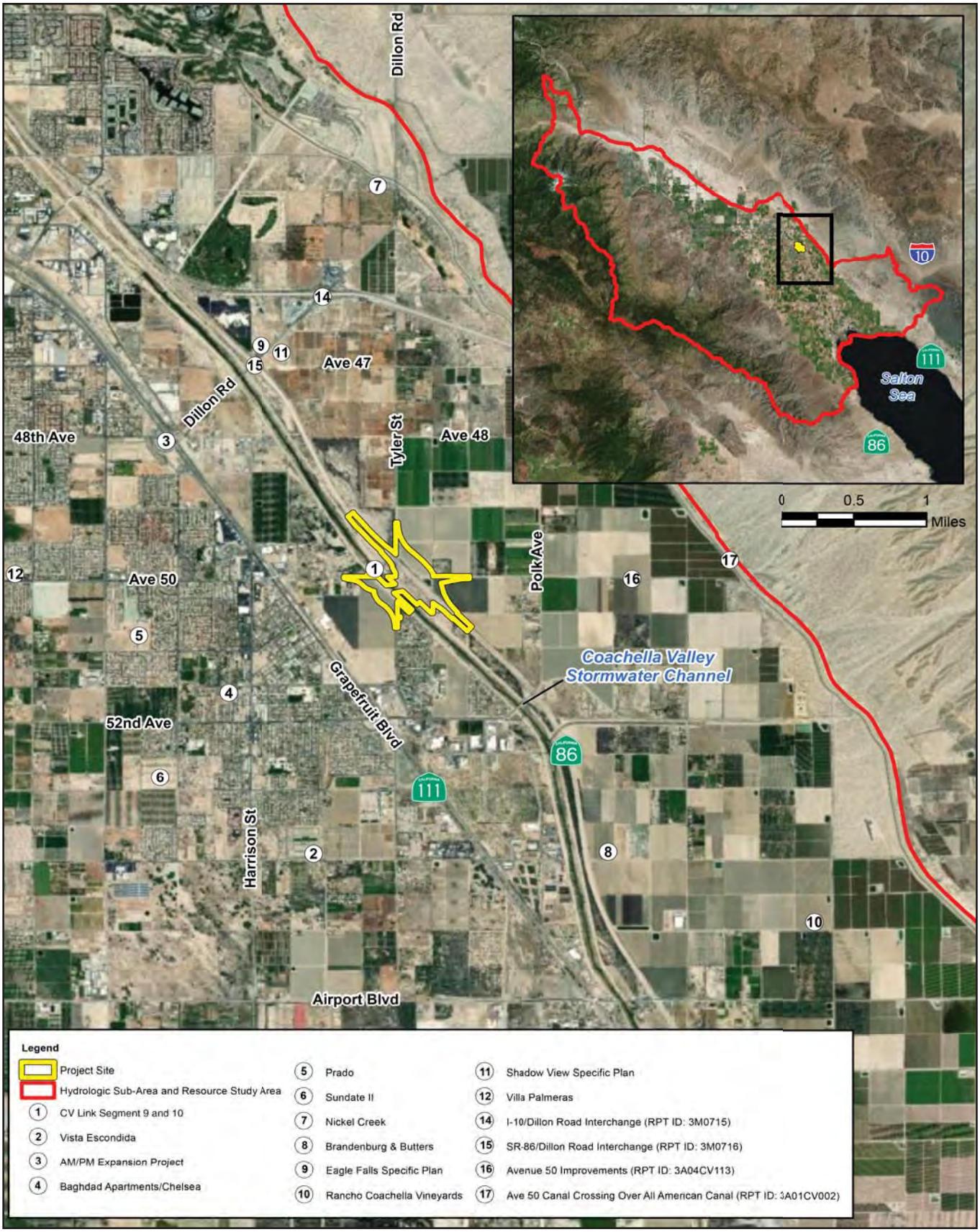
Specifically, the RSA includes the Indio Hydrologic Sub-Area of the Whitewater River watershed, which encompasses approximately 1,500 square miles and is bounded by the southeastern area of the San Bernardino Mountains (southeast of San Gorgonio Mountain), San Jacinto Mountains, the Santa Rosa Mountains, the Chocolate Mountains, the Mecca Hills, the Cottonwood Mountains, and the Orocopia Mountains. Runoff from these mountains drains through a network of surface streams and collects on the Coachella Valley floor and flows southeast via the CVSC toward the Salton Sea. The Salton Sea is a lake that has no outlet and does not discharge to the ocean.

Hydraulics

Current Health and Historical Context

The current health of water resources in the context of hydraulics relates to the frequency of flood hazards that occur in the RSA. According to the City's General Plan, Coachella receives on average about three inches of rain a year, although actual numbers can vary substantially from year to year. Runoff totals in the area are also controlled by topography. Coachella is located in the lower part of the Whitewater River basin, a regional watershed covering more than 1,000 square miles. The San Jacinto and San Bernardino Mountains capture a significant portion of the precipitation from strong Pacific storms that pass through, such that average rainfall in the San Jacinto Mountains is more than eight times that in the Coachella Valley (25 inches instead of the average three inches in Coachella). The steep mountain slopes and relatively impermeable bedrock means that most of this precipitation becomes runoff that eventually makes it way to the Whitewater River and its tributaries. Consequently, this drainage can convey substantial discharges even if little rain falls on the valley floors.[2]

[2] City of Coachella General Plan Update, April 22, 2015, Chapter 3 Existing Conditions, p. 3-29.



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Cumulative Impacts Resource Study Area for Water Resources

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Figure 2.4-3

There are two distinct flood sources in the Coachella Valley: 1) the Whitewater River and its tributaries upstream from the valley, and 2) the streams entering the valley from the mountain ranges flanking the northeast and southwest sides of the valley. The Whitewater River is the largest drainage course in the area. Collecting runoff from the slopes and canyons of the San Bernardino and San Jacinto Mountains, the river emerges from the mountains near the southern entrance to the San Gorgonio Pass, where it joins and captures the San Gorgonio River, and near Palm Springs, Tahquitz Creek.[3]

Flooding along the Whitewater River has occurred from both heavy single events and prolonged precipitation in the surrounding mountains. Additionally, intense summer monsoonal storms occur because of tropical cyclones in the Gulf of California.

According to the Water Quality Control Plan for the Colorado River Basin Region, floods along the Whitewater River have historically occurred at least once a decade since 1825. With channelization of the Whitewater River, regional flood damage to structures outside the channel has been minimal in recent years. However, there is currently not a permanent, interconnected flood control system in the City's General Plan area, nor does the City or county have a comprehensive master drainage plan. Most stormwater passes through Coachella as surface flow (there are very few underground structures such as storm drains) and existing local structures are not tied to the CVSC. Streets in the older part of the city have very slow drainage, causing water to pond for days after a storm.[4]

Direct and Indirect Impacts

Build Alternatives: The project's Location Hydraulic Study and Summary Floodplain Encroachment Report (LHS/SFER) (dated May 2018) determined that implementation of the project would minimally impact the existing floodplains or hydraulic performance of the CVSC. As discussed in Section 2.2.1 of this IS/EA, the proposed improvements would result in a localized rise in the water surface elevation at the CVSC. The allowable change in water surface elevation is a cumulative 1-foot rise over the base flood elevation for Zone A floodplains. As indicated in the LHS/SFER, the proposed project would not involve changes to the 100-year water surface elevation in CVSC which would exceed the allowable 1-foot rise prescribed by the FEMA regulations. As a result, the project would not be required to file a Conditional Letter of Map Revision (CLOMR) during Final Design. Project improvements occurring within the Zone A floodplain would be limited to the construction of a bridge over the floodplain. The existing Zone A floodplain is confined within an existing leveed channel. As a result, the combined Assessed Risk Level for the proposed project is "Low Risk."

Potential Cumulative Impacts

Similar to the proposed SR-86/Avenue 50 New Interchange Project, each of the planned projects depicted on Figure 2.4-3 has the potential to impact existing hydrology/floodplain through increases in impervious area, changes in topography, or impacts to existing drainage facilities. As noted above, the project would not substantially impact the hydraulic performance or capacity of the CVSC, and any improvements to the CVSC would be performed in accordance with Coachella Valley Water District (CVWD) standards and reviewed during the final design process. Thus, it is not anticipated that the project would have the capacity to interact with other identified planned projects in the area.

[3] Ibid.
[4] City of Coachella General Plan Update, April 22, 2015, Chapter 3 Existing Conditions, pp. 29-30.

All future development projects within the RSA would be subject to independent environmental review on a case-by-case basis and would be required to implement project-specific hydraulic design features and/or mitigation to reduce any identified impacts to hydrology/floodplain. Additionally, the City of Coachella minimizes the risk of flood hazard through Municipal Code Chapter 15.56, Floodplain Management, which is intended to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by legally enforceable regulations applied uniformly throughout the community to all publicly and privately-owned land within flood prone areas. Thus, the proposed project, in combination with other planned projects, would not result in cumulative adverse water resource impacts related to hydraulics.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

Water Quality

Current Health and Historical Context

The current health of water quality within the RSA is considered to be declining. As indicated in Section 2.2.2 of this IS/EA, both the CVSC and Salton Sea are listed on the 2016 303(d)/305(b) Integrated List as impaired. The CVSC has a Total Maximum Daily Load (TMDL) for bacterial indicators that has been established. Table 2.4-2, Summary of 303(d) Listed Constituents and TMDL Constituents, shows the water bodies that could potentially be impacted by the development within the RSA. As noted above, the Salton Sea is considered to be a potentially affected water resource since water from the CVSC flows south into the Salton Sea.

Table 2.4-2: Summary of 303(d) Listed Constituents and TMDL Constituents

Water Body Name	303(d) List Constituent	TMDL Constituent
Coachella Valley Stormwater Channel	Dichlorodiphenyltrichloroethane (DDT) Dieldrin Indicator Bacteria Nitrogen, Ammonia (Total Ammonia) Polychlorinated biphenyls (PCB) Toxaphene Toxicity	Bacterial Indicators
Salton Sea	Arsenic Chloride Chlorpyrifos DDT Enterococcus Low Dissolved Oxygen Nitrogen, Ammonia (Total Ammonia) Nutrients Salinity Toxicity	None

Source: Water Quality Assessment Report, June 2018, Table 4 (p. 39).

Direct and Indirect Impacts

Build Alternatives: Project operations are not anticipated to result in substantive changes in the quantity or quality of runoff from the project site. The approximate acreage of net new impervious surface as a result of the proposed project would be 21.3 acres for Alternative 7 and 21.7 acres for Alternative 8. Alternative 7 would result in a total impervious area of 42 acres, and Alternative 8 would result in a total impervious area of 40 acres. When the total impervious area of Alternative 7 is compared to the size of the Whitewater River Watershed (over 960,000 acres), this equates to less than 0.00004 percent of the watershed. Thus, the amount of new impervious surface as a result of the proposed project would be negligible and would not result in a substantial increase in runoff leading to substantial water quality impacts to downstream receiving bodies.

Construction of either alternative 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 project would not result in substantial permanent water quality impacts to downstream receiving bodies, the CVSC and the Salton Sea. Pursuant to Caltrans National Pollutant Discharge Elimination System (NPDES) permit requirements, the project would be required to implement a range of design pollution prevention and 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.). Upon adherence to the Caltrans MS4 Permit, which would require implementation of various BMPs to minimize operational water quality impacts, effects on downstream receiving bodies and aquatic life would not be adverse.

Potential Cumulative Impacts

Similar to the proposed SR-86/Avenue 50 New Interchange Project, each of the projects depicted on Figure 2.4-3 would be required to address any potential water quality impacts to water resources that these respective projects may generate. Planned projects would be required to comply with applicable federal and State regulatory requirements intended to reduce and/or eliminate potential adverse effects to water quality.

It is not anticipated that the project would degrade existing water quality such that it would have the capacity to substantially interact with other identified planned projects in the area. Accordingly, the proposed project is not expected to substantially contribute to cumulative impacts related to water quality considerations.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.4.4.4 Biological Resources (including Wetlands and Other Waters, Animal Species, and Threatened and Endangered Species)

Resource Study Area

The RSA for biological resources is shown on Figure 2.4-4. For purposes of wetlands/other waters, animal species, and threatened and endangered species, cumulative impacts are considered for projects located within the same 123.2-acre biological study area that was delineated for the proposed project as part of the biological resource assessment. The CVSC and SR-86 generally traverse the RSA in a northwesterly to southeasterly orientation. The RSA is bounded by agricultural land uses to the east; CVSC and agricultural land to the south; single-family residences to the west; and CVSC and single-family residences to the north. The RSA boundaries include the maximum area of potential direct effect along the entire length of the project footprint boundary and extends beyond the maximum area of potential direct effect where necessary to identify sensitive biological resources within and immediately adjacent to the RSA. Additionally, the RSA is located within the boundaries of the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP).

Wetlands and Other Waters

Current Health and Historical Context

Existing conditions relative to the CVSC are characteristic of the arid west environment and typical of arrowweed scrub habitat, with existing emergent riparian vegetation located adjacent to CVSC. The active channel delineated throughout the CVSC is characterized by perennial flows, with surrounding areas comprised of earthen material and a combination of native and non-native vegetation. This area receives flows from connected subsurface evacuation channels throughout the valley. All waters are conveyed through the site south to the Salton Sea. Two existing culverts convey flows to the RSA. The active channel mapped during the RSA delineation exhibited clear evidence of hydrological processes such as sediment deposition and the destruction of terrestrial vegetation. The active channel also exhibited large accumulations of drift deposits on the upstream side of the channel. The active channel is comprised of a single channel form, ranging between 6-20 feet in width. Generally, the active channel exhibits a very flat bed topography. One large pond utilized for agricultural purposes can be seen immediately south of Avenue 50. This pond is wholly excavated in the uplands and does not exhibit a connection to the CVSC. The higher elevations along SR-86 contained no hydrological features.

The areas immediately west and east of the active channel, but within the limits of the CVSC, are routinely graded/maintained and do not support a native plant community. Further, conditions within the CVSC appear to be disturbed as a result of routine maintenance activities. Since the Whitewater River and several of its tributary channels have been modified for flood control purposes, the current health of the RSA is considered moderate.



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Cumulative Impacts Resource Study Area for Biological Resources

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Figure 2.4-4

Direct and Indirect Impacts

Build Alternatives: As concluded in Section 2.3.1 of this IS/EA, implementation of the project is not anticipated to result in substantive adverse effects to wetlands and other waters. The project would result in temporary project impacts to 0.95-acre (0.08 of non-wetland waters and 0.87 of wetland) of United States Army Corps of Engineers (USACE)/Regional Water Quality Control Board (RWQCB) jurisdiction and 1.88-acre (0.87 of vegetated streambed and 1.01 of unvegetated streambed) of California Department of Fish and Wildlife (CDFW) jurisdiction. The project would result in permanent project impacts to approximately 0.02-acre of wetland associated with CVSC, which is under USACE and RWQCB jurisdiction. Additionally, the project would result in approximately 3.23 acres (0.02-acre of vegetated streambed and 3.21-acres or non-vegetated streambed) of permanent impacts to streambeds associated with CVSC, which is under CDFW jurisdiction. As detailed in Section 2.3.1 of this IS/EA, anticipated potential impacts to jurisdictional waters of the U.S. and State will be addressed at a minimum 1:1 ratio, which may involve purchase of land or land credits and/or a restoration plan. Impacts following completion of this project are not anticipated to be substantial.

Potential Cumulative Impacts

Similar to the proposed SR-86/Avenue 50 New Interchange Project, each of the projects depicted on Figure 2.4-4 would be required to address any potential impacts to wetlands and other waters that these respective projects may generate. Planned projects would be required to comply with applicable federal and State regulatory requirements and obtain applicable regulatory permits with respect to jurisdictional areas, wetlands, and other waters during construction and operation, in order to reduce and/or eliminate potential adverse effects to wetlands and other waters.

It is not anticipated that the project would affect wetlands and other waters such that it would have the capacity to substantially interact with other identified planned projects in the area. Accordingly, the proposed project is not expected to substantially contribute to cumulative impacts related to wetlands and other waters.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

Animal Species

Current Health and Historical Context

Natural communities in the RSA consist of arrowweed scrub (0.6 acre) and saltbrush scrub (3.5 acres). Disturbed areas encompass the largest portion (approximately 47.2 percent) of the RSA. Disturbed areas within the RSA generally consist of unpaved areas that no longer support vegetation or comprise a plant community, including unimproved access roads and land that has been routinely cleared or graded during maintenance and/or weed abatement activities. The areas immediately west and east of the active channel, but within the limits CVSC are routinely graded/maintained and no longer support a native plant community. In addition, the area south of Avenue 50, west of SR-86, and east of the CVSC has also been subject to grading/maintenance activities and no longer supports a native plant community.

A total of 23 special status animal species were identified by record searches as potentially occurring within the RSA. Four special status animal species were identified within the RSA

during the site investigation: Cooper's hawk, burrowing owl, black-tailed gnatcatcher, and American badger. Based on the results of the field survey, it was determined that the habitats within and adjacent to the RSA have a low potential to support summer tanager, vermillion flycatcher, Crissal thrasher, Le Conte's thrasher, least Bell's vireo, and yellow-headed blackbird. All other special status animal species are not expected to occur within the RSA and are presumed absent based on habitat requirements for specific species, availability and quality of habitats needed by special status animal species and known distributions. Given the predominately developed nature of the RSA, as well as the scope of continuing planned development anticipated to occur in the RSA, the current health of animal species is considered to be declining.

Direct and Indirect Impacts

Build Alternatives: As indicated in Section 2.3.3 of this IS/EA, a total of 23 special-status animal species were identified as potentially occurring within the Indio USGS 7.5-minute quadrangle. Four of the 23 special-status animal species identified were found to be present within the proposed project's RSA during the biological assessment, including Cooper's hawk, burrowing owl, black-tailed gnatcatcher, and American badger. As detailed in Section 2.2.3 of this IS/EA, measures will be implemented to ensure that the proposed project's construction and operational effects on nesting birds and special-status animal species would not be adverse. Therefore, the proposed project would not contribute to cumulative adverse effects related to special-status animal species.

Potential Cumulative Impacts

Similar to the proposed SR-86/Avenue 50 New Interchange Project, each of the projects depicted on Figure 2.4-4 would be required to address any potential impacts to special-status animal species that these respective projects may generate. Planned projects would be subject to compliance with the CVMSCHP. A significant component of the CVMSHCP is its recommendation of advanced planning to cover potential cumulative impacts to sensitive habitats and covered species. All future development projects within the RSA would be subject to independent environmental review on a case-by-case basis and would be required to implement project-specific measures to reduce any identified impacts to special-status animal species.

It is not anticipated that the project would affect animal species such that it would have the capacity to substantially interact with other identified planned projects in the area. Accordingly, the proposed project is not expected to substantially contribute to cumulative impacts related to special-status animal species considerations.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

Threatened and Endangered Species

Current Health and Historical Context

A total of six federally listed threatened or endangered plant or animal species were identified as potentially occurring within the RSA. However, no federally listed plant or animal species were observed within the RSA during the biological assessment. Based on the results of the habitat

assessment, all federally listed plant or animal species are presumed absent from the RSA. Additionally, the RSA is not located within federally designated Critical Habitat.

Direct and Indirect Impacts

Build Alternatives: As indicated in Section 2.3.4 of this IS/EA, no federal or State listed threatened or endangered plant and animal species were observed in the proposed project's BSA. The arrowweed scrub plant community within the low-flow channel of the CVSC provides minimal, low-quality nesting habitat for least Bell's vireo; however, this area is routinely maintained by the CVWD and the habitat lacks the preferred density and structure of plant species. Following completion a measure that includes a pre-construction clearance survey and construction worker environmental awareness training, the proposed project would result in a "no effect" determination to least Bell's vireo. Therefore, the proposed project would not contribute to cumulative adverse effects related to threatened or endangered plant or animal species.

Potential Cumulative Impacts

Similar to the proposed SR-86/Avenue 50 New Interchange Project, each of the projects depicted on Figure 2.4-4 would be required to address any potential impacts to threatened and endangered species that these respective projects may generate. All reasonably foreseeable planned projects would be subject to compliance with the CVMSCHP. A substantial component of the CVMSHCP is its recommendation of advanced planning to cover potential cumulative impacts to sensitive habitats and covered species, including the least Bell's vireo. All future development projects within the RSA would be subject to independent environmental review on a case-by-case basis and would be required to implement project-specific measures to reduce any identified impacts to threatened and endangered species.

It is not anticipated that the project would affect threatened and endangered species such that it would have the capacity to substantially interact with other identified planned projects in the area. Accordingly, the proposed project is not expected to substantially contribute to cumulative impacts related to threatened and endangered species considerations.

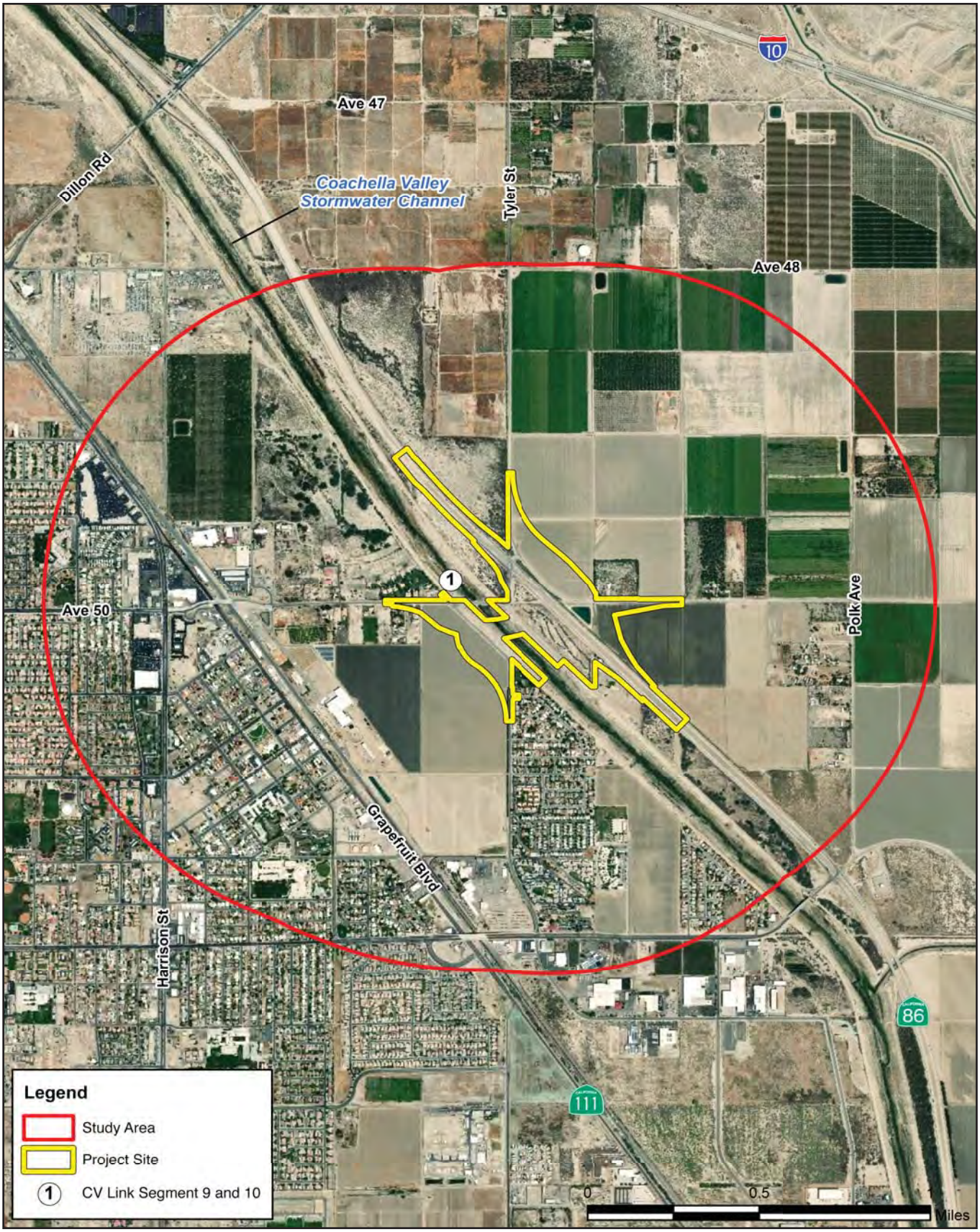
Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.4.4.5 Paleontological Resources

Resource Study Area

The RSA for paleontological resources is shown on Figure 2.4-5. For purposes of the paleontological resource impact analysis, the RSA boundaries for cumulative paleontological resources include an approximately one-mile buffer area from the project site, similar to the boundary used for the paleontological study records search area. The RSA boundaries were chosen in order to capture areas surrounding the project site that are underlain by a similar geologic unit as the project site (late Holocene to latest Pleistocene Quaternary surficial deposits) and may potentially result in the unearthing and discovery of paleontological resources during construction of planned projects located within the RSA.



INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Cumulative Impacts Resource Study Area for Paleontological Resources

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Figure 2.4-5

Current Health and Historical Context

The current health of paleontological resources in the RSA is considered to be stable. No paleontological resources were discovered on the surface during the course of fieldwork that was conducted for the proposed project, and the Quaternary surficial deposits have been previously disturbed at the surface or are obscured by soil and anthropogenic developments in the RSA. According to the paleontological studies conducted for the proposed project, there are areas of both low and high sensitivity for paleontological resources within the RSA. The Quaternary surficial deposits mapped within the RSA have a low to high potential, increasing with depth, to contain intact paleontological resources. At the surface, these deposits are typically too young to contain fossilized remains; however, Holocene to Late Pleistocene ancient Lake Cahuilla deposits may underlie the younger surficial deposits at moderate depth.

Direct and Indirect Impacts

Build Alternatives: As discussed in Section 2.2.4 of this IS/EA, while there are no known, recorded paleontological resources within the proposed project boundaries, the project site is underlain by geologic units determined to have a low to high potential for buried fossil resources (i.e., sensitivity increases with depth below ground surface). 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. Any loss of paleontological resources would most likely occur in areas that are immediately underlain by geologic units with low to high paleontological sensitivity, well below the contact between Holocene lacustrine deposits and Pleistocene lacustrine deposits (20 feet below ground surface).

Measures have been included in the proposed project to ensure that potential construction-related impacts to previously undiscovered paleontological resources are not substantial. A worker's environmental awareness training and on-site construction monitoring through implementation of a Paleontological Mitigation Plan (PMP) would be required. If paleontological resources are discovered during ground-disturbing activities, fossil preparation, curation, and reporting would occur.

Potential Cumulative Impacts

Similar to the proposed SR-86/Avenue 50 New Interchange Project, each of the projects depicted on Figure 2.4-5 would be required to address any potential impacts to paleontological resources that these respective projects may generate. All reasonably foreseeable planned projects would be required to comply with applicable federal and State regulatory requirements, including the applicable General Plan goals and policies intended to reduce and/or eliminate potential adverse effects to paleontological resources. All future development projects within the RSA would be required to implement project-specific measures to reduce any identified impacts to paleontological resources.

It is not anticipated that the project would affect paleontological resources such that it would have the capacity to substantially interact with other identified planned projects in the area. Accordingly, the proposed project is not expected to substantially contribute to cumulative impacts related to paleontological resource considerations.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

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Chapter 3 California Environmental Quality Act (CEQA) Evaluation

3.1 Determining Significance Under CEQA

The proposed project is a joint project by the California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). FHWA's responsibility for environmental review, consultation, and any other 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. Caltrans is the lead agency under CEQA and NEPA.

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

CEQA, on the other hand, does require Caltrans to identify 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.

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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.

AESTHETICS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

The potential for the Build Alternatives to result in impacts related to aesthetics was assessed in the Visual Impact Assessment for State Route 86/Avenue 50 New Interchange Project (VIA) (May 2018) and the Visual/Aesthetics section in Chapter 2. The following discussions are based on those analyses.

a) Less Than Significant Impact.

As discussed in the Visual/Aesthetics section in Chapter 2, public views from roadways in the project area provide opportunities for public views toward visual resources, such as Joshua Tree National Park to the north/east, eastern foothills of the San Bernardino National Forest to the northwest, Santa Rosa Mountains to the south, and San Jacinto Mountains to the west. General Plan Policy 6.1 of the Land Use and Community Character Element requires the preservation of hillside and mountain views from view corridors throughout the City that afford these views. VIA Key Views 1 through 5 depict typical views from eastbound Avenue 50, northbound Tyler Street, northbound SR-86, and westbound Avenue 50 travelers with background views of the surrounding hillsides and ridgelines the City aims to preserve. As shown in Figures 2.1.7-1 and 2.1.7-2a through 2.1.7-6b, the proposed SR-86/Avenue 50 interchange project structure would not result in substantial view blockage of the hillsides and ridgelines in the surrounding area. As such, the overall visual impact in Key Views 1 through 5 would not be significant. Further, Measures VIS-2 through VIS-5 would ensure the character and quality of the project area is maintained and is not substantially degraded. Thus, impacts would be less that significant.

b) No Impact.

As discussed in the Visual/Aesthetics section in Chapter 2, the project site does not include any officially designated or eligible State scenic highways.[1]

[1] California Department of Transportation, *California Scenic Highway Mapping System*, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm, accessed on July 26, 2017.

c) and d) <u>Less Than Significant Impact</u>.

As discussed in the Visual/Aesthetics section in Chapter 2, motorists traveling along SR-86, Avenue 50 and Tyler Street in the project vicinity would be exposed to temporary visual changes associated with construction-related activities and additional lighting. The proposed project would require staging areas to allow for construction activities and the storage of equipment. Construction vehicle access and staging of construction materials would be visible from motorist traveling along the project site as well as residents located in the project vicinity. However, views of construction-related activities and equipment/vehicles would be temporary in nature. The project would be required to comply with Caltrans Standard Specifications for Construction, which would minimize visual impacts through the use of opaque temporary construction fencing that would be situated around the staging areas.

In regards to permanent impacts, although a new interchange and overcrossing structures would be introduced to the area, these transportation uses would be similar to the height, scale, mass, and character of the existing interchanges/overcrossing structures in the project vicinity (e.g., the Avenue 52/SR-86 overcrossing structure to the northwest of the project site). After project implementation, the visual character of the area would be moderately affected by the proposed project. However, implementation of recommended Measures VIS-2 through VIS-5 would ensure the character and quality of the project area is maintained and is not substantially degraded. Therefore, the project as designed would not substantially degrade the visual character and quality of the site and would have less than significant impacts to visual character with implementation of Measures VIS-2 through VIS-5.

Lighting from nighttime construction could potentially cause a nuisance to motorists travelling along SR-86 and Avenue 50, in addition to surrounding residential uses. Lighting effects to surrounding residential uses would primarily be of concern during construction of Phase 1 of the Build Alternatives, which would occur in close proximity to single-family residences along Avenue 50 and Tyler Street, west of CVSC. Nighttime construction lighting would be required for tie-in work in high traffic areas (e.g., ramp tie-ins along SR-86, tie-in of the new Avenue 50 re-alignment) and bridge falsework along SR-86. In accordance with Caltrans regulations, nighttime construction would be limited to the hours of 10:00 p.m. to 6:00 a.m. Necessary lighting for safety and construction purposes would be directed away from land uses outside of the project area, and contained and directed toward the specific area of construction. With implementation of Measure VIS-1, construction lighting types, plans, and placement would be designed to minimize light and glare impacts on surrounding sensitive uses. Additionally, implementation of the proposed project would introduce additional sources of light to the project area from traffic signals along Avenue 50 (i.e., at the northbound and southbound SR-86 on/off-ramps, and the Avenue 50/Tyler Street intersection). Motorists traveling along SR-86, Avenue 50, and Tyler Street would be nominally impacted by the traffic signals due to their short duration of exposure. The residential uses in the project vicinity could be sensitive to increased lighting from the proposed project. However, the project area currently contains lighting features, particularly along Avenue 50 and Tyler Street. Measures VIS-1 and VIS-6 (use of lighting design techniques) would reduce temporary and operational lighting impacts by requiring new lighting to be designed and installed to avoid light spillage at adjacent properties. Impacts related to light and glare would be less than significant.

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 the Build Alternatives to result in impacts to agriculture and forest resources was assessed in the Community Impact Assessment (August 2018) and the Farmlands section in Chapter 2. The following discussion is based on those analyses.

a) <u>Less Than Significant Impact</u>.

Based on Section 2.1.2, Farmlands, of this IS/EA, the proposed project would bisect two agricultural parcels, resulting in 13.35 acres of remnant portions of the parcels following construction of the project, considered to be an indirect conversion of farmland acreage. Either Build Alternative would directly convert 44.47 acres of farmland. The total acreage of permanently impacted farmland is 57.82 acres.

A measure has been incorporated to minimize the effects related to the loss of farmland due to the project. All agricultural land that is converted to non-agricultural use will be addressed at a 1:1 ratio. Therefore, a less than significant impact would occur.

b) Less Than Significant Impact.

The eastern portion of the project site (east of the CVSC) contains areas that are zoned as "agricultural reserve," and "agricultural transition." However, as a roadway project, the project would not result in the creation of a new land use or development that would result in a zoning conflict resulting in the need for a zone change. In addition, there are no Williamson Act lands within the project area. Therefore, the project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. A less than significant impact would occur and no measures are required.

c) and d) No Impact.

There are no forest lands or timberlands located within or adjacent to the project area. 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.

e) No Impact.

The project does not 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. No impact would occur.

AIR QUALITY

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

The potential for the Build Alternatives to result in impacts to air quality was assessed in the Air Quality Assessment (August 2017) and the Air Quality section in Chapter 2. The following discussion is based on those analyses.

a) and b) <u>No Impact</u>.

The proposed project is located in the Salton Sea Air Basin (SSAB) 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, SO_2, and $PM_{2.5}$ for both state and federal standards. The Basin is a nonattainment area for O_3 and PM_{10} under both state and federal standards.

Temporary Construction Impacts

The proposed project would construct a new bridge spanning over the CVSC and realign Avenue 50 and Tyler Street on the west side of SR-86 (Phase 1); and construct a new SR-86/Avenue 50 interchange and will also include realignment of Tyler Street on the east side of SR-86 (Phase 2). 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. No impact would occur in this regard and no measures are required.

Operational Impacts

Based on Section 2.2.6, Air Quality, the proposed roadway widening and new interchange improvements would attract traffic to the area, nominally increasing average daily traffic; although a higher proportion of trucks would not occur.

The proposed project is included in the SCAG 2016 RTP/SCS and 2017 FTIP, both of which were found to be conforming (see Section 2.2.6, Air Quality, of this IS/EA). The project will also be included in the 2019 FTIP. 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, no impact would occur in this regard and no measures are required.

c) Less Than Significant Impact.

Cumulative Construction Impacts

As noted above, 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 generate a less than significant amount of pollutants during construction due to the short duration of project construction. These same requirements would also be imposed on construction projects throughout the Basin, which would include related projects. Thus, it can be reasonably inferred that the project-related construction emissions, in combination with those from other projects in the area, would not substantially deteriorate the local air quality. Thus, a less than significant impact would occur in this regard and no measures are required.

Cumulative Operational Impacts

As discussed previously, project implementation would create a slight increase in average daily traffic. In addition, the proposed project would improve vehicular traffic and circulation and would not add substantial new vehicular capacity to the expressway mainline. Adherence to SCAQMD rules and regulations would alleviate potential impacts related to cumulative conditions on a project-by-project basis. As a result, the proposed project would not contribute a cumulatively considerable net increase of any nonattainment criteria pollutant. Therefore, cumulative operational impacts associated with implementation of the proposed project would be less than significant and no measures are required.

d) Less Than Significant Impact.

Temporary Construction Impacts

The closest sensitive receptors to the proposed project include residential uses that are along the north and south of the existing Avenue 50 and residents along Tyler Street. 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. 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.

e) Less Than Significant Impact.

As stated, the closest sensitive receptors to the proposed project include residential uses that are along the north and south of the existing Avenue 50 and residents along Tyler Street. 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. Construction of the re-alignment of Avenue 50 is expected to be completed within three to four months. Construction of the re-alignment of Tyler Street is expected to be completed within one to three months. 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.

BIOLOGICAL RESOURCES

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

The potential for the Build Alternatives to result in impacts to biological resources was assessed in the Natural Environment Study (NES), (May 2018), the Jurisdictional Delineation (April 2018), 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) <u>Less Than Significant Impact</u>.

As discussed in Section 2.3.1, Natural Communities, two natural plant communities were observed in the Biological Study Area (BSA) during the site investigation on April 26, 2017: arrowweed scrub and saltbush scrub. As discussed in Section 2.3.3, Plant Species, 12 special status plant species were identified as having potential to occur on the BSA. However, none were observed during the assessment and none are expected to occur and

are presumed absent based on the habitat requirements for specific species, availability, and quality of habitats needed by special status plant species. However, development of the project has the potential to result in temporary indirect impacts to special status plant species that may occur within habitats surrounding the BSA such as 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. Measure INV-1 would minimize potential impacts regarding invasive plant species. With adherence to these standards and measure, potential impacts to plant species would be reduced to less than significant levels.

As discussed in Section 2.3.3, Animal Species, a total of 23 special status animal species were identified as potentially occurring within the BSA. Four special status animal species were identified within the BSA during the site investigation on April 26, 2017: Cooper's hawk, burrowing owl, black-tailed gnatcatcher, and American badger. Based on the results of the field survey, it was determined that the habitats within and adjacent to the BSA have a low potential to support summer tanager, vermillion flycatcher, Crissal thrasher, Le Conte's thrasher, least Bell's vireo, and yellow-headed blackbird. All other special status animal species are not expected to occur within the BSA and are presumed absent based on habitat requirements for specific species, availability and quality of habitats needed by special status animal species, and known distributions. However, to minimize potential impacts to special status animal species, Measures AS-1a through AS-1d would require workers to receive environmental awareness training prior to the initiation of work. Additionally, nesting birds are protected pursuant to the California Fish and Game Code (Sections 3503, 3503.3, 3511, and 3513). To minimize potential impacts to this migratory bird species, a pre-construction clearance survey would be performed if project activities occur during the nesting season (Measures AS-2 and AS-3a through AS-3c).

Implementation of the proposed project has the potential to have both direct and indirect impacts to burrowing owl and the American Badger. In addition, construction-related disturbance may have an adverse impact on both species. Measures AS-4a through AS-4d would require pre-construction surveys for burrowing owl and Measures AS-5a through AS-5c would require pre-construction surveys for American Badger. If either the burrowing owl or American Badger are determined present during the pre-construction surveys, Measures AS-4a through AS-4d and AS-5a through AS-5c would require avoidance and/or relocation as necessary. As such, with implementation of Measures AS-1a through AS-5c, potential impacts to special status species would be less than significant.

b) <u>Less Than Significant Impact</u>.

Two natural plant communities occur within the BSA: arrowweed scrub and saltbush scrub. Although these plant communities provide suitable nesting and foraging opportunities for avian and mammalian species, no natural communities of special concern were identified in the BSA. Therefore, no temporary or permanent impacts to natural communities of special concern would occur as a result of project implementation.

Refer to Response (c) below regarding riparian habitat. Measures WET-2a and WET-2b would require fencing barriers around riparian and riverine communities. Thus, with adherence to Measures WET-2 a and WET-2b, potential impacts to riparian habitat would be less than significant.

c) Less Than Significant With Mitigation Incorporated.

As detailed in the Wetlands and Other Waters section in Chapter 2, the proposed Avenue 50 bridge and related construction activities would span the active CVSC channel. The Build Alternatives would result in temporary project impacts to 0.95-acre (0.08 of non-wetland waters and 0.87 of wetland) of Regional Water Quality Control Board (RWQCB) jurisdiction and 1.86-acre (0.87 of vegetated streambed and 0.99 of unvegetated streambed) of California Department of Fish and Wildlife (CDFW) jurisdiction. The project would result in permanent project impacts to approximately 0.02-acre of wetland associated with CVSC, which is under RWQCB jurisdiction. Additionally, the project would result in approximately 3.25 acres (0.02-acre of vegetated streambed and 3.23-acres or non-vegetated streambed) of permanent impacts to CDFW jurisdiction through implementation of project features affecting CVSC. The project would not result in any permanent impacts to RWQCB wetlands or non-wetland waters.

As a "Covered Activity" under the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP), the proposed project was determined to be consistent with the CVMSHCP biological goals and objectives and no further avoidance, minimization, and mitigation measures are required. Measures WET-1, WET-2a, and WET-2b would further reduce potential impacts. Measure WET-1 would require impacts to jurisdictional waters of the State be mitigated at a minimum 1:1 ratio at an approved mitigation bank, applicant-sponsored mitigation area, or on-site. The project will include a restoration plan that will provide requirements for site selection, implementation, monitoring, operational maintenance, and performance standards, in consultation with the resource agencies. Measures WET-2a and WET-2b would require fencing barriers around riparian and riverine communities. Thus, with adherence to Measures WET-1, WET-2a, and WET-2b and measures under the CVMSHCP, temporary and permanent impacts related to project implementation would be less than significant.

d), e) and f) No Impact.

Although channelized, the CVSC has the potential to provide movement opportunities for a limited variety of wildlife species such as coyotes. However, based on the NES, there are no known habitat linkages or migration corridors within the BSA. This project would not conflict with any local policies or ordinances protecting biological resources, nor would it conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. As discussed above, the project is identified as a "Covered Project," under the CVMSHCP and would be consistent with goals and policies provided in the CVMSHCP. No impacts would occur and no measures are required.

CULTURAL RESOURCES

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

The potential for the project to result in impacts related to cultural and paleontological resources was assessed in the Historic Property Survey Report (HPSR) (May 2018); Historical Resources Evaluation Report for the State Route 86 – Avenue 50 New Interchange and Bridge Project (HRER) (May 2018); Archaeological Survey Report for the State Route 86/Avenue 50 New Interchange Project (ASR) (May 2018); Combined Paleontological Identification Report and Paleontological Evaluation Report (PIR/PER) (March 2018); and within the Cultural Resources and Paleontological Resources sections in Chapter 2. The following discussions are based on those analyses.

a) and b) Less Than Significant Impact.

As detailed in Section 2.1.8, Cultural Resources, of the IS/EA, the project would result in a Finding of No Adverse Effect to Historic Properties. Additionally, Caltrans has notified the California State Historic Preservation Officer (SHPO) of its determination that one property within the area of potential effect (APE) is eligible for inclusion in the National Register of Historic Places (NRHP). The resource is eligible as a contributing element of the larger NRHP eligible site; however, the project related effects on it will not be adverse. Caltrans has requested concurrence in its determination of *Finding of No Historic Properties Affected.* 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. As such, no impacts to cultural resources would occur and no measures are required.

c) Less Than Significant With Mitigation Incorporated.

No fossils are known to exist within the proposed project boundaries. However, the project site is underlain by geologic units determined to have a low to high potential for buried fossil resources (i.e., sensitivity increases with depth below ground surface). 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. Any loss of

paleontological resources would most likely occur in areas that are immediately underlain by geologic units with low to high paleontological sensitivity, well below the contact between Holocene lacustrine deposits and Pleistocene lacustrine deposits (20 feet below ground surface [bgs]).

Since the project's ground-disturbing activities could result in adverse impacts to paleontological resources, a worker's environmental awareness training would be required (Measure PAL-1). Additionally, a qualified professional paleontologist will prepare and implement a Paleontological Mitigation Plan (PMP) for the project and monitoring is recommended for grading and excavation activities at depths greater than or equal to 20 feet bgs (PAL-2). If paleontological resources are discovered during ground-disturbing activities, fossil preparation, curation, and reporting would occur in accordance with Measures PAL-3a and PAL-3b. With implementation of Measures PAL-1, PAL-2, PAL-3a, and PAL-3b, the Build Alternatives, impacts would be less than significant.

d) Less Than Significant Impact.

No human remains, including those of Native American decent, are known to exist within the APE. However, the possibility exists that unknown buried human remains could be unearthed during construction. If human remains are discovered during construction, 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 be contacted. If the remains are thought by the coroner to be Native American, the coroner shall notify the NAHC, who, pursuant to PRC Section 5097.98, would then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains shall contact Gary Jones, Principal Investigator, Prehistoric Archaeology, so that he may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 shall be followed as applicable. As such, potential impacts to human remains would be less than significant and no measures are required.

GEOLOGY AND SOILS

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

The potential for the Build Alternatives to result in impacts to geology and soils was assessed in the District Preliminary Geotechnical Report (DPGR) (May 31, 2018), and the Geology/ Soils/Seismic/Topography section 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, and there are no known active or potentially active faults mapped as crossing or in the immediate vicinity of the SR-86/Avenue 50 interchange. Therefore, the improvements proposed under the Build Alternatives are not expected to be exposed to effects associated with fault displacement and ground rupture. No measures are required.

a, ii) Less Than Significant Impact.

During project construction, the proposed project could expose construction workers and the traveling public to potential impacts associated with seismic ground shaking. The project 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, overexcavation and recompaction, and retaining walls, among other requirements. Moreover, Caltrans Highway Design Manual (HDM) Topic 113, Geotechnical Design Report, would require that a site-specific, geotechnical field investigation is performed for the proposed project during the Plans, Specifications, and Estimates (PS&E) phase. Impacts in this regard would be less than significant, and no measures are required.

With regard to operational impacts, moderate-to-severe seismic shaking is likely to occur in the project area during the life of the improvements provided by the Build Alternatives. As a result, the Build Alternatives would be subject to effects associated with seismic shaking that could damage the interchange ramps, road surfaces, or other structures. The project will adhere to the earthwork recommendations provided in the District Preliminary Geotechnical Report. Refer to Section 2.2.3 for detailed discussion of geotechnical recommendations. Accordingly, less than significant impacts would occur regarding seismic ground shaking and no measures are required.

a, iii) and iv) No Impact.

There are no known active faults within the project limits. The risk of ground surface rupture and related hazards including liquefaction and landslides at the project site would not occur. No measures are required.

b) Less Than Significant Impact.

Temporary Construction Impacts

As a result of earthwork activities associated with the Build Alternatives, temporary impacts related to soil erosion and the loss of top soil may occur. As discussed in Section 2.2.3, surficial soils on existing slopes within the project limits are mostly sandy soils and are susceptible to erosion. The erosion potential of the existing slope faces was observed to be minimal to moderate. To reduce the potential for soil erosion and loss of top soil, the project contractor would design temporary excavation for local and global stability. Standard practices such as soil binders and rock slope protection will be implemented during construction (Caltrans Standard Specifications Sections 13-05 and 21), as are itemized in Chapter 1 of this document. Additionally, the project will adhere to the earthwork recommendations provided in the District Preliminary Geotechnical Report prepared for the project. Accordingly, impacts would be less than significant and no measures are required.

Operational Impacts

The majority of the slopes proposed as part of the Build Alternative would be sloped at 4H:1V or flatter. Fill embankments would be globally stable for a maximum slope gradient of 2H:1V or flatter and fill slopes with a gradient of 2H:1V would be surficially stable. 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 District Preliminary Geotechnical Report. Accordingly, impacts would be less than significant and no measures are required.

c) No Impact.

Preliminary liquefaction analysis within the DPGR determined that the project site is not subject to liquefaction hazards. Since the project site is not subject to liquefaction hazards, the DPGR determined that liquefaction-induced (seismic) settlement of onsite soils is expected to be negligible. Additionally, the potential for landslide, lateral spreading, subsidence, or collapse is not anticipated to be a design concern. Nonetheless, these conclusions would be confirmed using additional site-specific soil borings, cone penetration test (CPT) soundings, and groundwater data to be obtained during the PS&E phase. No impact would occur in this regard. No measures are required.

d) No Impact.

The sandy soils associated with the project site are primarily sand and silty sand which are not expected to be expansive. The expansion potential for silty and clayey soils is considered moderate. The project will adhere to the earthwork recommendations provided in the District Preliminary Geotechnical Report. Accordingly, no impact would occur in this regard. 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.

GREENHOUSE GAS EMISSIONS

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

HAZARDS AND HAZARDOUS MATERIALS

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

The potential for the Build Alternatives to result in impacts regarding hazards and hazardous materials was assessed in the *State Route 86/Avenue 50 New Interchange Project Phase I Initial Site Assessment* (Phase I ISA) (October 2017), 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 Build Alternatives would not 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 Build Alternatives 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) Less Than Significant Impact.

As detailed in Section 2.2.5, Hazardous Waste/Materials, in this IS/EA, no regulatory properties have been reported on the project site, nor have any known corrective actions, restorations, or remediations been planned or completed. The project site had not been under investigation for violation of any environmental laws, regulations, or standards, as identified in the databases reported by EDR. However, potentially significant hazardous waste/materials impacts could occur during construction of the proposed project relative to the following: building material containing asbestos-containing materials (ACMs) and lead-based paints (LBPs); traffic striping materials; transformers located in the project area; septic tanks and leach fields; aerially deposited lead (ADL); and unknown waste. Each of these items are discussed below.

Asbestos-Containing Materials: Project implementation will result in the demolition of existing structures associated with the single-family residence located within the southeastern portion of the project site, immediately west of SR-86 and east of CVSC. Demolition of these structures could disturb potential ACMs associated with the building materials. Demolition activities would be required to comply with existing federal, state, and local laws and regulations involving disturbance of ACMs. ACM testing would be required to be conducted prior to demolition/modification of structures by a certified specialist (Measure HAZ-1). If present, the certified specialist would be required to monitor the disposal of the ACMs as they are uncovered. As such, potential impacts related to ACMs in building materials would be less than significant.

Lead-Based Paints: As stated above, the Build Alternatives would require demolition of existing structures associated with the single-family residence located immediately west of SR-86, east of the CVSC. These activities could disturb potential LBPs associated with building materials. LBP testing would be required to be conducted prior to demolition/modification of structures by a certified specialist (Measure HAZ-1). If present, the certified specialist would be required to monitor the disposal of the LBPs as they are uncovered. As such, potential impacts related to LBPs in building materials would be less than significant.

Traffic Striping Materials: Disturbance of traffic striping materials would occur with implementation of the Build Alternatives. Adherence to Caltrans Standard Special Provision's (SSP's), Section 14-11.12, Removal of Yellow Traffic Stripe and Pavement Marking with Hazardous Waste Residue, Section 36-4, Residue Containing Lead from Paint and Thermoplastic, and Section 84-9.03C, Remove Traffic Stripes and Pavement Markings Containing Lead, would ensure proper removal, handling, and disposal of the generated traffic striping waste at a permitted disposal facility. As such, potential impacts related to LBPs in traffic striping materials would be less than significant.

Transformers: There are existing pole-mounted transformers on the project site. Construction activities associated with both Build Alternatives could involve the

relocation/removal of on-site transformers. As such, construction/demolition of on-site transformers would need to be conducted under the purview of the local purveyor to identify property-handling procedures regarding PCBs (Measure HAZ-2). As such, potential impacts related to PCBs would be less than significant.

ADL: The on-site roadways are rural in nature and have corresponding traffic volumes. Accordingly, the potential for ADL contamination to exist within soils along portions of State Highway associated with the project area is considered to be unlikely. With compliance with the ADL Agreement between Caltrans and DTSC, impacts would be less than significant.

Septic Systems: Measure HAZ-3 would require the location of septic tanks and leach fields be confirmed prior to site disturbance activities. Should septic systems be present on-site, the City of Coachella would be required to properly abandon the existing system(s) and relocate the system(s) appropriately (refer to Geology and Soils Response [e]). As such, impacts related to potential septic systems would be less than significant.

c) No Impact.

The nearest school to the project site is Valle Del Sol Elementary School (located at 51433 Education Way, approximately 0.3-mile southwest of the project site). No impact would occur in this regard.

d) No Impact.

The proposed project site is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. No impacts would occur.

e) No Impact.

The Jacqueline Cochran Regional Airport is located approximately 2.8 miles south of the project site at 56-850 Higgins Drive. Based on Exhibit JC-7, Compatibility Factors Map, in the Riverside County Airport Land Use Compatibility Plans, the project site is not located in the airport influence area boundary. Therefore, no impacts would occur.

f) No Impact.

There are no private airports or airstrips in the vicinity of the project site. As a result, the Build Alternatives would not affect or be affected by aviation activities associated with private airports or airstrips. No measures are required.

g) No Impact.

The City of Coachella is a participant member of the Riverside County Operational Area Multi-Jurisdictional Hazard Mitigation Plan (HMP) approved by the Federal Emergency Management Agency (FEMA) in March 2005 and ongoing updates to that document. However, the City does not have an emergency response plan or emergency evacuation plan. Accordingly, no impact would occur is this regard. No measures are required.

h) No Impact.

Wildland fires occur in geographic areas that contain the types and conditions of vegetation, topography, weather, and structure density susceptible to risks associated with uncontrolled fires that can be started by lightning, improperly managed camp fires, cigarettes, sparks from automobiles, and other ignition sources. The project site and surrounding areas are developed with urban and agricultural uses and do not include brush- and grass-covered areas typically found in areas susceptible to wildfires. As a result, the Build Alternatives would not expose people or structures to a significant risk of loss, injury, or death associated with wildland fires. No impact would occur and no measures are required.

HYDROLOGY AND WATER QUALITY

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☒	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow	☐	☐	☐	☒

The potential for the Build Alternatives to result in impacts regarding hydrology and water quality was assessed in the Location Hydraulic Study and Summary Floodplain Encroachment Report (LHS/SFER) (May 2018), the Water Quality Assessment Report (WQAR) (June 2018), and the Hydrology and Floodplain and Water Quality sections in Chapter 2. The following discussions are based on those analyses.

a) No Impact.

As discussed in the Water Quality section of Chapter 2, construction of either of the Build Alternatives would not violate any water quality standards or waste discharge requirements. The project would be subject to various SWRCB and RWQCB water quality requirements that would require implementation of BMPs during both construction and operation of the project. Upon adherence to these requirements and implementation of BMPs, no impacts would occur in this regard during construction. No measures are required.

The project would not result in substantial water quality impacts to downstream receiving bodies, the CVSC, Whitewater River, and the Salton Sea during operations. Both water bodies are listed on the 2016 303(d)/305(b) Integrated List as impaired. 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. Upon adherence to the Caltrans MS4 Permit, impacts to water quality would be less than significant and no measures are required.

b) No Impact.

Per the California Department of Water Resources Water Data Library, the nearest groundwater well with current groundwater level and quality data is located approximately a mile northeast of the proposed project at the intersection of Tyler Street and Avenue 48. The depth to groundwater at this well in October 2017 was approximately 23 feet.

The Build Alternatives 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) Less Than Significant Impact.

The proposed project would not substantially alter the drainage characteristics of the project area. As discussed in the Hydrology and Floodplain section of Chapter 2, the CVSC banks are stabilized by slope lining while the invert has engineered drop structures along the length of the channel. One of these drop structures is the existing Avenue 50 roadbed. This roadbed would be abandoned as part of the proposed project, but would not be removed.

Although the proposed bridge piers would have some local scour potential during project operations, impacts would be minimized by placing rock slope protection at the piers and through construction of concrete slope lining along the channel to prevent erosion and/or siltation. Additionally, as discussed above, operational BMPs will be implemented to minimize the potential impacts regarding erosion and siltation. Accordingly, potential impacts regarding erosion and siltation would be less that significant and no measures are required.

d) Less Than Significant Impact.

As noted previously, the proposed project would not substantially alter the drainage characteristics of the project area. Portions of the project site located within the CVSC are classified as Zone A. Zone A are areas that have a one percent probability of flooding every year (also known as the “100-year floodplain”), and where predicted flood water elevations

have not been established. Properties in Zone A are considered to be at high risk of flooding under the National Flood Insurance Program (NFIP). The Hydraulic Analysis determined that the proposed improvements would result in a localized rise in the water surface elevation at the CVSC. The allowable change in water surface elevation is a cumulative 1-foot rise over the base flood elevation for Zone A floodplains. As indicated in Section 3.2, Hydraulic Analysis, of the Location Hydraulic Study (LHS) prepared for the project, the proposed project would not involve changes to the 100-year water surface elevation in CVSC which would exceed the allowable 1-foot rise prescribed by the FEMA regulations. As a result, the project would not be required to file a Conditional Letter of Map Revision (CLOMR) during Final Design. As such, the potential risk of flooding would be less than significant. No measures are required.

e) Less Than Significant Impact.

As discussed in Section 2.2.2, Build Alternative 7 would result in a total impervious area of 21.3 acres, and Build Alternative 8 would result in a total impervious area of 21.7 acres. This increase to the impervious area on-site could create or contribute runoff water which could exceed the capacity of existing or planned stormwater drainage systems or provide additional sources of polluted runoff. However, the project will implement Treatment BMPs that will capture and treat on-site runoff. Selection of BMPs will be determined during final design. Potential impacts regarding stormwater drainage capacity and increased polluted runoff would be less than significant. No measures are required.

f) Less Than Significant Impact.

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. 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. Accordingly, impacts to water quality would be less than significant. No measures are required.

Operation of the Build Alternatives would result in an increase in impervious surface area, which would result in an increase in stormwater runoff. As discussed in Section 2.2.2, Build Alternative 7 would result in a total impervious area of 21.3 acres, and Build Alternative 8 would result in a total impervious area of 21.7 acres. When the total impervious area of Alternative 7 is compared to the size of the Whitewater River Watershed (over 960,000 acres), this equates to less than 0.00004 percent of the watershed. Thus, the increase in impervious surface area would not result in a substantial increase in runoff leading to a negative impact on water quality.

The project would not result in substantial water quality impacts to downstream receiving bodies, the CVSC and the Salton Sea. Both water bodies are listed on the 2016 303(d)/305(b) Integrated List as impaired. Design pollution prevention and treatment and maintenance BMPs would be implemented to meet the objective of maximizing vegetated surfaces, preventing downstream erosion, and stabilizing soil areas. Accordingly, potential water quality impacts would be less than significant and no measures are required.

g) and i) No Impact.

The proposed project would not include the construction of any housing. The potential risk to life and property would remain unchanged as a result of Build Alternatives 7 and 8. Because the project would raise the roadway out of the CVSC and construct a new bridge with freeboard over the Base Flood Event, there would be no substantial increase in the potential for impacts related to flooding. The Build Alternatives would result in minimal increases in water surface elevation and would continue to be contained in the channels. No impacts would occur in this regard and no measures are required.

h) Less Than Significant Impact.

The proposed project would include a new bridge structure for Avenue 50, crossing over the CVSC. This would require the placement of bridge columns within the CVSC. As discussed in the Hydrology and Floodplain section of Chapter 2, a "significant encroachment," of the floodplain, as defined in 23 CFR 650.105, would not occur under the Build Alternatives. Although the project site crosses a mapped Zone A floodplain, no floodplain development would occur as part of the project. In addition, there is no longitudinal encroachment associated with the Build Alternatives. As noted above, the proposed project would not involve changes to the 100-year water surface elevation in CVSC which would exceed the allowable 1-foot rise prescribed by the FEMA regulations. Impacts in this regard would be less than significant, and no measures are required.

j) No Impact.

The project area is located approximately 78 miles from the Pacific Ocean. Based on the distance from the project site to the Pacific Ocean, there is no anticipated risk of inundation from a tsunami under the Build Alternatives.

A seiche is a tsunami-like condition in an enclosed body of water like a lake or reservoir. The nearest enclosed body of water to the project site is the Salton Sea, located approximately 13 miles to the southeast. Based on the distance of the project site to the Salton Sea, there is no anticipated risk of inundation from a seiche under the Build Alternatives.

Mudflows occur when soil is saturated and flows downhill. There are no hills adjacent to or in the vicinity of the project site. Therefore, there is no anticipated risk to the Build Alternatives as a result of a mudflow. No impacts would occur in this regard, and no measures are required.

LAND USE AND PLANNING

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

The potential for the Build Alternatives to result in impacts regarding land use and planning was assessed in the Community Impact Assessment (August 2018) and the Land Use section in Chapter 2. The following discussion is based on those analyses.

a) No Impact.

The project involves roadway improvements along Avenue 50 and at the intersection of SR-86 and Avenue 50, which are existing linear infrastructure facilities. The proposed improvements would not have the potential to create a barrier between developed uses. Rather, the project would result in a beneficial impact since it would reduce flood hazards by replacing the existing low-water crossing with a new bridge, and would improve circulation by constructing a new interchange at SR-86 within the project limits. Therefore, the proposed improvements would not have the potential to divide an established community. No impacts would occur and no measures are required.

b) No Impact.

The proposed project would construct a new SR-86/Avenue 50 interchange, which would accommodate traffic for existing and planned development in the area. As discussed in the Community Impact Assessment prepared for the project, both Phase 1 and Phase 2 of the Build Alternatives would be consistent with all applicable State, regional, and local plans and programs. Thus, no impacts would occur and no measures are required.

c) No Impact.

The proposed project falls within the boundaries of the CVMSHCP. As discussed in the Community Impact Assessment prepared for the project, the proposed project is recognized as a Covered Activity under the CVMSHCP, as listed in Table 7-3, *CVAG Regional Road Projects*. The project site is located in the CVMSHCP Area, but is located outside of all associated Conservation Areas (CVAG 2007). No impacts would occur and no measures are required.

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 the City of Coachella General Plan Updated Public Draft EIR, the project site is located on land in a Mineral Resource Zone (MRZ-1) area where available geological information indicates that little likelihood exists for presence of significant mineral resources. No mineral resources are known to exist either on the site or in the project area; therefore, project implementation would not result in any significant impacts to mineral resources or the loss of any locally important mineral resource site and no mitigation measures are required.

NOISE

Would the project result in:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

The potential for the Build Alternatives to result in noise impacts was assessed in the Noise Study Report (August 2018) and the Noise section in Chapter 2. The following discussion is based on those analyses.

a) and b) <u>Less Than Significant Impact</u>.

As discussed in Section 2.2.7, Noise, in Chapter 2, the closest sensitive receptors to the project include residential uses located approximately 35 feet to the east of the project construction area along Tyler Street. Construction activities associated with the Build Alternatives could expose these uses to temporary noise levels between approximately 83 and 92 dBA L_{max}. Construction-related noise and groundborne vibration associated with the project would be temporary and would cease upon project completion. Additionally, construction would comply with Caltrans Standard Specifications Section 14-8.02, "Noise Control," and applicable local noise standards. These measures provide guidance on maximum noise levels resulting from work activities as well as allowable construction activities. Accordingly, temporary impacts related to noise and vibration under the Build Alternatives would not be significant and no measures are required.

Operational noise levels under the Build Alternatives would not approach or exceed the Noise Abatement Criteria (NAC) of 67 dBA $L_{eq}(h)$ for residential or park/recreational land uses or result in a substantial increase in operational noise. In fact, future traffic noise levels

at several modeled receptors would experience lower noise levels under design-year conditions with the project (compared to future conditions without the project) due to an increase in distance between the roadways (specifically, Tyler Street) and several of the receptors included in the Noise Study Report. Therefore, the project would not expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Impacts would be less than significant and no measures are required.

c) Less Than Significant Impact.

As discussed in Section 2.2.7, Noise, in Chapter 2, 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 NAC or if the predicted traffic noise level is 12 dBA or more over the corresponding modeled existing peak noise level at the sensitive receiver locations analyzed. When traffic noise impacts occur, noise abatement measures must be considered.

As discussed in the response to a) above, noise levels under the Build Alternatives would not approach or exceed the NAC of 67 dBA L_{eq}(h) for residential or park/recreational land uses or result in a permanent substantial increase in noise. In fact, future traffic noise levels at several modeled receptors would experience lower noise levels under design-year conditions with the project. Therefore, the Build Alternatives would not involve permanent noise impacts which would require noise abatement. Impacts would be less than significant and no measures are required.

d) Less Than Significant Impact.

Construction noise would result from the transport of construction workers and equipment and materials to and from the project site, as well as from roadway and bridge construction activities. These activities could represent a nuisance to nearby residential uses and other sensitive receptors. Based on FTA data regarding noise levels produced by construction equipment that is commonly used on roadway construction projects, construction equipment noise would decrease with distance at a rate of approximately 6 dB per doubling of distance.

As discussed in Section 2.2.7, Noise, in Chapter 2, the closest sensitive receptors to the project include residential uses located approximately 35 feet to the east of the project construction area along Tyler Street. Construction activities associated with the Build Alternatives could expose these uses to temporary noise levels between approximately 83 and 92 dBA L_{max}. Construction-related noise associated with the project would be temporary and would cease upon project completion. Additionally, construction would comply with Caltrans Standard Specifications Section 14-8.02, "Noise Control," and applicable local noise standards. These measures provide guidance on maximum noise levels resulting from work activities as well as allowable construction activities. Accordingly, temporary impacts related to the Build Alternatives would not be significant and no measures are required.

e) No Impact.

The Jacqueline Cochran Regional Airport is located approximately 2.8 miles south of the project site at 56-850 Higgins Drive. Based on Map JC-3, Noise Compatibility Contours, in the Riverside County Airport Land Use Compatibility Plans, the project site is not located in any of the identified noise contour boundaries. Therefore, no impacts would occur.

f) No Impact.

There are no private airports or airstrips in the vicinity of the project site. As a result, the Build Alternatives would not expose people residing or working in the project area to excessive noise levels. No impacts would occur.

POPULATION AND HOUSING

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

The potential for the Build Alternatives 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>No Impact</u>.

The project improvements include construction of a new interchange at an existing facility (SR-86) and new bridge on an existing facility (Avenue 50), spanning over the CVSC and replacing the existing low water crossing to eliminate flood-related hazards. Capacity associated with the existing SR-86 mainline would remain the same. The improvements would improve mobility, access to SR-86, and traffic operations as it relates to the existing low water crossing. However, no new roadways, and thus, no new access would result with project implementation. No impacts to growth would occur in this regard and no measures are required.

b) and c) <u>Less Than Significant Impact</u>.

The proposed project would result in both temporary acquisition of real property for temporary construction easement (TCE) areas, and permanent acquisition of real property including a residential relocation. Build Alternative 7 would require permanent partial acquisition of approximately 35.77 acres and permanent full acquisition of 19.12 acres, for a total of 54.89 acres, and would require relocation of two of the three existing structures associated with a single-family residence onsite. Build Alternative 8 would require permanent partial acquisition of approximately 42.62 acres and permanent full acquisition of 4.63 acres, for a total of 47.25 acres, and would require relocation of one of the three existing structures associated with a single-family residence onsite. As such, the project would not displace a substantial number of people, and any displaced residents would receive relocation assistance to minimize these impacts. These displaced residents could relocate within the City; however, the relocations would not necessitate the construction of replacement housing elsewhere. Impacts in this regard are less than significant. No measures are required.

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 Impact</u>.

Fire protection services and emergency medical/paramedic services in the City of Coachella are provided by the Coachella Fire Department through a contract with the County of Riverside Fire Department. Police protection services are provided through a contract with the City of Coachella and the Riverside County Sheriff's Department. Access to developed areas in proximity to the project may potentially be constrained intermittently during construction. As noted in Chapter 1.0 of the IS/EA, a Transportation Management Plan (TMP) has been included as a project feature to minimize potential traffic-related impacts during construction of the project. Travel through the project area will 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.

a, iv) <u>Less Than Significant</u>.

There are four existing parks located within the vicinity of the project site: De Oro Park, Bagdouma Park, Veterans Memorial Park, and Sierra Vista Park; however, only Sierra Vista Park is located within one-half mile of the project. The Build Alternatives propose the removal of four power poles within Sierra Vista Park during Phase 1 of the project. Construction activities associated with the power pole relocation would be of short duration (approximately one week). During this brief period, the park may require closure for safety purposes. Upon completion of the power pole removal, full use of Sierra Vista Park would be restored and users of the park would continue to utilize the park facilities as they currently do. The removal of the power poles would represent a beneficial impact during operations, since these existing obstructions would be removed.

A temporary loss of parking for users of the park would also occur during Phase 1 of project construction. However, access will be maintained during the construction of roadway improvements adjacent to the park, and park users would be able to park along the streets located in the neighborhood immediately south of the park during construction. Roadside parking within walking distance of the park would be available specifically on Calle Mendoza, Calle Pizano, Corte Olivia, and Las Flores Avenue, all of which are located less than 0.25-mile from the park. Accordingly, potential impacts to the Sierra Vista Park are less than significant. No measures are required.

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?	☐	☐	☒	☐

The potential for the Build Alternatives to result in impacts to recreation was assessed in the Community Impact Assessment (August 2018) and the Land Use section in Chapter 2. The following discussion is based on those analyses.

a) Less Than Significant Impact.

The project involves roadway improvements that would generally not be expected to increase the use of existing neighborhood and regional parks or other recreational facilities. However, the project would implement improvements within an existing park (Sierra Vista Park) that may result in a potential increase in the use of the park due to enhanced access, additional parking, and removal of power poles in the park. While these beneficial impacts may result in a slight increase in use at the park, Sierra Vista Park is primarily a neighborhood park serving the local single-family residential neighborhood adjacent to the park's location, and does not typically attract regional users. No new recreational facilities (e.g., new/expanded sports courts, fields, etc.) within the park would be provided as part of the project. Accordingly, any slight increase in usage is not anticipated to result in substantial physical deterioration of the facility, and a less than significant impact would occur. No measures are required.

b) Less Than Significant Impact.

Refer to the response for a), above. Although the project would implement improvements relative to the existing Sierra Vista Park and the planned CV Link trail, the project would not require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. Any potential increase in the use of these recreational facilities would not be substantial. Impacts would be less than significant and no measures are required.

TRANSPORTATION/TRAFFIC

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

The potential for the Build Alternatives to result in transportation/traffic impacts was assessed in the State Route 86/Avenue 50 New Interchange Project Final Traffic Operations Report (Traffic Report), dated November 2017, and the Traffic and Transportation/ Pedestrian and Bicycle Facilities section in Chapter 2. The following discussion is based on those analyses.

a) <u>No Impact</u>.

As discussed in Section 2.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, construction of the project would result in temporary traffic effects related to the circulation of vehicles, bicyclists, and pedestrians in the project area. However, the project would include preparation and implementation of a 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. With implementation of the TMP for the proposed project, temporary impacts related to traffic, pedestrian, and bicyclists would be less than significant.

As discussed in the Traffic and Transportation/Pedestrian and Bicycle Facilities section in Chapter 2, the SR-86 mainline and ramps would operate at a level of service (LOS) D or better under both Build Alternatives by 2045. In addition, the proposed project would also substantially improve the Avenue 50/Tyler Street and SR-86/Avenue 50 intersections from LOS F without the project to acceptable LOS C or better conditions. As such, no impacts would occur in this regard and no measures are required.

b) No Impact.

Based on the Traffic and Transportation/Pedestrian and Bicycle Facilities section in Chapter 2 and the 2011 Riverside County Congestion Management Program, there are no CMP facilities affected by the project. Accordingly, no impacts would occur in this regard and no measures are required.

c) No Impact.

The Jacqueline Cochran Regional Airport is located approximately 2.8 miles south of the project site at 56-850 Higgins Drive. Based on Exhibit JC-7, Compatibility Factors Map, in the Riverside County Airport Land Use Compatibility Plans, the project site is not located in the airport influence area boundary. Therefore, no impacts would occur and no measures are required.

d) No Impact.

The project will not substantially increase hazards due to a design feature; it will eliminate a sharp turn on SR-50, thus improving the operational and geometric characteristics of the roadway. It will not result in a dangerous intersection; in fact, it will improve the SR-86/ Avenue 50 intersection with a new grade separated overcrossing structure, and the Avenue 50/Tyler intersection with traffic signals. No impact would occur and no measures are required.

e) Less Than Significant Impact.

Refer to responses “a) i” and “a) ii” in the Public Services section of Chapter 3, above, for a description of potential impacts during the temporary construction process. Impacts in this regard would be reduced to a less than significant level with implementation of a TMP as described in Section 2.1.6.

In the long term, the Build Alternatives would improve mobility by providing direct and dependable access over the SR-86 and CVSC, which would improve emergency vehicle response times during storm events. Therefore, the Build Alternatives would not result in significant impacts on the delivery of emergency services in the long term and no measures are required.

f) No Impact.

The Build Alternatives would not conflict with adopted policies, plans, or programs supporting alternative transportation modes. The design of the improvements in the Build

Alternatives would accommodate public and private buses, as well as transit vehicles, pedestrians, and bicyclists. The improvements would also include features consistent with Americans with Disabilities Act (ADA) requirements, and would result in beneficial impacts related to the provision of bicycle and pedestrian facilities in the project area. As a result, the Build Alternatives would not conflict with alternative transportation modes. No impact would occur and no measures are required.

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.	☐	☐	☐	☒

As of July 1, 2015, California Assembly Bill 52 (AB 52) was enacted and expanded CEQA by establishing a formal consultation process for California tribes within the CEQA process. The bill specifies that any project may affect or cause a substantial significant change in the significance of a tribal cultural resource would require a lead agency to "begin consultation with a California Native American tribe that is traditional and culturally affiliated with the geographic area of the proposed project." Section 21074 of AB 52 also defines a new category of resources under CEQA called "tribal cultural resources." Tribal cultural resources are defined as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and is either listed on or eligible for the California Register of Historical Resources or a local historic register, or if the lead agency chooses to treat the resource as a tribal cultural resource.

The potential for the project to result in significant impacts related to tribal cultural resources was assessed in the Historic Property Survey Report (HPSR) (May 2018), which includes the AB 52 correspondence documentation in Attachment D of the HPSR. In compliance with AB 52, a Sacred Lands File search was requested from the Native American Heritage Commission (NAHC) on November 9, 2015. The NAHC responded on January 25, 2016 that there are no known sacred lands within the Area of Potential Effect (APE). Caltrans sent initial consultation letters to six individuals via the U.S. Postal Service (USPS) on March 28, 2017. Four additional attempts to contact these individuals were made by email or phone call on September 18, 2017, October 24, 2017, November 30, 2017, and May 18, 2018. To date, five responses have been received. The following discussions are based on those analyses.

a) and b) <u>No Impact</u>.

In compliance with AB 52, Caltrans distributed letters to applicable Native American tribes informing them of the project on March 28, 2017. Five responses were received from the tribes. Refer to Chapter 4.0, Comments and Coordination, of this IS/EA, as well as Section

1.3, 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 2.1.8, 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 has requested concurrence in its determination of Finding of No Historic Properties Affected. 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 proposed project would not impact a historical resource, as defined in PRC Section 5020.1(k). 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.

UTILITIES AND SERVICE SYSTEMS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

The potential for the Build Alternatives to result in utilities and service systems impacts was assessed in the Utilities/Emergency Services section in Chapter 2. The following discussion is based on those analyses.

a), b) and e) <u>No Impact</u>.

The project proposes relocation of existing sewer and waterlines; refer to Section 2.1.5 for detail regarding utility relocations. Because the Build Alternatives would not include new or an expansion or these utilities, the Build Alternatives 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.

c) <u>Less Than Significant Impact</u>.

The proposed project would require the construction of storm water drainage facilities for conveyance of on-site surface flows to the CVSC. As noted in the Hydrology and Water

Quality section of this chapter, the project would not result in any significant impacts related to storm water drainage, and impacts would be less than significant in this regard. No measures are required.

d) No Impact.

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 Build Alternatives would not require the water districts serving the project area to provide new or expanded entitlements to meet the need for water during construction and operation of the Build Alternatives. No impact would occur and no measures are required.

f) No Impact.

During project construction, waste materials would be collected. The waste collected during construction would be properly disposed of at an existing landfill. The amount of waste that would be generated during the construction of the Build Alternatives would be limited and would occur only during the construction period. That amount of waste would be only a very small amount of the total waste disposed of at area landfills, on both a daily and annual basis. It is anticipated that any waste generated would be accommodated by existing landfill facilities in Riverside County. No impact would occur and no measures are required.

g) No Impact.

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.

MANDATORY FINDINGS OF SIGNIFICANCE

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

a) Less Than Significant With Mitigation Incorporated.

The potential for the Build Alternatives to result in significant impacts to paleontological or wetlands and other waters, specifically, is discussed in Sections 2.2.4 and 2.3.2 in the IS/EA.

Ground-disturbing activities associated with the construction of the Build Alternatives could result in the disturbance or loss of previously undiscovered paleontological resources. Since the project's ground-disturbing activities could result in adverse impacts to paleontological resources, a worker's environmental awareness training would be required (Measure PAL-1). Additionally, a qualified professional paleontologist will prepare and implement a Paleontological Mitigation Plan (PMP) for the project and monitoring is recommended for grading and excavation activities at depths greater than or equal to 20 feet bgs (Measure PAL-2). If paleontological resources are discovered during ground-disturbing activities, fossil preparation, curation, and reporting would occur in accordance with Measures PAL-3a and PAL-3b. With implementation of Measures PAL-1, PAL-2, PAL-3a, and PAL-3b, the Build Alternatives, impacts would be less than significant.

The Build Alternatives would result in temporary project impacts to 0.95-acre (0.08 of non-wetland waters and 0.87 of wetland) of RWQCB jurisdiction and 1.86-acre (0.87 of vegetated streambed and 0.99 of non-vegetated streambed) of CDFW jurisdiction. Additionally, the project would result in approximately 3.25-acres (0.02-acre of vegetated

streambed and 3.23-acres of non-vegetated streambed) of permanent impacts to CDFW jurisdiction and 0.02-acre of permanent impacts to RWQCB wetlands through implementation of project features affecting CVSC.

To minimize potential construction-related water quality impacts, Treatment BMPs would be implemented during project operations. Measures WET-1, WET-2a, and WET-2b would further reduce potential impacts. Measure WET-1 would require impacts to jurisdictional waters of the State be mitigated at a minimum 1:1 ratio at an approved mitigation bank, applicant-sponsored mitigation area, or on-site. The project will include a restoration plan that will provide requirements for site selection, implementation, monitoring, operational maintenance, and performance standards, in consultation with the resource agencies. Measures WET-2a and WET-2b would require fencing around riparian and riverine communities. Thus, with adherence to Measures WET-1, WET-2a, and WET-2b, the potentially significant impacts to State-protected wetlands are less than significant.

b) Less Than Significant Impact.

As discussed in Section 2.4, Cumulative Impacts, several planned projects may be under construction and/or operation at the same time as the Build Alternatives. Cumulative impacts were analyzed for the following resources: visual/aesthetics, farmlands, hydraulics, water quality, wetlands and other waters, animal species, threatened and endangered species, and paleontological resources. However, the Build Alternatives would result in improved operational efficiency at the interchange and would not contribute to cumulatively considerable environmental effects. 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) Less Than Significant Impact.

As discussed in Sections 2.1.1 through 2.2.7, potential impacts to human beings would be minimal, and would result in a less than significant impact.

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3.3 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), HFC-23 (fluoroform), HFC-134a (1,1,1,2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of GHG emissions is electricity generation, followed by transportation.[1] In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles) are the largest contributors of GHG emissions.[2] The dominant GHG emitted is CO_2, mostly from fossil fuel combustion.

Two terms are typically used when discussing how we address the impacts of climate change: "greenhouse gas mitigation" and "adaptation." Greenhouse gas mitigation covers the activities and policies aimed at reducing 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).

3.3.1 Regulatory Setting

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

3.3.1.1 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. This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—"the triple bottom line of sustainability."

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

Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life. Addressing these factors up front in the planning process will assist in decision-making and improve efficiency at the program level and will inform the analysis and stewardship needs of project-level decision-making.

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

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

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

Energy Policy and Conservation Act of 1975 (42 USC Section 6201) and Corporate Average Fuel Standards: This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the Corporate Average Fuel Economy (CAFE) program on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States.

U.S. EPA's authority to regulate GHG emissions stems from the U.S. Supreme Court decision in Massachusetts v. EPA (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Act and EPA's assessment of the scientific evidence that form the basis for EPA's regulatory actions.

U.S. EPA in conjunction with the National Highway Traffic Safety Administration (NHTSA) issued the first of a series of GHG emission standards for new cars and light-duty vehicles in April 2010[3] and significantly increased the fuel economy of all new passenger cars and light trucks sold in the United States. The standards required these vehicles to meet an average fuel economy of 34.1 miles per gallon by 2016. In August 2012, the federal government adopted the second rule that increases fuel economy for the fleet of passenger cars, light-duty trucks, and medium-duty passenger vehicles for model years 2017 and beyond to average fuel economy of 54.5 miles per gallon by 2025. Because NHTSA cannot set standards beyond model year 2021 due to statutory obligations and the rules' long timeframe, a mid-term evaluation is included in the rule. The Mid-Term Evaluation is the overarching process by which NHTSA, EPA, and ARB

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

will decide on CAFE and GHG emissions standard stringency for model years 2022–2025. NHTSA has not formally adopted standards for model years 2022 through 2025. However, the EPA finalized its mid-term review in January 2017, affirming that the target fleet average of at least 54.5 miles per gallon by 2025 was appropriate. In March 2017, President Trump ordered EPA to reopen the review and reconsider the mileage target.[4]

NHTSA and EPA issued a Final Rule for "Phase 2" for medium- and heavy-duty vehicles to improve fuel efficiency and cut carbon pollution in October 2016. The agencies estimate that the standards will save up to 2 billion barrels of oil and reduce CO2 emissions by up to 1.1 billion metric tons over the lifetimes of model year 2018–2027 vehicles.

3.3.1.2 State

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

Assembly Bill 1493, Pavley Vehicular Emissions: Greenhouse Gases, 2002: This bill requires the California Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year.

Executive Order S-3-05 (June 1, 2005): The goal of this executive order (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 32 in 2006 and SB 32 in 2016.

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

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

Senate Bill 97 (SB 97), Chapter 185, 2007, Greenhouse Gas Emissions: This bill requires the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the California Environmental Quality Act (CEQA) Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

[4] http://www.nbcnews.com/business/autos/trump-rolls-back-obama-era-fuel-economy-standards-n734256 and https://www.federalregister.gov/documents/2017/03/22/2017-05316/notice-of-intention-to-reconsider-the-final-determination-of-the-mid-term-evaluation-of-greenhouse.

Senate Bill 375 (SB 375), Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires ARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan how it will achieve the emissions target for its region.

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

Executive Order B-16-12 (March 2012): Orders State entities under the direction of the Governor, including ARB, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

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

Senate Bill 32, (SB 32) Chapter 249, 2016: 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.

3.3.2 Environmental Setting

In 2006, the Legislature passed the California Global Warming Solutions Act of 2006 (AB 32), which created a comprehensive, multi-year program to reduce GHG emissions in California. AB 32 required ARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020. The Scoping Plan was first approved by ARB in 2008 and must be updated every 5 years. The second updated plan, California's 2017 Climate Change Scoping Plan, adopted on December 14, 2017, reflects the 2030 target established in 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. As part of its supporting documentation for the updated Scoping Plan, ARB released the GHG inventory for California.[5] ARB is responsible for maintaining and updating California's GHG Inventory per H&SC Section 39607.4. The associated forecast/projection is an estimate of the emissions anticipated to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented.

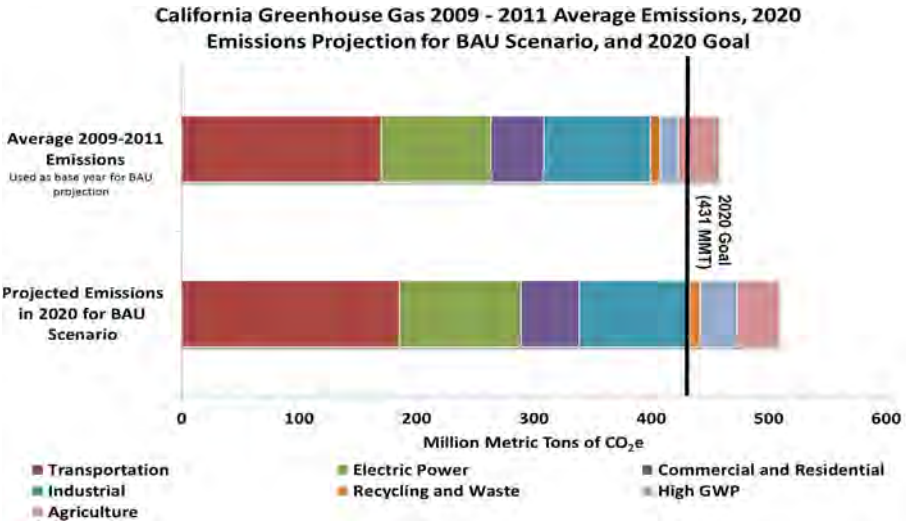
An emissions projection estimates future emissions based on current emissions, expected regulatory implementation, and other technological, social, economic, and behavioral patterns. The projected 2020 emissions provided in Figure 3.3-1, 2020 Business as Usual (BAU)

[5] 2017 Edition of the GHG Emission Inventory Released (June 2017): https://www.arb.ca.gov/cc/inventory/data/data.htm.

Emissions Projection 2014 Edition, represent a business-as-usual (BAU) scenario assuming none of the Scoping Plan measures are implemented. The 2020 BAU emissions estimate assists ARB in demonstrating progress toward meeting the 2020 goal of 431 $MMTCO_2e$.[6] The 2017 edition of the GHG emissions inventory (released June 2017) found total California emissions of 440.4 $MMTCO_2e$, showing progress towards meeting the AB 32 goals.

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

Figure 3.3-1: 2020 Business as Usual (BAU) Emissions Projection 2014 Edition



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

3.3.3 Project Analysis

An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its incremental change in emissions when combined with the contributions of all other sources of GHG.[7] 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

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

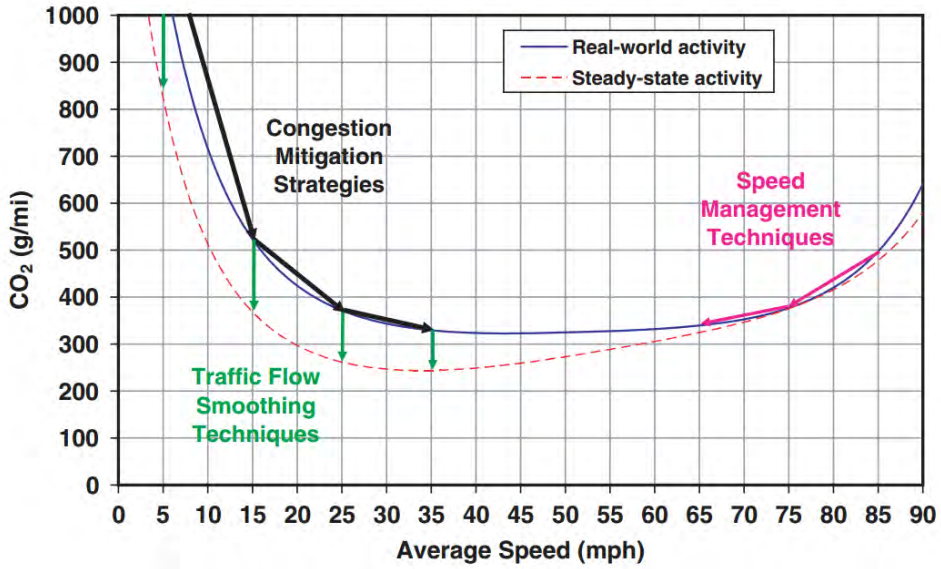
[7] This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011)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

impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects to make this determination is a difficult, if not impossible, task.

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

3.3.3.1 Operational Emissions

Figure 3.3-2: Possible Use of Traffic Operation Strategies In Reducing On-Road CO_2 Emissions



Source: Matthew Barth and Kanok Boriboonsomsin, University of California, Riverside, May 2010 (http://uctc.berkeley.edu/research/papers/846.pdf).

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.

FHWA supports these strategies to lessen climate change impacts, which correlate with efforts that the State of California is undertaking to reduce GHG emissions from the transportation sector.

The highest levels of CO_2 from mobile sources such as automobiles occur at stop-and-go speeds (0–25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0–25 miles per hour (see Figure 3.3-2, Possible Use of Traffic Operation Strategies in Reducing On-Road CO_2 Emissions, above). 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.

The project is included in Southern California Association of Governments' (SCAG) 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the Coachella Valley Association of Governments' (CVAG) Transportation Project Prioritization Study (TPPS). The RTP/SCS includes proposed transportation improvements to be integrated and coordinated with proposed land use changes that would lead to reduced congestion, reduced vehicle miles traveled (VMT), and increased transit, walking, and biking options. The TPPS identifies and prioritizes transportation projects in the Coachella Valley region. Projects identified within the TPPS are incorporated into SCAG's larger regional planning effort, and most projects identified within the TPPS are included in the 2016 RTP/SCS (including the SR-86/Avenue 50 Interchange Project).

The SR-86/Avenue 50 Interchange Project would improve mobility and expressway access, reduce congestion, and enhance operations and would not induce additional growth in the project area. There are currently no sidewalks or bicycle lanes on the roadway within the project limits. As indicated in Chapter 1, Section 1.3, Project Description, various bicycle and pedestrian facilities would be incorporated along Avenue 50. Although the project would nominally increase daily VMT, vehicle hours traveled (VHT) would decrease in the project area under both Build alternatives; refer to the discussion below. As such, the project would assist the region with these goals, and is consistent with the RTP/SCS.

The 2016 RTP/SCS includes proposed transportation improvements to be integrated and coordinated with proposed land use changes that would lead to reduced regional congestion, reduced VMT, and increased transit, walking, and biking options. The RTP/SCS includes integrated transportation and land use strategies to promote active transportation opportunities, compact development, car sharing and ride sourcing, and technology in zero-emission vehicles and neighborhood electric vehicles. The Program Environmental Impact Report for the 2016 RTP/SCS determined that across the six counties in the SCAG region, the 2016 RTP/SCS would result in an approximately 24 percent decrease in GHG emissions by 2040 as compared to the RTP/SCS 2012 Base Year conditions. The 2016 RTP/SCS also includes land use strategies that seek to balance the region's land use choices and transportation investments.

A number of alternatives and modal choices were evaluated as part of the of the project's early planning phase. To accomplish the purpose of the project (refer to Chapter 1, Section 1.2.1, Purpose), construction of a new interchange at SR-86 and Avenue 50, complete with new bicycle and pedestrian facilities, was determined necessary (Build Alternatives 7 and 8). Other alternatives were determined to be nonviable based on a combination of cost, safety, operational, and/or environmental constraints; refer to Chapter 1, Section 1.4.8, Alternatives Considered but Eliminated from Further Discussion.

It should be noted that the traffic volumes would be identical for both Build Alternatives (Alternatives 7 and 8). Therefore, Alternatives 7 and 8 would involve the same VMT, VHT, and CO_2 emissions for Opening Years and Horizon Year conditions. It should also be noted that widening of the Avenue 50 Bridge (Phase I) would increase traffic demand for the SR-86/ Avenue 50 intersection and would result in a change in LOS from LOS E to LOS F conditions in 2021. Although LOS conditions would temporarily deteriorate between Phase 1 (bridge) and Phase 2 (interchange), traffic volumes would not increase during this time period.

Based on the Air Quality Report, daily VMT would generally increase while VHT would decrease in the project area when compared to the No-Build conditions for the Phase 1 Opening Year (2021), Phase 2 Opening Year (2025), and Horizon Year (2045) conditions. Although project implementation would result in increased VMT, the project would improve travel time (VHT) by relieving congestion and improving traffic operations.

Table 3.3-1, Annual Greenhouse Gas Emissions, depicts the projected existing and future emissions from vehicles traveling within the project area. Existing, Opening Year, and Horizon Year emissions in the project area were calculated using emissions factors from EMFAC2014. Emissions factors are in grams per day, which were converted to metric tons per year (1,000,000 grams per metric ton).

Table 3.3-1: Annual Greenhouse Gas Emissions

Scenario	VMT	CO_2[1, 2,3]
		metric tons/year
Existing (2015) Conditions	907,332	485
Opening Year Phase 1 (2021)		
Opening Year 2021 No Build Conditions	1,071,679	518
Opening Year 2021 With Phase 1	1,076,080	520
Difference from No Build	*4,401*	*2*
Percent Change	*0.4%*	*0.4%*
Opening Year Phase 2 (2025)		
Opening Year 2025 No Build Conditions	1,242,261	531
Opening Year 2025 With Phase 2	1,245,948	532
Difference from No Build	*3,687*	*2*
Percent Change	*0.3%*	*0.3%*
Design Year (2045) (Phase 1 & Phase 2)		
Design Year 2045 No Build Conditions	1,893,418	689
Design Year 2045 With Phase 1 & Phase 2 Combined	1,915,011	697
Difference from No Build	*21,593*	*8*
Percent Change	*1.1%*	*1.1%*

VMT = Vehicle Miles Traveled; CO_2 = carbon dioxide

Notes:
1. Emissions calculated using EMFAC2014.
2. Based on traffic volumes from Fehr and Peers, August 15, 2017.
3. Build Alternatives 7 and 8 have different southbound on-ramp configurations, but the traffic volumes would be identical for both alternatives. Therefore, Alternatives 7 and 8 would involve the same VMT and CO_2 emissions for Opening Year and Design Year conditions.

Refer to Appendix C (Emissions Calculations) of the State Route 86/Avenue 50 New Interchange Project Air Quality Report (Michael Baker International, 2018) for CO_2 emissions modeling outputs.

As with the VMT data, CO_2 emissions would generally increase in the project area. However, the increase in the study area would be less than 1 percent in the Opening Years and 1.1 percent in the Design Year. The emissions increase in the project area conservatively assumes that the new interchange and proposed improvements would attract some traffic from other areas. As indicated above, despite the increase in VMT, both Build alternatives would reduce VHT due to the improvements in traffic operations. Project implementation would improve mobility and expressway access, reduce congestion, and enhance traffic operations. The project would accommodate future planned growth and would not induce additional growth in the area.

While EMFAC has a rigorous scientific foundation and has been vetted through multiple stakeholder reviews, its emission rates are based on tailpipe emission test data. The numbers are estimates of CO_2 emissions and not necessarily the actual CO_2 emissions. The model does not account for factors such as the rate of acceleration and the vehicles' aerodynamics, which would influence CO_2 emissions. To account for CO_2 emissions, ARB's GHG Inventory follows the IPCC guideline by assuming complete fuel combustion, while still using EMFAC data to

calculate CH_4 and N_2O emissions. Though EMFAC is currently the best available tool for use in calculating GHG emissions, it is important to note that the CO_2 numbers provided are only useful for a comparison of alternatives.

3.3.3.2 Construction Emissions

Construction 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 phases; 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.

Based on the Roadway Construction Emissions Model (RCEM) (Version 8.1.0) developed by the Sacramento Metropolitan Air Quality Management District (SMAQMD), GHG emissions associated with project construction would be 1,778 tons (1,613 metric tons) of CO_2eq for Alternative 7 and 1,705 tons (1,547 metric tons) of CO_2eq for Alternative 8. The modeled RCEM construction emissions represent a 43-month period (approximately 3.5 years) and includes both Phase I and Phase II construction activities. The 43-month period consists of the duration from when construction of Phase I begins, and when Phase II construction is completed. The calculation of GHG emissions is considered conservative, since there would be period of time between Phase I and Phase II when no construction is occurring.

The proposed project would comply with all state, federal, and/or local air quality rules and regulations. Certain project features under Caltrans Standard Specifications Section 14-9.02, Air Pollution Control, such as properly tuning and maintaining construction vehicles, would also help reduce construction GHG emissions. A traffic management plan, as described in Section 2.1.6.3.1, and limiting idling time for lane closures during construction to 10 minutes in each direction will help reduce delays and emissions from idling traffic.

3.3.3.3 CEQA Conclusion

As discussed above, both future With Project and future No Build conditions show increases in CO_2 emissions over the existing levels. Emissions in the opening year and design year scenarios would only slightly increase when compared to the No Build scenarios. Additionally, the project would improve congestion and mobility in the area and decrease VHT. While construction activities would result in a slight increase in GHG emissions during construction, operational emissions under the “With Project” scenario would increase slightly (less than one percent) as compared to the No Build scenario. Additionally, as described above, the proposed project would maximize overall performance and generally reduce congestion within the project limits. As discussed above, there are also limitations with EMFAC and with assessing what a given CO_2 emissions increase means for climate change. Therefore, it is Caltrans’ determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and CEQA significance, it is too speculative to make a determination regarding significance of the project’s direct impact and its contribution on the cumulative scale to climate change. However, Caltrans is firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the following section.

3.3.3.4 Greenhouse Gas Reduction Strategies

3.3.3.4.1 Statewide Efforts

In an effort to further the vision of California's GHG reduction targets outlined an AB 32 and SB 32, Governor Brown identified key climate change strategy pillars (concepts). These pillars highlight the idea that several major areas of the California economy will need to reduce emissions to meet the 2030 GHG emissions target. These pillars are (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farm and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, Safeguarding California.

Figure 3.3-3: The Governor's Climate Change Pillars: 2030 Greenhouse Gas Reduction Goals



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

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

Caltrans Activities

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

California Transportation Plan (CTP 2040)

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

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

Caltrans Strategic Management Plan

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

- Increasing percentage of non-auto mode share
- Reducing VMT per capita
- Reducing Caltrans' internal operational (buildings, facilities, and fuel) GHG emissions

Funding and Technical Assistance Programs

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

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

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

3.3.3.4.2 Project-Level GHG Reduction Strategies

The project includes improvements to bicycle and pedestrian facilities within the interchange area, improving connectivity to encourage use of these alternative modes of transportation. The following measures will also be implemented in the project to reduce GHG emissions and potential climate change impacts from the project.

CC-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).

CC-2 The project will implement landscaping as determined during final design in coordination with the City of Coachella and the Caltrans District Landscape Architect. This landscaping will help offset any potential CO_2 emissions increase.

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 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.

CC-5 As part of the SCAG's 2016-2040 RTP/SCS, project level mitigation measures were provided to reduce impacts, including those pertaining to climate change. The following project level mitigation measures would apply:

- 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.
- The project will use the minimum feasible amount of GHG-emitting construction materials.
- The project will use cement blended with the maximum feasible amount of fly ash or other materials that reduce GHG emissions from cement production.
- The project will incorporate design measures to reduce GHG emissions from solid waste management through solid waste reduction, recycling, and reuse.
- The project will recycle construction debris.

3.3.3.4.3 Adaptation Strategies

"Adaptation strategies" refer to how Caltrans and others can plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage—or, put another way, planning and design for resilience. Climate change is expected

to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. These types of impacts to the transportation infrastructure may also have economic and strategic ramifications.

Federal Efforts

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the CEQ, the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric Administration (NOAA), released its interagency task force progress report on October 28, 2011[8], outlining the federal government's progress in expanding and strengthening the nation's capacity to better understand, prepare for, and respond to extreme events and other climate change impacts. The report provided an update on actions in key areas of federal adaptation, including: building resilience in local communities, safeguarding critical natural resources such as fresh water, and providing accessible climate information and tools to help decision-makers manage climate risks.

The federal Department of Transportation issued U.S. DOT Policy Statement on Climate Adaptation in June 2011, committing to "integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of DOT in order to ensure that taxpayer resources are invested wisely and that transportation infrastructure, services and operations remain effective in current and future climate conditions."[9]

To further the DOT Policy Statement, on December 15, 2014, FHWA issued order 5520 (Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events).[10] This directive established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. The FHWA would work to integrate consideration of these risks into its planning, operations, policies, and programs in order to promote preparedness and resilience; safeguard federal investments; and ensure the safety, reliability, and sustainability of the nation's transportation systems.

FHWA has developed guidance and tools for transportation planning that fosters resilience to climate effects and sustainability at the federal, state, and local levels.[11]

State Efforts

On November 14, 2008, then-Governor Arnold Schwarzenegger signed EO S-13-08, which directed a number of state agencies to address California's vulnerability to sea-level rise caused by climate change. This EO set in motion several agencies and actions to address the concern of sea-level rise and directed all state agencies planning to construct projects in areas vulnerable to future sea-level rise to consider a range of sea-level rise scenarios for the years 2050 and 2100, assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea-level rise. Sea-level rise estimates should also be used in conjunction with information on local uplift and subsidence, coastal erosion rates, predicted higher high water levels, and storm surge and storm wave data.

[8] https://obamawhitehouse.archives.gov/administration/eop/ceq/initiatives/resilience.
[9] https://www.fhwa.dot.gov/environment/sustainability/resilience/policy_and_guidance/usdot.cfm.
[10] https://www.fhwa.dot.gov/legsregs/directives/orders/5520.cfm.
[11] https://www.fhwa.dot.gov/environment/sustainability/resilience/.

Governor Schwarzenegger also requested the National Academy of Sciences to prepare an assessment report to recommend how California should plan for future sea-level rise. The final report, *Sea-Level Rise for the Coasts of California, Oregon, and Washington* (Sea-Level Rise Assessment Report)[12] was released in June 2012 and included relative sea-level rise projections for the three states, taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge, and land subsidence rates; and the range of uncertainty in selected sea-level rise projections. It provided a synthesis of existing information on projected sea-level rise impacts to state infrastructure (such as roads, public facilities, and beaches), natural areas, and coastal and marine ecosystems; and a discussion of future research needs regarding sea-level rise.

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

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

EO S-13-08 also gave rise to the *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance), produced by the Coastal and Ocean Working Group of the California Climate Action Team (CO-CAT), of which Caltrans is a member. First published in 2010, the document provided "guidance for incorporating sea-level rise (SLR) projections into planning and decision making for projects in California," specifically, "information and recommendations to enhance consistency across agencies in their development of approaches to SLR."[14]

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation, and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is actively engaged in in working towards identifying these risks throughout the state and will work to incorporate this information into all planning and investment decisions as directed in EO B-30-15.

The proposed project is outside the coastal zone and not in an area subject to sea-level rise. Accordingly, direct impacts to transportation facilities due to projected sea-level rise are not expected; however future flood considerations have been considered in relation to the proposed bridge structure as discussed below.

Phase 1 of the proposed project includes mobility to and from eastern parts of the City of Coachella by providing direct and dependable access over the CVSC. The proposed project is located in the Whitewater River Watershed. Runoff from the surrounding mountains drains

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

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

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

through a network of surface streams that collect on the Coachella Valley floor and flows southeast via the CVSC/Whitewater River. Within the Caltrans right of way, Caltrans standard drains and culverts convey the runoff from roadside ditches; stormwater that falls within the proposed project boundary will ultimately discharge into the CVSC/Whitewater River, which is used for flood control (Caltrans 2018:16).

The Federal Emergency Management Agency has classified most of the proposed project area as Zone X, an area of moderate flood hazard, usually between the limits of the 100-year and 500-year floods, protected by levees from 100-year flood, or shallow flooding areas with average depths of less than 1 foot or drainage areas less than 1 square mile. However, the area within the CVSC/Whitewater River is classified as Zone A, meaning that no base flood elevations have been established (Caltrans 2018:16–17).

The average annual precipitation near the proposed project is about 3.7 inches, as measured at a station located approximately 16 miles north of the proposed project. Most rainfall occurs in the region during winter and early spring. Caltrans Hydraulics analysts found that rainfall in the area is expected to decrease under future climate change scenarios, indicating that the proposed bridge as designed would continue to function effectively throughout its 75-year design life.

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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 to identify potential impacts and avoidance, minimization, and/or mitigation measures and related environmental requirements. Agency and tribal consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including meetings and interagency outreach and consultation. This chapter summarizes the results of Caltrans' efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

Consultation and Coordination with Public Agencies and Tribal Governments

4.1 Cultural Resources

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. In addition, additional specialized listings for cultural resources were consulted. The Native American Heritage Commission (NAHC) was contacted in November 2015 and letters were sent to Native American tribes consistent with Assembly Bill 52 (AB52) on March 28, 2017. Additional follow-up correspondence occurred on September 18, 2017, October 24, 2017, November 30, 2017, and May 18, 2018. Five tribal responses were received by Caltrans. The consultation with the NAHC and Native American representatives is summarized in Table 4-1, Summary of Native American Consultation.

Table 4-1: Summary of Native American Consultation

Agency and Agency Representative	Date of First Contact (Formal Letter)	Date of Reply	Date of Follow-up Contact (Phone Call/ Email)	Consultation Topic
Native American Heritage Commission	November 9, 2015	January 25, 2016		**November 9, 2015:** A sacred lands file search was requested by Applied Earth Works. **January 25, 2016:** NAHC responded that there are no known sacred lands within the Area of Potential Effects (APE).
Agua Caliente Band of Cahuilla Mission Indians THPO Patricia Garcia-Plotkin, Director	March 28, 2017	April 20, 2017		**March 28, 2017:** A letter that provided a project description and location and discussed upcoming cultural resources studies of the project area was sent via certified mail. **April 20, 2017:** Patricia Garcia-Plotkin of the Agua Caliente Band of Cahuilla Indians (ACBCI) sent a response letter that stated the project area is not located within the boundaries of the ACBCI Reservation, but is within the Tribe's Traditional Use Area. The letter noted that at this time, the ACBCI THPO is deferring to the Cabazon Band of Mission Indians and that consultation efforts with the ACBCI are concluded.

Table 4-1: Summary of Native American Consultation [continued]

Agency and Agency Representative	Date of First Contact (Formal Letter)	Date of Reply	Date of Follow-up Contact (Phone Call)	Consultation Topic
Augustine Band of Mission Indians Mary Ann Green, Chairperson, Karen Kupcha, and Heather Haines, Tribal Operations Manager	March 28, 2017	November 30, 2017	September 18, 2017 October 24, 2017 November 30, 2017	**March 28, 2017:** A letter that provided a project description and location and discussed upcoming cultural resources studies of the project area was sent via certified mail. **September 18, 2017:** A follow up phone call was conducted. **October 24, 2017:** A second follow up phone call was conducted. **November 30, 2017:** A third follow up phone call was conducted. Ms. Haines requested that the March 28, 2017 initiation letter be sent to her via email. Ms. Haines emailed a response letter stating that the tribe is unaware of specific cultural resources that may be affected by the project and encouraged Caltrans to contact other Native American Tribes and Individuals within the immediate vicinity of the project site. The tribe also stated that a monitor who is qualified in Native American cultural resources identification be present during the pre-construction and construction phases of the project and the Augustine Band of Mission Indians should be notified if any cultural resources were identified during the development of the project.
Cabazon Band of Mission Indians Doug Welmas, Chairperson, and Judy Stapp, Director of Cultural Affairs	March 28, 2017	September 19, 2017	September 18, 2017	**March 28, 2017:** A letter that provided a project description and location and discussed upcoming cultural resources studies of the project area was sent via certified mail. **September 18, 2017:** A follow up phone call was conducted. **September 19, 2017:** In a response letter, the Cabazon Band of Mission Indians stated that the tribe has no specific archival information on the site indicating that it may be a sacred/religious site or other site of Native American traditional cultural value. However, they requested that Caltrans initiate Section 106 consultation with the Tribe. Consultation is currently ongoing.

Table 4-1: Summary of Native American Consultation [continued]

Agency and Agency Representative	Date of First Contact (Formal Letter)	Date of Reply	Date of Follow-up Contact (Phone Call)	Consultation Topic
Santa Rosa Band of Mission Indians John Marcus, Chairman, and Gabriella Rubalcava, Tribal Council Member	March 28, 2017	No Response	September 18, 2017 October 24, 2017 November 30, 2017 May 18, 2018	**March 28, 2017:** A letter that provided a project description and location and discussed upcoming cultural resources studies of the project area was sent via certified mail. **September 18, 2017:** A follow up phone call was conducted. **October 24, 2017:** A second follow up phone call was conducted. **November 30, 2017:** A third follow up phone call was conducted. Ms. Rubalcava requested that the March 28, 2017 initiation letter be sent to her via email. **May 18, 2018:** A final follow up email was sent. No response has been received to date.
Torres-Martinez Desert Cahuilla Indians Mary Resvaloso, Chairperson, and Michael Mirelez, Cultural Resource Coordinator	March 28, 2017	October 25, 2017	September 18, 2017 October 24, 2017 October 25, 2017	**March 28, 2017:** A letter that provided a project description and location and discussed upcoming cultural resources studies of the project area was sent via certified mail. **September 18, 2017:** A follow up phone call was conducted. **October 24, 2017:** A second follow up phone call was conducted. Mr. Mirelez stated that the tribe would like to be consulted as part of the Section 106 process. Mr. Mirelez requested a copy of the initial letter that was sent to the tribe on March 28, 2017. **October 25, 2017:** In a response email, Mr. Mirelez stated that the project is located within an area with known village sites. Mr. Mirelez further requested formal consultations with the project proponents and the lead agency, a Native American monitor from the Tribe be present during any ground-disturbing activities, and copies of all existing cultural studies and related records.

Table 4-1: Summary of Native American Consultation [continued]

Agency and Agency Representative	Date of First Contact (Formal Letter)	Date of Reply	Date of Follow-up Contact (Phone Call)	Consultation Topic
29 Palms Band of Mission Indians Darrell Mike, Chairman	March 28, 2017	April 3, 2017		**March 28, 2017:** A letter that provided a project description and location and discussed upcoming cultural resources studies of the project area was sent via certified mail. **April 3, 2017:** Anthony Madrigal, Tribal Historic Preservation Officer of the Tribe sent a letter in response that stated the Tribal Historic Preservation Office is aware of multiple prehistoric sites and isolates within 1-mile of the project area, which pertains to the Tribe. Mr. Madrigal notes that the project area is located less than 1-mile from a culturally sensitive area and is within the Chemehuevi Traditional Use Area. The Tribe requested all available cultural reports that are related to the project.

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 November 6, 2018, the HPSR was provided to SHPO for review and on November 8, 2018, SHPO provided concurrence. See Section 4.7, below, for copies of these letters.

4.3 Biological and Water Resources

4.3.1 U.S. Fish and Wildlife Service

On April 24, 2017, 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. Since then, an updated USFWS List was obtained on April 6, 2018, and again on September 24, 2018. See Section 4.7, below, for a copy of the species list.

4.3.2 U.S. Army Corps of Engineers

On July 9, 2018, the Preliminary Jurisdictional Delineation (PJD) prepared for the project was provided to the U.S. Army Corps of Engineers (USACE) for review and concurrence. A field review involving USACE, Caltrans, and consultant staff was conducted on September 20, 2018. Based on this field review, revisions to the impact analysis supporting the PJD were conducted. On November 2, 2018, a revised PJD was emailed to USACE for their review. On November 6, 2018 USACE emailed preliminary results of their review, highlighting that if the wetlands cannot be avoided that the proposed project would be anticipated to need a Standard Individual Permit. Written concurrence from the USACE on the results and findings of the PJD will be received prior to finalization of the IS/EA.

4.4 Air Quality

The project-level particulate matter hot-spot analysis was presented to the Southern California Association of Governments (SCAG) Transportation Conformity Working Group (TCWG) twice for discussion and review on June 28, 2016 [Project ID RIV110825] and March 27, 2018 [Project ID RIV061159 and RIV110825], pursuant to the interagency consultation requirement of 40 CFR 93.105 (c)(1)(i). The TCWG determined that the proposed project is not a POAQC. The U.S. EPA was unable to participate in the March 27, 2018 meeting; their concurrence was received via email after the meeting. See Section 4.7, below, for a copy of the TCWG determinations.

4.5 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 Tomas Aguilar Campos of the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) for review on June 12, 2018 and NRCS responded with input on the AD-1006 Form on June 14, 2018. The finalized AD-1006 Form was sent from Caltrans to NRCS later that same day on June 14, 2018. Refer to Appendix H, Farmland Conversion Impact Rating Form.

4.6 CV Link Coordination

On April 25, 2018, the City sent a letter to Coachella Valley Association of Governments (CVAG) with preliminary project design plans regarding the City's proposed SR-86/Avenue 50 New Interchange Project and CVAG's planned CV Link project. On May 22, 2018, CVAG responded, confirming the City's project was not in conflict and would accommodate future implementation of CV Link. See Section 4.7, below, for copies of these letters.

4.7 Correspondence

The following correspondence is provided within this section:

- State Historic Preservation Officer Correspondence
- U.S. Fish and Wildlife Service Species List
- Transportation Conformity Working Group Determinations
- Coachella Valley Association of Governments Correspondence

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State Historic Preservation Officer Correspondence

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DEPARTMENT OF TRANSPORTATION
DISTRICT 8
464 WEST 4TH STREET
San Bernardino, CA 92401
PHONE (909) 383-4631

Making Conservation, a California Way of Life

November 6, 2018

Julianne Polanco

State Historic Preservation Office
1725 23rd Street, Suite 100
Sacramento, CA 95816

08-RIV-86-PM 19.3/21.4 EA 0C970
State Route 86/Avenue 50
New Interchange Project

Attention: Lucinda Woodward

Re: Historic Property Survey Report for State Route 86/Avenue 50 New Interchange Project in the City of Coachella, Riverside County, California

Dear Ms. Polanco:

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), is initiating consultation with the State Historic Preservation Officer (SHPO) and the Cabazon Band of Mission Indians THPO regarding the proposed State Route 86/Avenue 50 New Interchange Project, in the City of Coachella, in Riverside County. The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S.C. 327 and the Memorandum of Understanding dated December 23, 2016, and executed by FHWA and Caltrans.

As the project is partially located on the Cabazon Band of Mission Indians land, the Caltrans First Amended Section 106 Programmatic Agreement (January 2014) does not apply and consultation will occur under NHPA implementing regulations at 36 CFR § 800.

In conjunction with Caltrans and FHWA, the City of Coachella is proposing construction of a new interchange at State Route 86 (SR86) and Avenue 50 in the City of Coachella, Riverside County, California. The proposed project consists of converting a portion of SR-86 from an existing expressway to a freeway with a new overcrossing structure and access ramps. In addition, the proposed project includes the realignment and widening of Avenue 50 and the realignment of portions of Tyler Street on both the east and west sides of SR-86. Finally, the project would construct a new bridge over the Coachella Valley Stormwater Channel (CVSC) to replace the existing low-water crossing. The proposed project would require the right-of-way acquisition of four (4) full-take parcels and thirteen (13) partial-take parcels, three (3) of which are located within the boundaries of the Cabazon Indian Reservation.

Enclosed you will find a Historic Property Survey Report (HPSR) approved for the project by Caltrans in August 2018. The HPSR documents the Area of Potential Effects (APE), consultation efforts, and efforts to identify and evaluate historic properties. Consultation and identification efforts for the proposed undertaking resulted in the identification of one Historic Property within the APE:

1. CVWD Irrigation Lateral 105.7-1.9 (33-028174) MR 4: The Coachella Valley Irrigation Distribution System was previously determined NRHP eligible by consensus determination between the Bureau of Reclamation and SHPO in 2015 under Criterion A as a contributing element of the Coachella Canal. That determination remains valid.

Consultation and identification efforts for the proposed undertaking also resulted in the identification of seven (7) built environment resources, and two (2) prehistoric archaeological sites within the APE that required NRHP evaluation. Caltrans proposes that the following cultural resources are not NRPH eligible:

1. Avenue 50 (33-028173 MR 1
2. Tyler Street (33-028170) MR 2
3. A segment of CVSC (33-017259) MR 3
4. APN 603-330-003: Commercial radio Building (33-028169) MR 5
5. CA-RIV-12707/H (33-028166) MR 6
6. CA-RIV-12708H (33-028175) MR 7
7. APN 763-030-010: two residential buildings (33-028168) MR 8
8. Tract 2597 (33-028171) MR 9
9. Devers-Coachella Valley 220kV Transmission Line (33-028167) MR 10

Caltrans is requesting SHPO concurrence with the following pursuant to 36 CFR § 800.4(a-c):

1) The adequacy of the delineation of the APE;
2) The adequacy of the identification effort;
3) Caltrans determinations of eligibility; and
4) The adequacy of Caltrans' proposed finding of No Adverse Effect for the Undertaking

Caltrans, as assigned by FHWA, intends to make a de minimis finding for Section 4(f) use of a historic property based on your concurrence in the Section 106 effect finding, pursuant to Section 6009(a) of SAFETEA-LU. Please note that if no response is received from the SHPO within 30 days of receipt of this submittal, Caltrans will still make a de minimis impact finding for purposes of Section 4(f) as described in our August 11, 2006 letter agreement.

We look forward to receiving your response within thirty (30) days of receipt of this submittal. Please contact Gary Jones, District 08 Principal investigator, Prehistoric Archaeology at (909) 383-7505 if you have any questions regarding this document.

Regards,

JODY BROWN
Chief
Cultural Studies Office/Division of Environmental Analysis

Enclosure: *Historic Property Survey Report for the State Route 86/Avenue 50 New Interchange Project, City of Coachella, Riverside County, California (2018)*

cc: Ronn Knox, Environmental Generalist
Alexandra Bevk Neeb, Caltrans HQ

State of California • Natural Resources Agency Edmund G. Brown Jr., *Governor*

DEPARTMENT OF PARKS AND RECREATION Lisa Ann L. Mangat, *Director*
OFFICE OF HISTORIC PRESERVATION
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

November 8, 2018

VIA EMAIL

In reply refer to: FHWA_2018_0910_001

Ms. Jody Brown, Chief
Cultural Studies Office
Division of Environmental Analysis
Caltrans
PO Box 942873, MS-27
Sacramento, CA 94273-0001

Subject: Determinations/Finding of Eligibility and Effect for the Proposed State Route 86/Avenue 50 New Interchange Project, Coachella, Riverside County, CA

Dear Ms. Brown:

You have provided me with the results of your efforts to determine whether the project described above may involve or affect historic properties. You have done this, and are consulting with me, in order to comply with Section 106 of the National Historic Preservation Act and implementing regulations codified at 36 CFR Part 800. As part of your documentation, Caltrans submitted a Historic Property Survey Report (HPSR), Historical Resources Evaluation Report, an Archaeological Survey Report, and a Finding of No Adverse Effect Memo Report for the proposed project.

In conjunction with Caltrans and FHWA, the City of Coachella is proposing construction of a new interchange at State Route 86 and Avenue 50 in the City of Coachella, Riverside County, California. The proposed project consists of converting a portion of SR-86 from an existing expressway to a freeway with a new overcrossing structure and access ramps. In addition, the proposed project includes the realignment and widening of Avenue 50 and the realignment of portions of Tyler Street on both the east and west sides of SR-86. Finally, the project would construct a new bridge over the Coachella Valley Stormwater Channel (CVSC) to replace the existing low-water crossing. The proposed project would require the right-of-way acquisition of four full-take parcels and thirteen partial-take parcels, three of which are located within the boundaries of the Cabazon Indian Reservation.

The Coachella Valley Water District (CVWD) Irrigation Lateral was previously determined eligible for the National Register of Historic Places (NRHP) by consensus determination between the Bureau of Reclamation and the SHPO in 2015 under Criterion A as a contributing element of the Coachella Canal. This determination remains valid.

Consultation and identification efforts also resulted in the identification of seven built environment resources and two prehistoric archaeological sites within the area of potential effect (APE) that required evaluation. Caltrans determined that the following properties are not eligible for the NRHP:

- Avenue 50 (33-028173)
- Tyler Street (33-028170)
- A segment of the CVSC (33-017259)
- Commercial Radio Building (APN 603-330-003) (33-028169)
- CA-RIV-12707/H (33-028166)
- CA-RIV-12708H (33-028175)
- Two residential buildings (APN 763-030-010) (33-028168)
- Tract 2597 (33-028171)
- Devers-Coachella Valley 220kV Transmission Line (33-028167)

Caltrans has also found that the proposed project will have no adverse effect on historic properties. The portion of the CVWD Irrigation Lateral 105.7-1.9 located within the Project APE consists of a group of three concrete standpipes, a tall vent, and a below ground concrete pipeline. The project proposes a driveway at this location to provide access to the Cabazon Indian Reservation. Construction of the driveway will require removal of some of the concrete standpipes and vent and replacement and/or modification to the below ground pipeline. Maximum depth of ground-disturbance for driveway construction is not expected to exceed 5 feet below the surface for over-excavation and pavement construction.

The concrete underground pipeline and standpipes of CVWD Irrigation Lateral 105.7-1.9 of the Coachella Canal's distribution system that extend into the project APE were extensively altered in 1993 and again in 2001. While the project will effect this element, the effect will not be adverse as it is affecting less than 0.5 percent of the 485-mile long Coachella Canal distribution network.

Pursuant to 36 CFR 800.4(a-c), Caltrans is requesting SHPO and THPO concurrence on the following:

1) Adequacy of the delineation of the APE
2) Adequacy of the identification effort
3) Adequacy of the evaluation of potential historic properties for eligibility to the NRHP.
4) Adequacy of the Caltrans' finding of No Adverse Effect for the undertaking.

I have reviewed the documentation furnished and have the following comments:

1) The APE delineated for the proposed project appears adequate.
2) The steps taken to identify historic properties that may be affected by this undertaking are satisfactory.

3) Based on review of the submitted documentation, I concur with the foregoing determinations of eligibility
4) I have no objections to Caltrans' finding of No Adverse Effect for this undertaking.
5) Be advised that under certain circumstances, like unanticipated discovery, Caltrans may have additional responsibilities under 36 CFR Part 800.

If you have any questions, please contact Natalie Lindquist at (916) 445-7014 with e-mail at natalie.lindquist@parks.ca.gov or Alicia Perez at (916) 445-7020 with e-mail at alicia.perez@parks.ca.gov .

Sincerely,



Julianne Polanco

U.S. Fish and Wildlife Service Species List

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901
http://www.fws.gov/carlsbad/

In Reply Refer To: September 24, 2018
Consultation Code: 08ECAR00-2018-SLI-1700
Event Code: 08ECAR00-2018-E-03871
Project Name: State Route 86/Avenue 50 New Interchange Project

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
(760) 431-9440

Project Summary

Consultation Code: 08ECAR00-2018-SLI-1700

Event Code: 08ECAR00-2018-E-03871

Project Name: State Route 86/Avenue 50 New Interchange Project

Project Type: TRANSPORTATION

Project Description: The proposed improvements include realignment and widening of Avenue 50 from the existing two-lane roadway to a six-lane major arterial, and realignment of Tyler Street on both the east and west side of SR-86. The project would also improve mobility by constructing another new bridge spanning over CVSC, replacing the existing low water crossing, and eliminating flood-related hazards during inclement weather events.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/33.68639453010968N116.16209612875602W



Counties: Riverside, CA

Endangered Species Act Species

There is a total of 6 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.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Yuma Clapper Rail *Rallus longirostris yumanensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3505	Endangered

Reptiles

NAME	STATUS
Coachella Valley Fringe-toed Lizard *Uma inornata* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2069	Threatened
Desert Tortoise *Gopherus agassizii* Population: Wherever found, except AZ south and east of Colorado R., and Mexico There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4481	Threatened

Flowering Plants

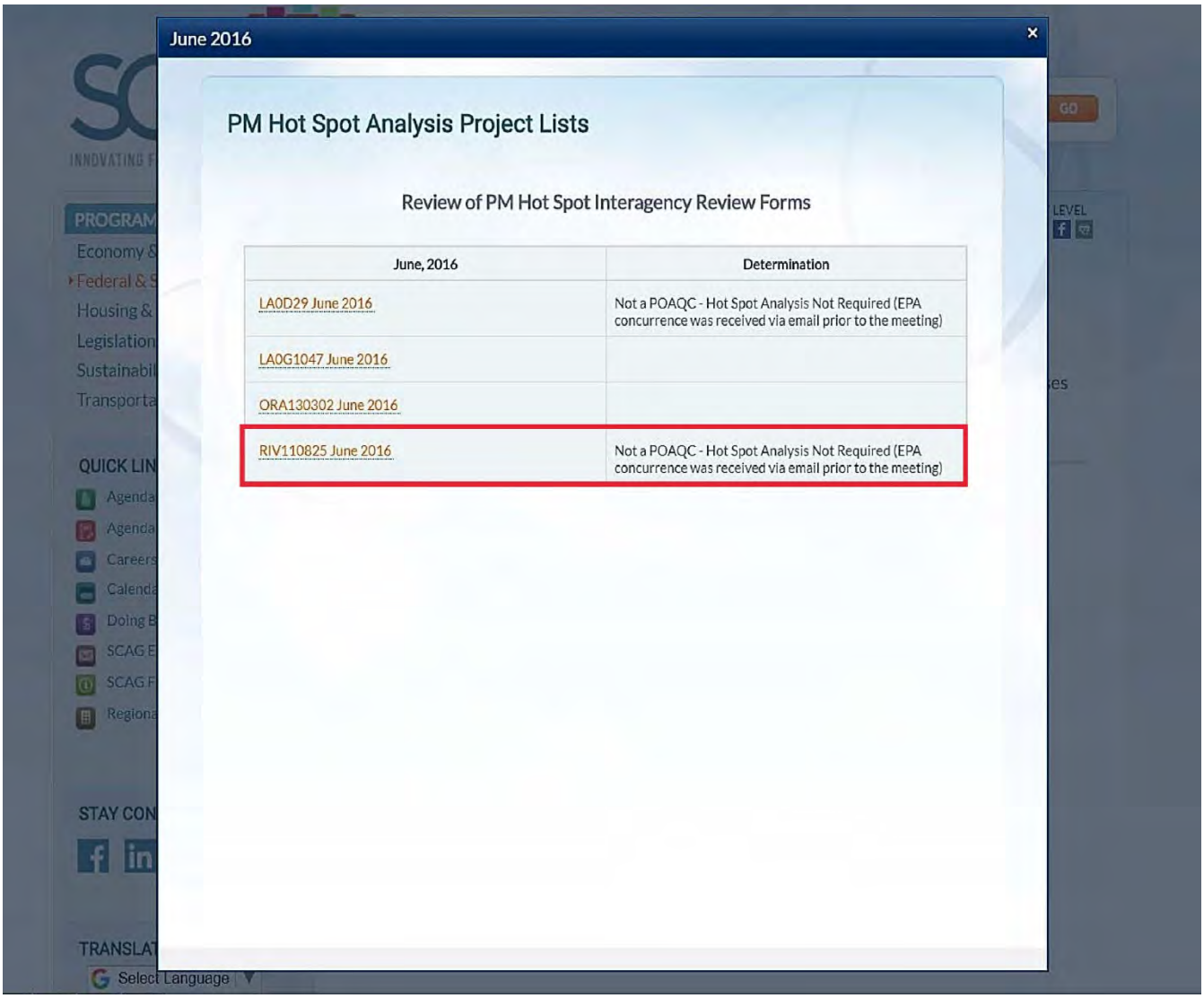
NAME	STATUS
Coachella Valley Milk-vetch *Astragalus lentiginosus var. coachellae* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7426	Endangered

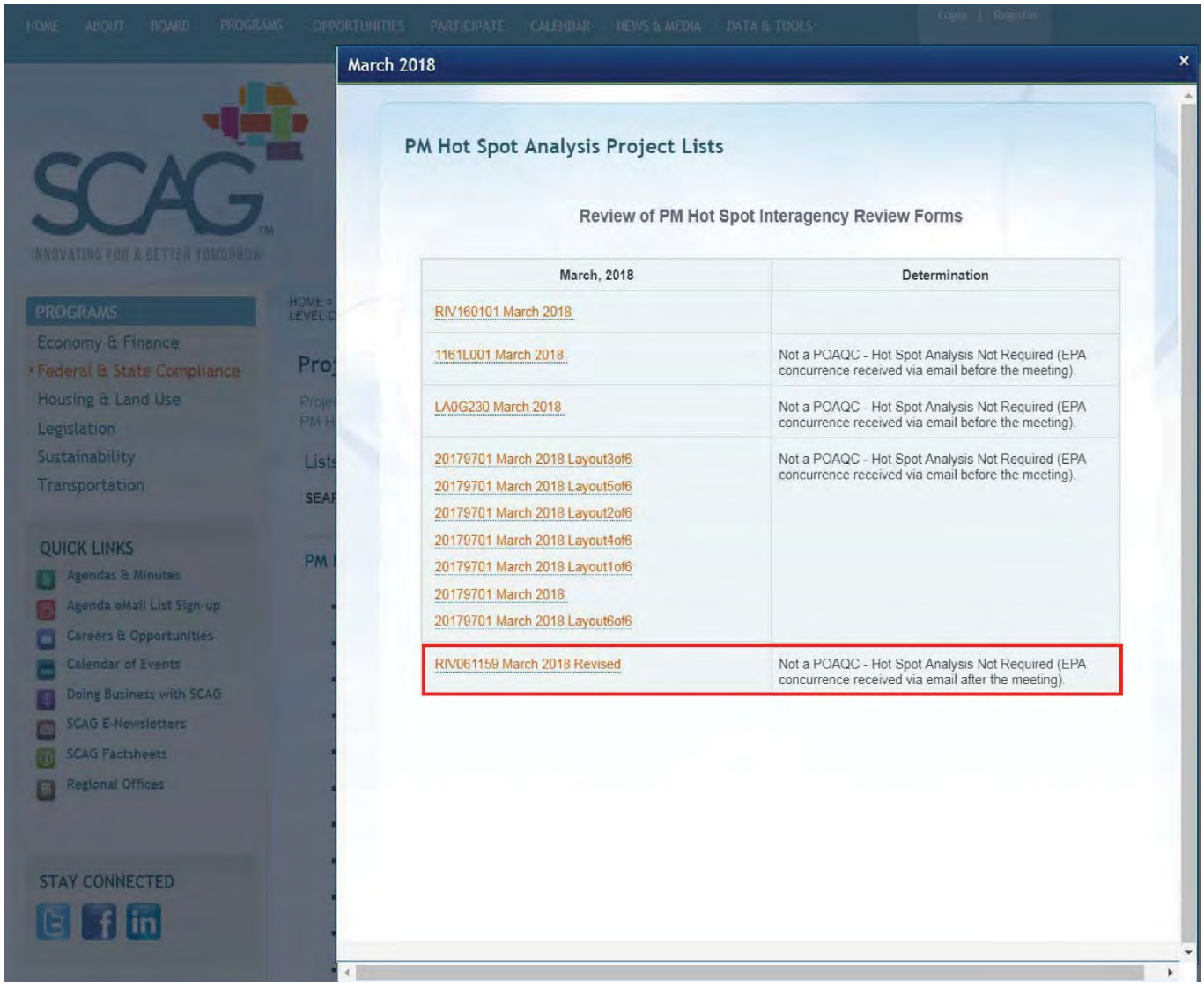
Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Transportation Conformity Working Group Determinations

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June 2016
PM Hot Spot Analysis Project Lists
Review of PM Hot Spot Interagency Review Forms
June, 2016
Determination
LA0D29 June 2016
Not a POAQC - Hot Spot Analysis Not Required (EPA concurrence was received via email prior to the meeting)
LA0G1047 June 2016
ORA130302 June 2016
RIV110825 June 2016
Not a POAQC - Hot Spot Analysis Not Required (EPA concurrence was received via email prior to the meeting)


HOME
ABOUT
BOARD
PROGRAMS
OPPORTUNITIES
PARTICIPATE
CALENDAR
NEWS & MEDIA
DATA & TOOLS
SCAG
INNOVATING FOR A BETTER TOMORROW
PROGRAMS
Economy & Finance
Federal & State Compliance
Housing & Land Use
Legislation
Sustainability
Transportation
QUICK LINKS
Agendas & Minutes
Agenda eMail List Sign-up
Careers & Opportunities
Calendar of Events
Doing Business with SCAG
SCAG E-Newsletters
SCAG Factsheets
Regional Offices
STAY CONNECTED
March 2018
PM Hot Spot Analysis Project Lists
Review of PM Hot Spot Interagency Review Forms
March, 2018
Determination
RIV160101 March 2018
1161L001 March 2018
Not a POAQC - Hot Spot Analysis Not Required (EPA concurrence received via email before the meeting).
LA0G230 March 2018
Not a POAQC - Hot Spot Analysis Not Required (EPA concurrence received via email before the meeting).
20179701 March 2018 Layout3of6
20179701 March 2018 Layout5of6
20179701 March 2018 Layout2of6
20179701 March 2018 Layout4of6
20179701 March 2018 Layout1of6
20179701 March 2018
20179701 March 2018 Layout6of6
Not a POAQC - Hot Spot Analysis Not Required (EPA concurrence received via email before the meeting).
RIV061159 March 2018 Revised
Not a POAQC - Hot Spot Analysis Not Required (EPA concurrence received via email after the meeting).

Coachella Valley Association of Governments Correspondence

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CITY OF COACHELLA
1515 SIXTH STREET, COACHELLA, CALIFORNIA 92236
PHONE (760) 398-3502 • FAX (760) 398-8117 • WWW.COACHELLA.ORG

April 25, 2018

Mr. Martin Magana
Director of Transportation
Coachella Valley Association of Governments
73-710 Fred Waring Drive, Suite 200
Palm Desert, CA 92260

Re: SR-86/Avenue 50 New Interchange & Avenue 50 Bridge over Whitewater River Project
City of Coachella Project No. ST-81 & 69
Fed Project No. HPLULN - 5294(011) & BR-NBIL (536)
Caltrans EA 08-0C970, Project Number: 0814000144

Dear Mr. Magana:

As part of our continued coordination efforts between the above referenced project and your CV Link multimodal pathway project, the City respectfully submits the final design concept plans of the CV Link access ramps within the Avenue 50 Bridge over Coachella Valley Stormwater Channel (CVSC) [as known as Whitewater River]. Please refer to the attached exhibits.

We understand these two projects have separate construction schedules. As mutually agreed, the City will construct the CV Link access ramps as part of the Avenue 50 CVSC Bridge project, which includes the CV Link access point at Sierra Vista Park, located at the southeast quadrant of Tyler Street and the CVSC within the proposed project limits. The design is consistent with your overall CV Link project will avoid throwaway. It will not cause any impacts, nor impair the activities, features, and/or attributes of the planned CV Link facility; rather, the interchange project would promote the future implementation of the CV Link project.

Should you have any questions, please contact me at (760) 398-5744 or via email jhoy@coachella.org .

Sincerely,

Jonathan Hoy, PE
Assistant City Manager/City Engineer

Attachments:
(1) Final Design Concept Plans

Copy: Andy Cheah – TranSystems
Deven Young – Alta Planning + Design
Meardey Tim, Caltrans PM

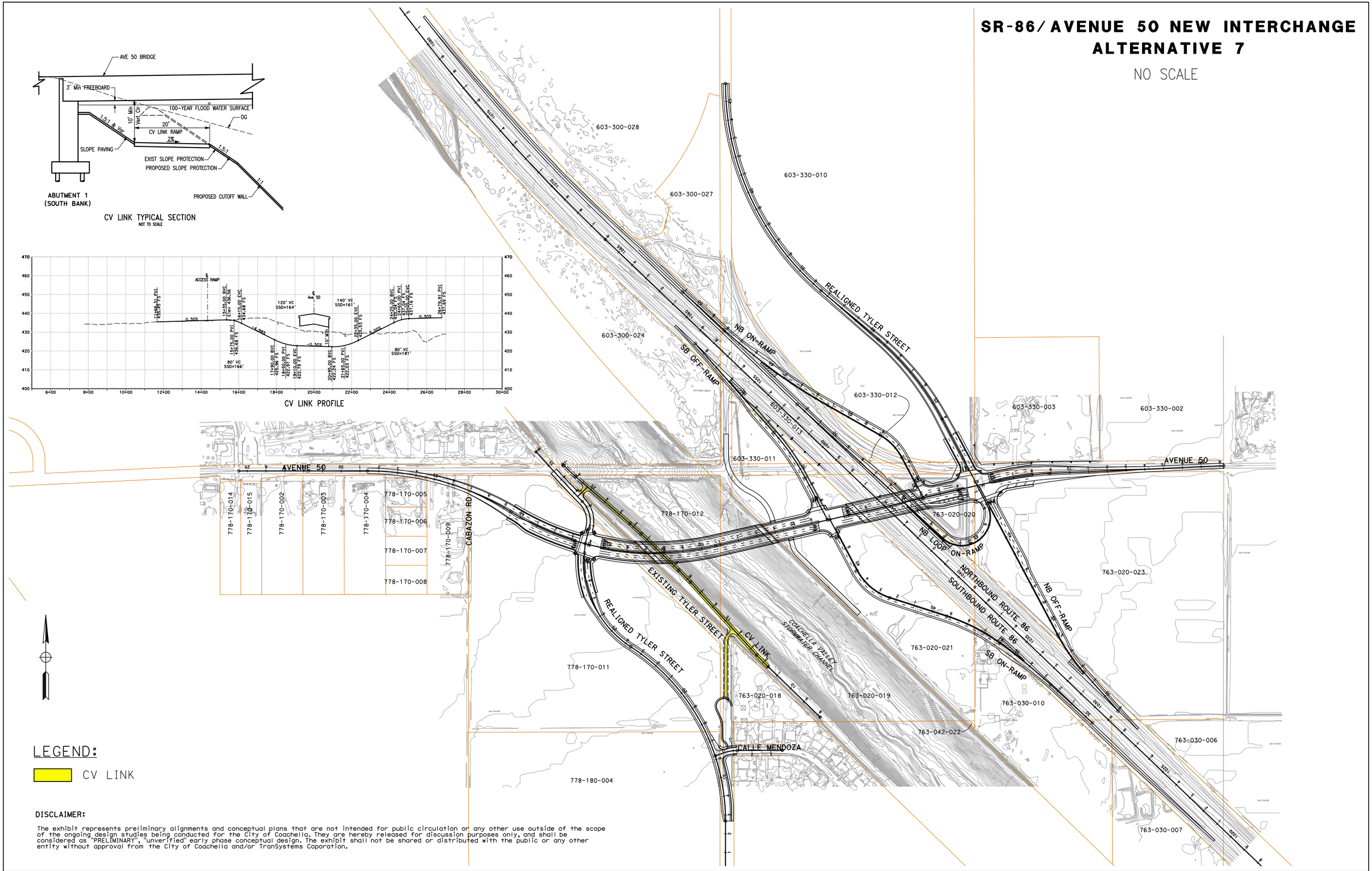
SR-86/AVENUE 50 NEW INTERCHANGE ALTERNATIVE 7

NO SCALE

CV LINK TYPICAL SECTION

NOT TO SCALE

CV LINK PROFILE



LEGEND:

CV LINK

DISCLAIMER:

The exhibit represents preliminary alignments and conceptual plans that are not intended for public circulation or any other use outside of the scope of the ongoing design studies being conducted for the City of Coachella. They are hereby released for discussion purposes only, and shall be considered as "PRELIMINARY", "unverified" early phase conceptual design. The exhibit shall not be shared or distributed with the public or any other entity without approval from the City of Coachella and/or TranSystems Coporation.

TRANSITION TO MATCH EXISTING CONDITION

EXISTING AVE 50 LOW WATER CROSSING

MODIFY OUTLET FOR EXISTING 72" RCP

SR-86 SB

SR-86 NB

PROPOSED AVE 50

20' LEVEE/ACCESS ROAD

APPROX. NEW SLOPE PROTECTION LIMITS

CV LINK RAMP

20' LEVEE

APPROX. NEW SLOPE PROTECTION LIMITS
(APPROX. 1340' EXISTING SLOPE PROTECTION TO BE REMOVED)

COACHELLA VALLEY STORMWATER CHANNEL

EXISTING TYLER ST

CV LINK

TRANSITION TO MATCH EXISTING EARTHEN CHANNEL

MATCH EXISTING CONCRETE SLOPE PROTECTION

CULTIVATED

SCATTERED BRUSH

LEGEND

PROPOSED CONCRETE SLOPE PROTECTION

CV LINK

0 30 60 120 180 240

SCALE: 1"=60'

Know what's **below.** **Call** before you dig.

PRELIMINARY
NOT FOR CONSTRUCTION

REGISTERED PROFESSIONAL ENGINEER
EXP. _____ CIVIL
STATE OF CALIFORNIA

TranSystems
EXPERIENCE | Transportation
9360 SANTA ANITA AVE, STE 100
RANCHO CUCAMONGA, CA 91730

XXXXXXXXX
R.C.E. C-XXXXX EXP. DATE: XX-XX-XX

DATE

MARK	REVISIONS	BY	APPR.	DATE

XX-XX-XX

APPROVED BY: XXXXXXXXXX DATE:
R.C.E. C-XXXXX EXP. DATE: XX-XX-XX

DRAWN BY: XXX

CHECKED BY: XXX

RECOMMENDED BY: XXX

CITY OF COACHELLA

AVENUE 50 BRIDGE OVER
COACHELLA VALLEY STORMWATER CHANNEL

AVE 50/ CV LINK

CITY FILE NO
ST-69 (2015-01)

DRAWING NO
L-

SHEET _____ OF _____ SHEETS

COACHELLA VALLEY ASSOCIATION OF GOVERNMENTS
73-710 Fred Waring Dr., Suite 200, Palm Desert, CA 92260 · (760) 346-1127 · www.cvag.org

CVAG

May 22, 2018

Mr. Jonathan Hoy, PE
Assistant City Manager/City Engineer
City of Coachella, Engineering Department
1515 Sixth Street
Coachella, CA 92236

Re: SR-86/Avenue 50 New Interchange & Avenue 50 Bridge over Whitewater River Project
City of Coachella Project No. ST-81 & 69,
Fed Project No. HPLULN - 5294(011) & BR-NBIL (536)
Caltrans EA 08-0C970, Project Number: 0814000144

Dear Mr. Hoy:

In response to the City letter dated April 25, 2018, CVAG appreciates the ongoing coordination between the Coachella Valley Association of Governments (CVAG) and City of Coachella related to the above reference project (Interchange), which falls within Segment 10 of the planned the CVAG CV link project.

We have reviewed the City final conceptual plans, and found the proposed improvements are consistent the CV Link Master Plan, which identifies all proposed access points to the CV Link facility, including the access point at Sierra Vista Park at Tyler Street within the proposed interchange project limits.

The interchange project would result in beneficial impacts related to CVAG's future plans for CV Link, since it would accommodate future implementation of the CV Link facility within the project area, thus promoting regional mobility and active transportation. The project would not impair the activities, features, and/or attributes of the planned CV Link facility; rather, the interchange project would promote future implementation of CV Link.

If you have any questions regarding this matter, please contact me at (760) 346-1127, extension 116. We look forward to continued coordination with the City related to the proposed interchange. Thank you for your consideration in this matter.

Martin Magaña
Director of Transportation

Chapter 5 List of Preparers

The following persons were principally responsible for preparation of this Initial Study/ Environmental Assessment.

5.1 California Department of Transportation

Ronn Knox, Associate Environmental Planner

Gary Jones, Principal Investigator Prehistoric Archaeology (PQS)

Andrew Walters, Branch Chief-Environmental Support/Cultural Studies

Tracey D'Aoust Roberts, Associate Environmental Planner, Natural Sciences

Craig Wentworth, Senior Environmental Planner

Bahram Karimi, Associate Environmental Planner/Paleontology Coordinator

Kurt Heidelberg, Supervising Environmental Planner

Farhana Islam, Transportation Engineer

Christopher Gonzalez, Transportation Engineer

Donald Cheng, Transportation Engineer

Olufemi Odufalu, Senior Transportation Engineer

Rose Bishop, Caltrans District Landscape Architect

Shawn Oriaz, Senior Environmental Planner

James Shankel, Senior Environmental Planner

5.2 City of Coachella

Jonathan Hoy, City Engineer

5.3 TranSystems

Andy Cheah, Engineering Manager

Andy Kwan, Senior Engineer

5.4 Michael Baker International, Inc.

Alan Ashimine, Environmental Manager

Renee Gleason, Senior Environmental Analyst

Kristen Bogue, Senior Environmental Analyst

Jessica Ditto, Environmental Analyst

Alicia Gonzalez, Environmental Analyst

Linda Bo, Technical Editor

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Chapter 6 Distribution List

A compact disc copy of the Initial Study with Proposed Mitigated Negative Declaration/ Environmental Assessment (Draft IS/EA) and/or a Notice of Availability was distributed to the federal, state, regional, local agencies and elected officials, as well as interested groups, organizations and individuals, and utilities and service providers. In addition, all property owners and resident/occupants within a quarter-mile radius of the project limits were provided the Notice of Availability for the Draft IS/EA.

Federal Agencies		
Veronica Li United States Army Corps of Engineers 915 Wilshire Blvd., Ste. 1101 Los Angeles, CA 90017	Ken Corey United States Fish and Wildlife Service Palm Springs Office 777 East Tahquitz Road Palm Springs, CA 92262	Tomas Aguilar Campos U.S. Department of Agriculture Natural Resources Conservation Service 25864 Business Center Drive Suite K Redlands, CA 92374-4515
State Agencies		
Ed Pert, Regional Manager State of California, Dept. of Fish & Wildlife, Region 6 3602 Inland Empire Boulevard, Suite C-220 Ontario CA 91764	Amanda Ray California Highway Patrol Enforcement & Planning Division Special Programs Section Transportation Planning Unit 601 N. 7th Street Sacramento, CA 95811	
Regional Agencies		
Jillian Wong, Ph.D South Coast AQMD 21865 Copley Drive Diamond Bar, CA 91765	Paula Rasmussen Water Quality Control Board – Region No. 7 73-720 Fred Waring Drive Suite 100 Palm Desert, CA 92260	Darin Chidsey Southern California Association of Governments 818 W. 7th Street, 12th Floor Los Angeles, CA 90017-3435
Coachella Valley Assoc. of Governments Attn: Katie Barrows, Director of Environmental Resources 73-710 Fred Waring Dr., Ste. 200 Palm Desert, CA 92260	Lauren Skiver SunLine Transit Agency 32-505 Harry Oliver Trail Thousand Palms, CA 92276	Tesfaye Demissie Coachella Valley Water District 75515 Hovley Lane East Palm Desert, CA 92211
County and City Agencies		
Charissa Leach, Planning Director Riverside County Planning Dept. 4080 Lemon Street, 12th Floor Riverside, CA 92501	Lorelle Moe-Luna Senior Management Analyst Riverside County Transportation Commission 4080 Lemon Street Riverside, CA 92502-1629	Captain Roy Grace Riverside County Sheriff Dept. Thermal Station 86625 Airport Blvd. Thermal, CA 92274
Bonifacio De La Cruz, Battalion Chief City of Coachella Fire Dept. 1377 Sixth Street Coachella, CA 92236		
Elected Officials		
Hon. Dianne Feinstein, Member United States Senate 11111 Santa Monica Blvd., Suite 915 Los Angeles, CA 90025-3343	Hon. Kamala Harris, Member United States Senate 11845 West Olympic Boulevard, Suite 1250W Los Angeles, CA 90064	Hon. Dr. Raul Ruiz District Office of United States Representative, 36th District 43875 Washington Street, Ste. F Palm Desert, CA 92211
Hon. Jeff Stone District Office of California State Senator, 28th District 45-125 Smurr Street, Ste. B	Hon. Eduardo Garcia District Office of Assembly Member, 56th District 48220 Jackson Street, Ste. A3	V. Manuel Perez, Fourth District Riverside County Supervisor 73-710 Fred Waring Drive, Ste. 222

Indio, CA 92201	Indio, CA 92236	Palm Desert, CA 92260
Mayor Steven Hernandez City of Coachella 1515 Sixth St. Coachella, CA 92236	Philip "Felipe" Bautista, Council Member City of Coachella 1515 Sixth St. Coachella, CA 92236	Betty Sanchez, Council Member City of Coachella 1515 Sixth St. Coachella, CA 92236
Steve Brown, Council Member City of Coachella 1515 Sixth St. Coachella, CA 92236	Emmanuel Martinez, Council Member City of Coachella 1515 Sixth St. Coachella, CA 92236	
Interested Groups, Organizations, and Individuals		
Doug Welmas, Chairperson Cabazon Band of Mission Indians 84-245 Indio Springs Indio, CA 92203	May Ann Green, Chairperson Augustine Band of Cahuilla Mission Indians P.O. Box 846 Coachella, CA 92236	Patricia Garcia-Plotkin, Director Agua Caliente Band of Cahuilla Indians 5401 Dinah Shore Drive Palm Springs, CA 92264
John Marcus, Chairman Santa Rosa Band of Mission Indians P.O. Box 391820 Anza, CA 92539	Mary Resvaloso, Chairperson Torres-Martinez Desert Cahuilla Indians P.O. Box 1160 Thermal, CA 92274	Darrel Mike Chairman 29 Palms Band of Mission Indians 46-200 Harrison Place Coachella, CA 92236
Janice Woodside Coachella Valley History Museum 82616 Miles Avenue Indio, CA 92201	Chris Bennett, President Coachella Chamber of Commerce 1258 Sixth St. Coachella, CA 92236	Rick Koscelnik Desert Bicycle Club PO Box 13382 Palm Desert, CA 92255-3382
Edward Bochneak 10108 Viking Avenue Northridge, CA 91324	Saul Serrato 83060 Blue Mountain Ct. Indio, CA 92201	Manuel Contreras 86570 Avenue 50 Coachella, CA 92236
Emerald Hall C/O Job P Lopez 80834 Gentle Breeze Drive, Indio, CA 92201	Cardinal Distributing Co. Inc. 85810 Grapefruit Boulevard Coachella, CA 92236	Charles M Ellis P.O. Box 3850 Hailey, ID 83333
VBA II C/O Daniel Marinberg P.O. Box 812277 Boca Raton, FL 33481	Calros Perez 50701 Calle Mendoza Coachella, CA 92236	Evelyn Robinson 86091 Corte Olivia Coachella, CA 92236
Jose Ochoa 50680 Tyler Street Coachella, CA 92236	Ernesto Calderon 50661 Calle Mendoza Coachella, CA 92236	Francisca Escalera 736 Palm Avenue Coachella, CA 92236
Nubia Velarde 50781 Calle Mendoza Coachella, CA 92236	Antonio Delara 50811 Calle Mendoza Coachella, CA 92236	Georgina Espinoza 14055 Santa Barbara Street La Mirada, CA 90638
Juan Herrera 50750 Tyler Street Coachella, CA 92236	Oscar Perez 86131 Calle Pizano Coachella, CA 92236	Salvardar Casillas 50700 Calle Mendoza Coachella, CA 92236
Luis Delara 50851 Calle Mendoza Coachella, CA 92236	Gabriela Gaytan 47800 Madison #3 Indio, CA 92201	Crown Hill Ranches 85810 Peter Rabbit Lane Coachella, CA 92236
Sandra Morales 50620 Calle Mendoza Coachella, CA 92236	Margarita Saenz 46400 Dune Pulms Road #74 La Quinta, CA 92253	Susana Ramos Garcia 86061 Calle Pizano Coachella, CA 92236

John Ureste P.O. Box 873 Coachella, CA 92236	Rafael Lopez 86200 Las Flores Avenue Coachella, CA 92236	Elizabeth Aceves 50780 Tyler Street Coachella, CA 92236
Cuauhtemoc Baza 84160 Magnolia Street Coachella, CA 92236	Pablo Ayon 86101 Calle Pizano Coachella, CA 92236	Alvaro Bautista 86130 Calle Pizano Coachella, CA 92236
Carmen Espinoza P.O. Box 1656 Fontana, CA 92334	Ofelia Haro 81398 Avenida Coyote Indio, CA 92201	Maricela Reyes 86051 Corte Olivia Coachella, CA 92236
Russell Tessandore 50850 Tyler Street Coachella, CA 92236	Maria Torres 86081 Calle Pizano Coachella, CA 92236	Victor Lara 86100 Corte Olivia Coachella, CA 92236
Guadalupe Ponce 50550 Calle Mendoza Coachella, CA 92236	Veronica Palomino 50630 Tyler Street Coachella, CA 92236	Roberto Llamas 50681 Calle Mendoza Coachella, CA 92236
Miguel Herrera 50690 Calle Mendoza Coachella, CA 92236	Ruben Lazos 86051 Calle Pizano Coachella, CA 92236	Maria Garza 50880 Calle Mendoza Coachella, CA 92236
Ricardo Arebas 50680 Calle Mendoza Coachella, CA 92236	Ruben Martinez 54684 Harrison Street Thermal, CA 92274	Silvestre Herrera 86060 Corte Olivia Coachella, CA 92236
Sergio Llamas 50671 Calle Mendoza Coachella, CA 92236	Guadalupe Loera 86080 Corte Olivia Coachella, CA 92236	Jaime Avendano 50730 Tyler Street Coachella, CA 92236
Eduardo Montano 52910 Avenida Ramirez La Quinta, CA 92253	Teresa Villarreal 86110 Courte Stella Coachella, CA 92236	Rosalva Meza 86050 Calle Pizano Coachella, CA 92236
Manuel Armendariz 38675 Rancho Las Cerritos Bermuda Dunes, CA 92203	Guadalupe Soqui 83777 Avenida La Luna Coachella, CA 92236	Maribel Barnes 1801 Cloverdale Street Paragould, AR 72450
Mauro Navarrette 86041 Calle Pizano Coachella, CA 92236	Alondro White 83601 San Mateo Avenue Coachella, CA 92236	Jesus Bolanos 50800 Tyler Street Coachella, CA 92236
Janie Cantu 37597 Waveney Street Indio, CA 92203	Bernal Soto 86121 Calle Pizano Coachella, CA 92236	Sergio Lerma C/O Ramona Marina Martinez 50660 Calle Mendoza Coachella, CA 92236
Salvador Santoyo 50600 Tyler Street Coachella, CA 92236	Margarito Martinez 86090 Corte Olivia Coachella, CA 92236	Ramon Meza 50580 Calle Mendoza Coachella, CA 92236
Saturnino Garcia 50640 Calle Mendoza Coachella, CA 92236	Maria Corrales Ayon 50560 Calle Mendoza Coachella, CA 92236	Ismenia Zepeda 50630 Calle Mendoza Coachella, CA 92236
Ramon Castillo 50570 Calle Mendoza Coachella, CA 92236	Oscar Navarro 50325 Mazatlan Drive Coachella, CA 92236	AHD 422 Wier Road San Bernardino, CA 92408

George Villanueva 5610 Calle Mendoza Coachella, CA 92236	Bianca Herrera 86070 Corte Olivia Coachella, CA 92236	Francisco Doria P.O. Box 59 Indio, CA 92201
Mario Rodriguez 11770 Malagon Drive Fontana, CA 92337	Rory Sanchez 86040 Calle Pizano Coachella, CA 92236	Jesus Campos 86090 Courte Stella Coachella, CA 92236
Jose Garza 50550 Calle Quito La Quinta, CA 92253	Salvador Chavarria 50691 Calle Mendoza Coachella, CA 92236	Martin Quintero 86081 Corte Olivia Coachella, CA 92236
Raul Garcia 50580 Tyler Street Coachella, CA 92236	Magdaleno Lopez P.O. Box 517 Thermal, CA 92274	Norma Amador 86061 Corte Olivia Coachella, CA 92236
Alberto Rodriguez 50700 Tyler Street Coachella, CA 92236	MPSN Properties II 4900 Santa Anita #2C El Monte, CA 91731	Billermino Balbuena 86140 Calle Pizano Coachella, CA 92236
Hermenejildo Torres 50720 Calle Mendoza Coachella, CA 92236	Mary Verdusco 50555 Calle Mendoza Coachella, CA 92236	Jose Barajas 50565 Calle Mendoza Coachella, CA 92236
Mario Banuelos 50575 Calle Mendoza Coachella, CA 92236	Magdalena Zavala 86050 Corte Olivia Coachella, CA 92236	Jack Prince 11011 Muirfield Drive Rancho Mirage, CA 92270
David and/or Cesar Rodriguez 81352 Avenida Esmeralda Indio, CA 92201	Charlotte Cline 1221 West Williams Street Banning, CA 92220	Rene Flores 86030 Calle Pizano Coachella, CA 92236
Rene Campos 85721 Avenue 50 Coachella, CA 92236	Jorge Vaca 85731 Avenue 50 Coachella, CA 92236	Peter Rabbit Farms Inc. 85810 Grapefruit Boulevard Coachella, CA 92236
Angelo Cabanyog 85711 Avenue 50 Coachella, CA 92236	Faustino Morales 86142 Calle Bouganvilia Coachella, CA 92236	Zosimo Ruiz 86102 Calle Bouganvilia Coachella, CA 92236
Gonzalo Quiroz 86122 Calle Bouganvilia Coachella, CA 92236	Francisco Aguilera 86052 Calle Bouganvilia Coachella, CA 92236	Joey Perez 86009 Calle Bouganvilia Coachella, CA 92236
Jorge Gomez 86012 Calle Bouganvilia Coachella, CA 92236	Jose Luna 86152 Calle Bouganvilia Coachella, CA 92236	Jesus Esqueda 86140 Las Flores Avenue Coachella, CA 92236
Frank Acuna 86160 Las Flores Avenue Coachella, CA 92236	Armando Garcia 86050 Las Flores Avenue Coachella, CA 92236	Juan Alvarez 86040 Las Flores Avenue Coachella, CA 92236
Frances Castro 86161 Las Flores Avenue Coachella, CA 92236	Jesus Alvarado 86151 Las Flores Avenue Coachella, CA 92236	Eva Mijarez 86171 Las Flores Avenue Coachella, CA 92236
Jose Espinoza 86181 Las Flores Avenue Coachella, CA 92236	Daniel Acosta 86032 Calle Bouganvilia Coachella, CA 92236	Claudia Ortiz 86110 Las Flores Avenue Coachella, CA 92236
Maria Delgado 86162 Calle Bouganvilia Coachella, CA 92236	Francisco Perez 86100 Las Flores Avenue Coachella, CA 92236	Jose Rodriguez 86141 Las Flores Avenue Coachella, CA 92236
Francisco Cardenas 86191 Las Flores Avenue Coachella, CA 92236	Luis Rodriquez 86120 Las Flores Avenue Coachella, CA 92236	Carlos Rubio 86130 Las Flores Avenue Coachella, CA 92236

Abel Calderon 86071 Las Flores Avenue Coachella, CA 92236	Juan Mendiola 86091 Las Flores Avenue Coachella, CA 92236	Armando Prieto 86131 Las Flores Avenue Coachella, CA 92236
Daniel Munoz P.O. Box 665 Coachella, CA 92236	Simon Reyes 86031 Las Flores Avenue Coachella, CA 92236	Luis Hernandez 86041 Las Flores Avenue Coachella, CA 92236
Gullermo Ramirez Perez 86030 Las Flores Avenue Coachella, CA 92236	Jesus Rodriguez 86070 Las Flores Avenue Coachella, CA 92236	Jesus Garcia 86051 Las Flores Avenue Coachella, CA 92236
Daniel Munoz 86090 Las Flores Avenue Coachella, CA 92236	Jorge Ceja 52371 Morgan Avenue Coachella, CA 92236	Guadalupe Ibarra 86139 Calle Bouganvilia Coachella, CA 92236
Amelia Sandejas P.O. Box 237 Coachella, CA 92236	Isabel Avena 86021 Las Flores Avenue Coachella, CA 92236	Miguel Ramos 86082 Calle Bouganvilia Coachella, CA 92236
Alexander Camacho 86089 Calle Bouganvilia Coachella, CA 92236	Rancho Coachella Prop 1570 Linda Vista Drive San Marcos, CA 92069	Gilbert Esquivel 46618 Madison Street SPC 91 Indio, CA 92201
Luz Mancilla 86099 Calle Bouganvilia Coachella, CA 92236	Martin Soto 86072 Calle Bouganvilia Coachella, CA 92236	Gustavo Gallegos 86029 Calle Bouganvilia Coachella, CA 92236
Ramon Rodriguez 86120 Calle Violeta Coachella, CA 92236	Juan Gonzalez 86092 Calle Bouganvilia Coachella, CA 92236	Roberto Alvarado 86049 Calle Bouganvilia Coachella, CA 92236
Rafael Chaidez 86069 Calle Bouganvilia Coachella, CA 92236	Ninfa Zamora 86111 Calle Violeta Coachella, CA 92236	Gustavo Lopez 86062 Calle Bouganvilia Coachella, CA 92236
DND Management C/O Richard Rehfeld 80811 Can Santa Juliana Indio, CA 92203	Victor Barajas 86059 Calle Bouganvilia Coachella, CA 92236	Jesus Urias 86090 Calle Violeta Coachella, CA 92236
Elathan Inc. 78115 Calle Estado #203 La Quinta, CA 92253	Tlaquepaque Apartments C/O Lorena Lopez 1649 Capalina Road San Marcos, CA 92069	Yolanda Vasquez 86042 Calle Bouganvilia Coachella, CA 92236
Dina Galindo 86022 Calle Bouganvilia Coachella, CA 92236	Jesus Perez Lopez 82043 Sundown Indio, CA 92201	Ramon Rabago 86112 Calle Bouganvilia Coachella, CA 92236
Ciria Ramirez P.O. Box 182 Coachella, CA 92236	Lauro Aguiar 86081 Los Flores Avenue Coachella, CA 92236	Diana Monroy 86109 Calle Bouganvilia Cathedral City, CA 92234
Tony Sanchez 86011 Las Flores Avenue Coachella, CA 92236	Felipe Castaneda 86201 Las Flores Avenue Coachella, CA 92236	Bernardita Miranda P.O. Box 1235 Coachella, CA 92236
Luis Corral 86019 Calle Bouganvilia Coachella, CA 92236	Gloria Salinas 86101 Las Flores Avenue Coachella, CA 92236	Camilo Murillo 86121 Las Flores Avenue Coachella, CA 92236
Rogelio Torres 86081 Calle Violeta Coachella, CA 92236	Luis Garcia 86080 Calle Violeta Coachella, CA 92236	Ramon Aguirre 86132 Calle Bouganvilia Coachella, CA 92236

Rafael Borbolla 86129 Calle Bouganvilia Coachella, CA 92236	Consuelo Preciado 86080 Las Flores Avenue Coachella, CA 92236	Tomas Arellano 86060 Las Flores Avenue Coachella, CA 92236
Jose Gonzalez 86130 Calle Violeta Coachella, CA 92236	Daniel Torres 86110 Calle Violeta Coachella, CA 92236	Black Diamond Pools & Design Inc. C/O Francisco J Celedon 880351 Avenue 58th Ste 6 Thermal, CA 92274
Juan Espinoza 52165 Allende Drive Coachella, CA 92236	Jaime Zepeda P.O. Box 229 Thermal, CA 92274	Raymond Verdusco P.O. Box 278 Coachella, CA 92236
Yolanda Zuniga 50600 Calle Mendoza Coachella, CA 92236	Danny Rodriguez 49065 Marimba Ct La Quinta, CA 92253	Maria Zamorez 73135 19th Avenue Desert Hot Springs, CA 92241
Juan Lopez 50760 Calle Mendoza Coachella, CA 92236	Ernesto Ibarra 2280 Sycamore Avenue Rialto, CA 92377	Jose Ochoa 84169 Magnolia Street Coachella, CA 92236
Iglesia Cresto Tabernaculo De Oracio Miel 48751 Calle Cantara Coachella, CA 92236	Maximo Leschnik 85835 Middleton Street Thermal, CA 92274	Eutimio Guerrero 50782 Avenida Adobe Coachella, CA 92236
Resident 86300 Avenue 50 Coachella, CA 92236	Resident 86080 Courte Stella Coachella, CA 92236	Resident 86141 Calle Pizano Coachella, CA 92236
Resident 50585 Calle Mendoza Coachella, CA 92236	Resident 86071 Calle Pizano Coachella, CA 92236	Resident 86031 Calle Pizano Coachella, CA 92236
Resident 86070 Calle Pizano Coachella, CA 92236	Resident 50850 Calle Mendoza Coachella, CA 92236	Resident 50800 Calle Mendoza Coachella, CA 92236
Resident 86190 Las Flores Avenue Coachella, CA 92236	Resident 50780 Calle Mendoza Coachella, CA 92236	Resident 86120 Courte Stella Coachella, CA 92236
Resident 86111 Calle Pizano Coachella, CA 92236	Resident 86021 Calle Pizano Coachella, CA 92236	Resident 86091 Calle Pizano Coachella, CA 92236
Resident 86170 Las Flores Avenue Coachella, CA 92236	Resident 86275 Avenue 50 Coachella, CA 92236	Resident 50610 Calle Mendoza Coachella, CA 92236
Resident 86095 Corte Olivia Coachella, CA 92236	Resident 50640 Calle Mendoza Coachella, CA 92236	Resident 86071 Corte Olivia Coachella, CA 92236
Resident 86060 Calle Pizano Coachella, CA 92236	Resident 86100 Courte Stella Coachella, CA 92236	Resident 50670 Calle Mendoza Coachella, CA 92236
Resident 50650 Tyler Street Coachella, CA 92236	Resident 86101 Corte Olivia Coachella, CA 92236	Resident 85505 5th Street Coachella, CA 92236
Resident 86122 Calle Bouganvilia Coachella, CA 92236	Resident 86090 Las Flores Avenue Coachella, CA 92236	Resident 86061 Las Flores Avenue Coachella, CA 92236

Resident 86119 Calle Bouganvilia Coachella, CA 92236	Resident 86139 Calle Bouganvilia Coachella, CA 92236	Resident 86020 Las Flores Avenue Coachella, CA 92236
Resident 86082 Calle Bouganvilia Coachella, CA 92236	Resident 86079 Calle Bouganvilia Coachella, CA 92236	Resident 86072 Calle Bouganvilia Coachella, CA 92236
Resident 86062 Calle Bouganvilia Coachella, CA 92236	Resident 86091 Calle Violeta Coachella, CA 92236	Resident 86100 Calle Violeta Coachella, CA 92236
Resident 51354 Tyler Street Coachella, CA 92236	Resident 86039 Calle Bouganvilia Coachella, CA 92236	Resident 86112 Calle Bouganvilia Coachella, CA 92236
Resident 86010 Las Flores Avenue Coachella, CA 92236	Resident 86109 Calle Bouganvilia Coachella, CA 92236	Resident 86150 Las Flores Avenue Coachella, CA 92236
Resident 85490 Avenue 50 Coachella, CA 92236	Irma Vaquez 85701 Avenue 50 Coachella, CA 92236	Resident 85751 Avenue 50 Coachella, CA 92236
Resident 50820 Calle Mendoza Coachella, CA 92236	Resident 50590 Calle Mendoza Coachella, CA 92236	Resident 50530 Calle Mendoza Coachella, CA 92236
Resident 50740 Calle Mendoza Coachella, CA 92236	Resident 85501 Avenue 50 Coachella, CA 92236	Resident 85451 Avenue 50 Coachella, CA 92236
Resident 85601 Avenue 50 Coachella, CA 92236		
Utilities and Public Services		
Kevin Kelley Imperial Irrigation District 333 East Barioni Boulevard Imperial, CA 92251	Manny Melendez, Project Manager Southern California Gas Company 211 N. Sunrise Way Palm Springs, CA 92262	Facilities Manager Burrtec Waste Management 53600 Polk Street Coachella, CA 92236
Dr. Darryl S. Adams, Superintendent Coachella Valley Unified School District 87225 Church St Thermal, CA 92274		

Appendix A

Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination

Appendix A Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination

A.1 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).

A.2 Resources Subject to the Provisions of Section 4(f) - No Use

Sierra Vista Park

Sierra Vista Park is a park that adjoins the southwest quadrant of the project site at 50-570 Calle Mendoza, in the City of Coachella. This 2.6-acre park includes one basketball court, a playground and picnic tables, and open areas available for recreational use. The facility is owned and operated by the City and is open to the public. Thus, it is considered a Section 4(f) property under the provisions of Section 4(f).

There are four existing electrical power poles located within Sierra Vista Park that would be removed as part of Phase 1 of the proposed project, in conjunction with construction of either Build Alternative (pole numbers T-17671; T-17672; T-17673; and T-17674). Figure A-2, Project Improvements Relative to Sierra Vista Park, shows the location of the affected power poles. Construction activities associated with the power pole relocation would be of short duration (approximately one week). During this brief period, the park may require closure for safety purposes. Measure PR-1 would ensure that closure information is received by the City a minimum of 60 days in advance, so that the City would be able to provide 30 days advance notice to the neighborhood from Calle Mendoza south to Avenue 52.

Upon completion of the power pole removal, full use of Sierra Vista Park would be restored, and users of the park would continue to utilize the park facilities as they currently do. The removal of the power poles would represent a beneficial impact during long-term operations, since these existing obstructions would be removed.

Construction of the re-alignment of Tyler Street is expected to be completed within one to three months. Throughout the duration of construction of the re-alignment of Tyler Street, pedestrian access to Sierra Vista Park will be maintained (aside from the maximum of one week when power pole relocation in Sierra Vista Park occurs). Park users would be able to park along the streets located in the neighborhood immediately south of the park during the re-alignment of Tyler Street and construction of the cul-de-sac. Roadside parking within walking distance of the park would be available specifically on Calle Mendoza, Calle Pizano, Corte Olivia, and Las Flores Avenue, all of which are located less than 0.25-mile from the park. Additionally, a sidewalk is currently provided along the eastern side of Tyler Street. The sidewalk along Tyler Street would remain open throughout project construction.



INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Resources Evaluated Relative to the Requirements of Section 4(f)

11/18 | JN 159814

Figure A-1



	Number of Parking Stalls	
	Existing	Proposed
Parallel	11	6
Diagonal	0	9 + 2 ADA Accessible
Total	11	15 + 2 ADA Accessible

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Project Improvements Relative to Sierra Vista Park

11/18 | JN 159814

Figure A-2

A temporary loss of parking for users of the park would also occur during Phase 1 of project construction. There are currently 11 parallel parking stalls located on the east side of Tyler Street along the park's western border; no parking is permitted along the west side of Tyler Street. Following project completion, access to Sierra Vista Park would be provided via a new cul-de-sac extending immediately north of Calle Mendoza. The new cul-de-sac will be designed to provide angled parking for nine vehicles, plus angled parking for two dedicated (signed) handicap-access parking spaces, plus three parallel parking spaces on the west side of the street, and three parallel parking spaces on the east side of the street (see Figure A-2 above).

As summarized above, based on review of preliminary engineering efforts to-date for the project, Caltrans anticipates concluding that the proposed project will result in no use of Sierra Vista Park, and that regarding Sierra Vista Park, the project satisfies the criteria for a Temporary Occupancy exception as set forth in 23 CFR 774.13(d). An analysis of the project in the context of these conditions under 23 CFR 774.13(d) is provided below.

a) Duration must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land

As noted above, the removal of power poles from Sierra Vista Park would take a maximum of one week, and the realignment of Tyler Street would last from one to three months. This duration would be shorter than construction of Phase 1 of the project (12 months). Additionally, there would be no change in ownership of any land associated with Sierra Vista Park.

b) Scope of the work must be minor, i.e., both the nature and the magnitude of the changes to the Section 4(f) property are minimal

The scope of work for the proposed project in relation to Sierra Vista Park would be minor. As noted above, removal of four power poles from the park is expected to be accomplished in one week and would result in beneficial impacts for park users after the poles are removed. Additionally, access to the park would be maintained continuously during the realignment of Tyler Street (one to three months), and an increased amount of parking would be provided adjacent to Sierra Vista Park, as compared to existing conditions.

c) There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis

The project would not result in permanent adverse physical impacts to Sierra Vista Park, after completion of construction; as noted above, the project would result in beneficial impacts by removing existing obstructions within the park (four power poles) and by providing increased parking adjacent to the park as compared to existing conditions. Access to the park would be continuously maintained throughout the construction process. While the park may require closure to ensure public safety during removal of the power poles, this closure would be extremely brief (a maximum of one week). Moreover, Measure PR-1 would require that the City of Coachella receive closure information a minimum of 60 days in advance so that the City would be able to provide 30 days advance notice to the neighborhood from Calle Mendoza south to Avenue 52. Accordingly, the project would not interfere with the protected activities, features, or attributes of the property.

d) The land being used must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project

The project would not result in permanent adverse physical impacts to Sierra Vista Park, after completion of construction; as noted above, the project would result in beneficial impacts by removing existing obstructions within the park (four power poles) and by providing increased parking adjacent to the park as compared to existing conditions.

e) There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions

Written correspondence took place with Ms. Maritza Martinez, Public Works Director at the City of Coachella, in this regard and the City provided their agreement with the temporary occupancy exception determination.

To minimize impacts to Sierra Vista Park, the following measure will be implemented:

PR-1 The City of Coachella will receive closure information a minimum of 60 days in advance so that the City would be able to provide 30 days advance notice to the neighborhood from Calle Mendoza south to Avenue 52.

If the scope of work for the portion of the project directly associated with the Sierra Vista Park changes during the Final Design phase of the project, and if Caltrans determines during reviews of the associated Final Design documents that the project could potentially result in further impacts on Sierra Vista Park (temporarily or permanently), Caltrans will pursue follow-up coordination with the City of Coachella Public Works and Parks and Recreation Departments, in accordance with all applicable requirements pursuant to 23 CFR 774.

Section 4(f) *De Minimis* Determination(s)

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

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

For the proposed project, only a cultural resource required consideration in the context of a Section 4(f) *de minimis* determination. A summary follows.

Caltrans has analyzed all archaeological and historic sites within the Section 106 Area of Potential Effects (APE) to determine whether they are protected Section 4(f) properties. As the project is partially located on the Cabazon Band of Mission Indians land, the Caltrans First

Amended Section 106 Programmatic Agreement (January 2014) does not apply and consultation will occur under NHPA implementing regulations at 36 CFR § 800.

Consultation and identification efforts for the proposed undertaking resulted in the identification of one Historic Property within the APE; Coachella Valley Water District (CVWD) Irrigation Lateral 105.7-1.9 (33-028174), Map Reference No. 4 is part of the larger Coachella Valley irrigation distribution system, which previously was determined eligible for the listing on the National Register of Historic Places (NRHP) and California Register of Historic Resources. The resource is eligible as a contributing element of the larger National Register of Historic Places (NRHP) eligible site; however, the project related effects on it will not be adverse. The project would result in a *Finding of No Adverse Effects to Historic Properties*. No avoidance, minimization, or mitigation measures were required in conjunction with the completion of the Section 106 analysis, and no measures will be implemented. Caltrans has notified the California State Historic Preservation Officer (SHPO) of its determination that one property within the area of potential effect (APE) is eligible for inclusion in the NRHP, and requested concurrence in its determination of *Finding of No Adverse Effects to Historic Properties.*

De minimis impacts on historic sites are defined as the determination of either “no adverse effect” or "no historic properties affected" in compliance with Section 106 regulations, including the SHPO’s written concurrence.

In a letter dated November 6, 2018 to SHPO, Caltrans notified SHPO of its intent for the project to make a *de minimis* finding for Section 4(f) use of a historic property based on the concurrence in the Section 106 effect finding. On November 8, 2018, SHPO provided concurrence.

Caltrans fulfilled its responsibilities regarding compliance with Section 4(f) for this project consistent with 23 CFR 774.5 in conjunction with the finding of ‘‘*No Historic Properties Affected*’’ in accordance with 36 CFR part 800 and the related informing of SHPO of Caltrans’ intent to make a *de minimis* impact determination based on SHPO’s concurrence with the finding of ‘‘*No Historic Properties Affected.*’’ It should be noted that although Caltrans has requested concurrence from the SHPO on this finding, under Caltrans’ Programmatic Agreement for Section 106, a non-response from SHPO, for the purposes of a “no adverse effect” or a “no historic properties affected” 4(f) determination, will be treated as written concurrence for the *de minimis* finding. Caltrans (as assigned by the FHWA) makes the final determination on the *de minimis* finding.

Attachment A. Letters and Correspondence

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
DIVISION OF ENVIRONMENTAL PLANNING
ENVIRONMENTAL STUDIES "C"
464 WEST FOURTH STREET, MS 827
SAN BERNARDINO, CA. 92401-1400
PHONE (909)-383-6379
FAX (909) 383-6494
TTY 711
www.dot.ca.gov

Make Conservation
A California Way of Life.

October 1, 2018

Ms. Maritza Martinez
Public Works Director
City of Coachella
53462 Enterprise Way
Coachella, CA 92236

Dear Ms. Martinez,

The City of Coachella (City), in cooperation with the California Department of Transportation (Caltrans), proposes the construction of a new interchange at State Route 86 (SR-86) and Avenue 50, approximately 1.1 miles north of the existing SR-86 / Avenue 52 intersection and approximately 1.95 miles south of the existing SR-86 / Dillon Road interchange. The proposed project would convert a portion of SR-86 from an at-grade signalized intersection into a grade-separated full interchange with a new overcrossing bridge and access ramps. This new overcrossing would be up to approximately 326 feet long and 122 feet wide. It would be a 2-span structure to accommodate 3 through lanes in each direction and two left-turn pockets for the eastbound and westbound directions of Avenue 50.

The project would also construct a new bridge structure over the Whitewater River/Coachella Valley Stormwater Channel (CVSC). The new bridge structure over the CVSC would be approximately 605 feet long and 120 feet wide, would be a 5-span structure to accommodate 3 through lanes in each direction and a 14-foot-wide median on Avenue 50, and would replace the existing at-grade paved low water crossing. The construction of the bridge for Avenue 50 over the CVSC would also include realignment and widening of a portion of Avenue 50 from the existing two-lane roadway to a six-lane major arterial, and realignment of portions of Tyler Street on both the west and east sides of SR-86, respectively, and, the existing 1-lane in each direction road that is located within the limits of the CVSC would become a CVSC maintenance road.

The proposed project will be constructed in two separate phases. The first phase will focus on construction of the new bridge structure over the CVSC and will include the associated realignment of Avenue 50 and Tyler Street west of SR-86.

The purpose of the proposed project is to improve mobility to and from eastern parts of the City of Coachella by providing direct and dependable access over the CVSC, improve operational efficiency by replacing the existing SR-86 / Avenue 50 intersection with a new interchange, improve freeway access for the City and the Coachella Valley Region, implement improvements consistent with the City's circulation plan, and improve traffic operations and accommodate planned growth by enhancing levels of service at local street intersections and adjacent interchanges.

Caltrans is the lead agency under the California Environmental Quality Act (CEQA), and Caltrans is also the lead agency under the National Environmental Policy Act (NEPA). Regarding NEPA, the Federal Highway Administration (FHWA) assigned, and Caltrans assumed effective July 1, 2007 under the NEPA

Pilot Program, all of the Secretary of the United States Department of Transportation responsibilities under NEPA for environmental coordination and consultation under federal environmental laws pertaining to the review or approval of projects, and since October 1, 2012 Caltrans has continued to assume these responsibilities under NEPA Assignment. This assignment includes projects on the State Highway System. The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

Sierra Vista Park, designated in the City of Coachella's General Plan Update which was adopted on April 22, 2015 as a Neighborhood Park, is owned and operated by the City of Coachella. It is located just north of the corner of Calle Mendoza and Tyler Street at 50-570 Calle Mendoza. Pursuant to Section 4(f) of the Department of Transportation Act of 1966 (Title 49 USC Section 303) and 23 CFR 774.17, Sierra Vista Park is recognized as an existing Section 4(f) resource. Preliminary engineering efforts to-date for the proposed project have been reviewed and evaluated by Caltrans, to determine if and/or to what extent, the proposed SR-86 / Avenue 50 New Interchange Project might impact Sierra Vista Park.

The proposed SR-86/Avenue 50 New Interchange Project will not result in any part of Sierra Vista Park needing to be permanently acquired; however, in conjunction with addressing the required relocation of existing power poles approaching Sierra Vista Park from the southwest, the existing power poles located within the park will be removed during construction of the Phase 1 portion of this project. Based on preliminary engineering efforts to-date, it is expected that it will be necessary to close Sierra Vista Park for approximately one week while the power poles located within the park are removed. Upon completion of the removal of power poles within the park, all of existing Sierra Vista Park will again be possible to be fully utilized, however, as a result of the removal of the power poles, visitors to Sierra Vista Park will no longer need to be alert to the poles themselves or the associated guidewires, while utilizing the park.

Construction of the Phase 1 portion of the proposed SR-86/Avenue 50 New Interchange Project will also include re-alignment of the portion of existing Tyler Street from just south of the Calle Mendoza / Tyler Street intersection, north, to where existing Tyler Street turns toward Avenue 50. The re-alignment of this part of Tyler Street will result in the existing on-street parking available on Tyler Street, immediately adjacent to Sierra Vista Park, being replaced with a new cul-de-sac that will be accessed from Calle Mendoza (see Exhibit 3 and Exhibit 4, below). The new cul-de-sac will be designed to provide angled parking for nine vehicles, plus angled parking for two dedicated (signed) handicap-access parking spaces, plus parallel parking spaces for six more vehicles. The existing sidewalk adjacent to Sierra Vista Park will be maintained, however, from the top of the cul-de-sac a paved pedestrian/bicycle access ramp will be constructed to where a portion of the future CV Link will be constructed (on top of the embankment adjacent to the Coachella Valley Stormwater Channel, see Exhibit 7 and Exhibit 11, below).

Construction of the re-alignment of Tyler Street is expected to be completed within one to three months. Throughout the duration of construction of the re-alignment of Tyler Street, pedestrian access to Sierra Vista Park will be maintained. On-street parking will be possible on the local streets of the residential community just south of Sierra Vista Park throughout the duration of construction of the re-alignment of Tyler Street and construction of the cul-de-sac.

To avoid or minimize potential impacts to Sierra Vista Park during removal of the power poles and

construction of the re-alignment of Tyler Street and construction of the cul-de-sac that will be immediately adjacent to the park, the following will be incorporated into the construction contract:

- Throughout project construction, including removal of the power poles within Sierra Vista Park and construction of the new cul-de-sac adjacent to Sierra Vista Park, staging and storage of materials for the project will be at least 500 feet from the limits of Sierra Vista Park.
- Sierra Vista Park hours of operation will not be impacted by the project except during the anticipated 1-week period when the park will be completely closed, when the power poles are being removed from the park.

The City of Coachella Public Works Director would receive closure information a minimum of 60 days in advance so that the City would be able to provide 30 days advance notice to the neighborhood from Calle Mendoza south to Avenue 52. Upon completion of the power pole removal, any incidental or unanticipated damage or disrepair to Sierra Vista Park that resulted during power pole removal activities would be restored to preconstruction conditions.

Caltrans anticipates concluding that the proposed project will result in no use of Sierra Vista Park, and that regarding Sierra Vista Park, the project satisfies the criteria for a Temporary Occupancy exception as set forth in 23 CFR 774.13(d). As detailed in the regulation, five conditions need to be satisfied in order to meet the temporary occupancy exception. Those conditions, and the basis for Caltrans' determination as to how each are satisfied with respect to Sierra Vista Park, are summarized as follows:

1. Duration must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land.

- Duration of the time needed to remove power poles from Sierra Vista Park is estimated to be approximately one week.

- Duration of the time needed to complete construction of the re-alignment of Tyler Street from just south of the Calle Mendoza / Tyler Street intersection, north, to where existing Tyler Street turns toward Avenue 50 is estimated to be completed within approximately one to three months.

- Duration of the construction phase of the entire SR-86/Avenue 50 New Interchange Project, both Phase 1 and Phase 2, is estimated to be 27 months, with the duration of the respective phases being:

  12 months for Phase 1 of the project (the Avenue 50 bridge over the CVSC);

  15 months for Phase 2 of the project (the SR-86/Avenue 50 interchange)

- Duration of construction of the part of the project associated with the power pole removal from Sierra Vista Park and the re-alignment of Tyler Street from just south of the Calle Mendoza / Tyler Street intersection, north, to where existing Tyler Street turns toward Avenue 50 is expected to only be approximately three months), which will be less than the time needed for construction of the project overall (27 months), and also less time than needed for construction of Phase 1 of the project (12 months), when the power pole removal from

Sierra Vista Park and the re-alignment of Tyler Street from just south of the Calle Mendoza / Tyler Street intersection, north, to where existing Tyler Street turns toward Avenue 50, will occur.

- There will be no change in ownership of the land related to the Sierra Vista Park, the City of Coachella will still be the owner of the park following construction of the project.

2. Scope of the work must be minor, i.e., both the nature and the magnitude of the changes to the Section 4(f) property are minimal.

- Impacts to Sierra Vista Park would be limited to temporary impacts associated with the removal of power poles located inside the park, and some limitations to accessing the park during construction of the re-alignment of Tyler Street from just south of the Calle Mendoza / Tyler Street intersection, north, to where existing Tyler Street turns toward Avenue 50. The City of Coachella will receive closure information a minimum of 60 days in advance so that the City would be able to provide 30 days advance to the neighborhood from Calle Mendoza south to Avenue 52.

3. There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis.

- There will be no permanent adverse physical impacts to Sierra Vista Park. The proposed project would require construction of a new bridge and interchange, and conversion of the existing Tyler Street adjacent to Sierra Vista Park into a cul-de-sac street, however no portion of Sierra Vista Park would be incorporated into the project. All construction would be outside the limits of Sierra Vista Park, with the exception of the power pole removal.

4. The land being used must be fully restored, i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project.

- Upon completion of the SR-86/Avenue 50 New Interchange Project, any incidental or unanticipated damage or disrepair to Sierra Vista Park that may have resulted during construction activities will be restored to preconstruction conditions.

5. There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

- Review of this letter by the City of Coachella Public Works Department, and return with your signature (or authorized designee) in the signature block provided will satisfy this requirement.

If the scope of work for the proposed project changes during the Final Design phase of this Project, and if Caltrans determines during review(s) of the associated Final Design documents that the associated proposed change(s) could potentially impact Sierra Vista Park (temporarily or permanently), Caltrans will pursue follow-up coordination with the City of Coachella Public Works Department, in accordance with all applicable requirements pursuant to 23 CFR 774.

With this letter Caltrans is respectfully requesting your agreement with Caltrans' determination that the proposed project will result in no use of Sierra Vista Park, and that regarding Sierra Vista Park, the project satisfies the criteria for a Temporary Occupancy exception as set forth in 23 CFR 774.13(d), as detailed above. A reference summary and your signature block are provided following this letter for your convenience to provide your agreement.

The enclosed exhibits provide an overview of the proposed project footprint and a closer perspective of the portion of the proposed project that is located in the vicinity of Sierra Vista Park.

If there are any questions or concerns, I may be contacted directly by phone at (909) 383-6379 or via email: james.shankel@dot.ca.gov.

Sincerely,

JAMES SHANKEL
Senior Environmental Planner
Environmental Planning

Enclosures:
Exhibit 1: SR-86/Avenue 50 New Interchange Project Location Map
Exhibit 2a: SR-86/Avenue 50 New Interchange Project—Sierra Vista Park (Aerial View)
Exhibit 2b: SR-86/Avenue 50 New Interchange Project—Sierra Vista Park (Aerial View)
Exhibit 3: SR-86/Avenue 50 New Interchange Project—Tyler Street Realignment and new Cul-de-sac next to Sierra Vista Park (Plan Sheet—based on preliminary engineering)
Exhibit 4: SR-86/Avenue 50 New Interchange Project—Tyler Street Realignment and new Cul-de-sac next to Sierra Vista Park (Visual Simulation)
Exhibit 5: SR-86/Avenue 50 New Interchange Project—Alternative 7 (Key Map)
Exhibit 6: SR-86/Avenue 50 New Interchange Project—Alternative 7 (Sheet 1 of 3)
Exhibit 7: SR-86/Avenue 50 New Interchange Project—Alternative 7 (Sheet 2 of 3)
Exhibit 8: SR-86/Avenue 50 New Interchange Project—Alternative 7 (Sheet 3 of 3)
Exhibit 9: SR-86/Avenue 50 New Interchange Project—Alternative 8 (Key Map)
Exhibit 10: SR-86/Avenue 50 New Interchange Project—Alternative 8 (Sheet 1 of 3)
Exhibit 11: SR-86/Avenue 50 New Interchange Project—Alternative 8 (Sheet 2 of 3)
Exhibit 12: SR-86/Avenue 50 New Interchange Project—Alternative 8 (Sheet 3 of 3)
Exhibit 13: SR-86/Avenue 50 New Interchange Project—Phase 1 Detour Map (Based on Preliminary Engineering, Subject to Change

The City of Coachella Public Works Department acknowledges Caltrans' coordination and consultation regarding Section 4(f) considerations pertinent to the City's Sierra Vista Park. As summarized in Caltrans' letter to the City in this regard, it is understood that the construction of the City's proposed SR-86/Avenue 50 New Interchange Project would require removal of the existing power poles that are located within Sierra Vista Park. It is the City's understanding and expectation that construction of the proposed SR-86/Avenue 50 New Interchange Project would only impact the associated portion of Sierra Vista Park on a temporary basis as detailed, specific to the removal of existing power poles located within Sierra Vista Park, and would otherwise only potentially limit the proximity of parking, and the availability of pedestrian access, to the minimum extent possible and only during construction of the re-alignment of Tyler Street from just south of the Calle Mendoza / Tyler Street intersection, north, to where existing Tyler Street turns toward Avenue 50.

The City of Coachella Public Works Department expects that use of Sierra Vista Park will be disrupted to the least extent possible during construction, and expects the measures to avoid or minimize potential impacts will be implemented as detailed.

The signature below represents written agreement by the City of Coachella Public Works Department with Caltrans' determination that the Section 4(f) temporary occupancy exception applies to the construction of the proposed SR-86/Avenue 50 New Interchange Project improvements to Sierra Vista Park, which would require a temporary closure of a limited portion of Sierra Vista Park, as the following five conditions set forth in 23 CFR 774.13(d) are satisfied:

1. Duration of occupancy must be temporary (i.e., less than the time needed for construction of the project) and there should be no change in ownership of the land;
2. Scope of the work must be minor, i.e., both the nature and magnitude of the changes to the 4(f) resource must be minimal;
3. There are no anticipated permanent adverse physical impacts, nor will there be interference with the activities or purposes of the resource, on either a temporary or permanent basis;
4. The land being used must be fully restored, i.e., the resource must be returned to a condition which is at least as good as that which existed prior to the project, and
5. There must be documented agreement of the appropriate Federal, State, or local officials having jurisdiction over the resource regarding the above conditions.

Maritza Martinez
Public Works Director
City of Coachella

11/15/18
Date



NOT TO SCALE

SR-86/Avenue 50 New Interchange Project Location Map

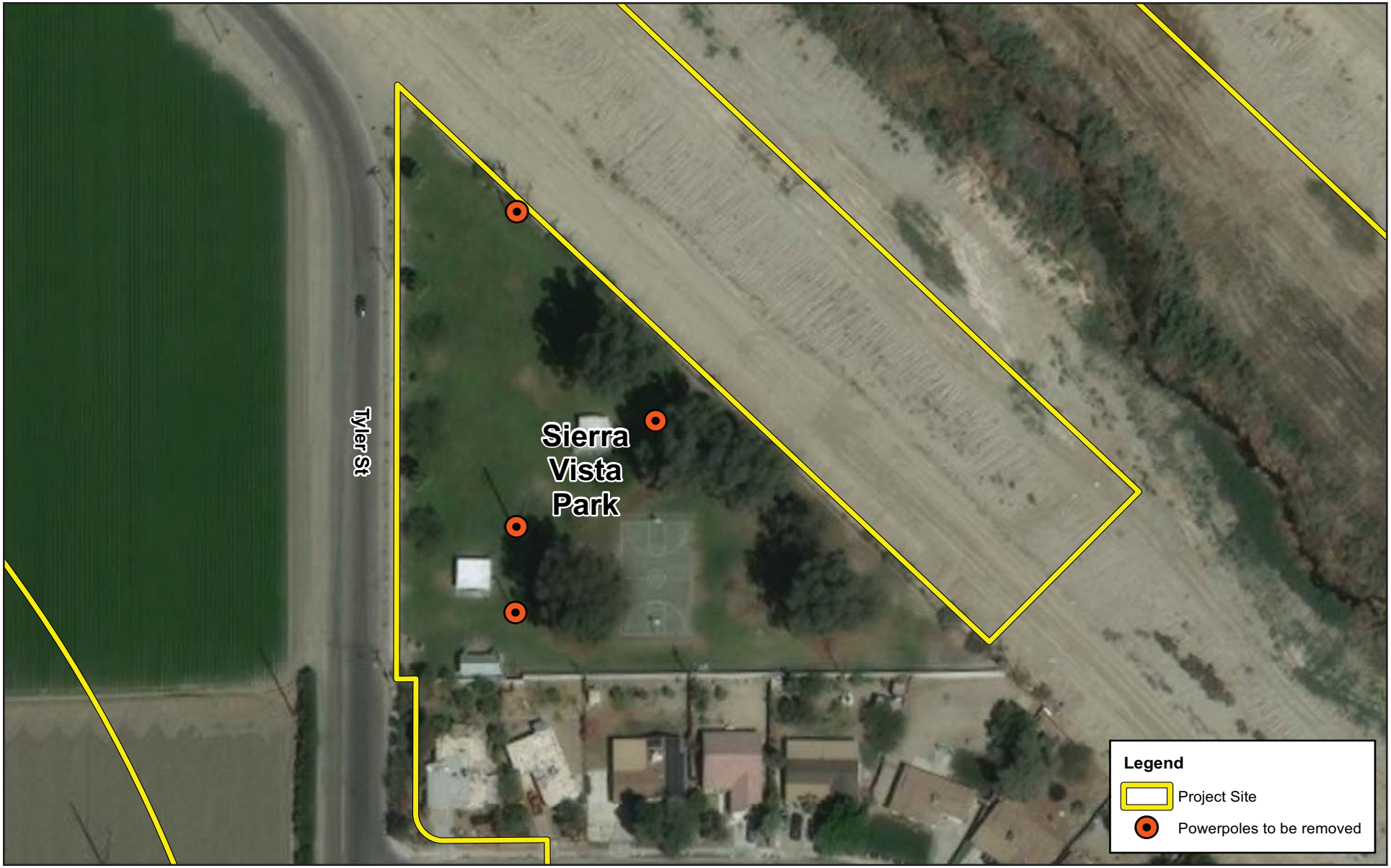
09/18 | JN 159814

Exhibit 1



	Number of Parking Stalls	
	Existing	Proposed
Parallel	11	6
Diagonal	0	9 + 2 ADA Accessible
Total	11	15 + 2 ADA Accessible

SR-86/Avenue 50 New Interchange Project—Sierra Vista Park (Aerial View)

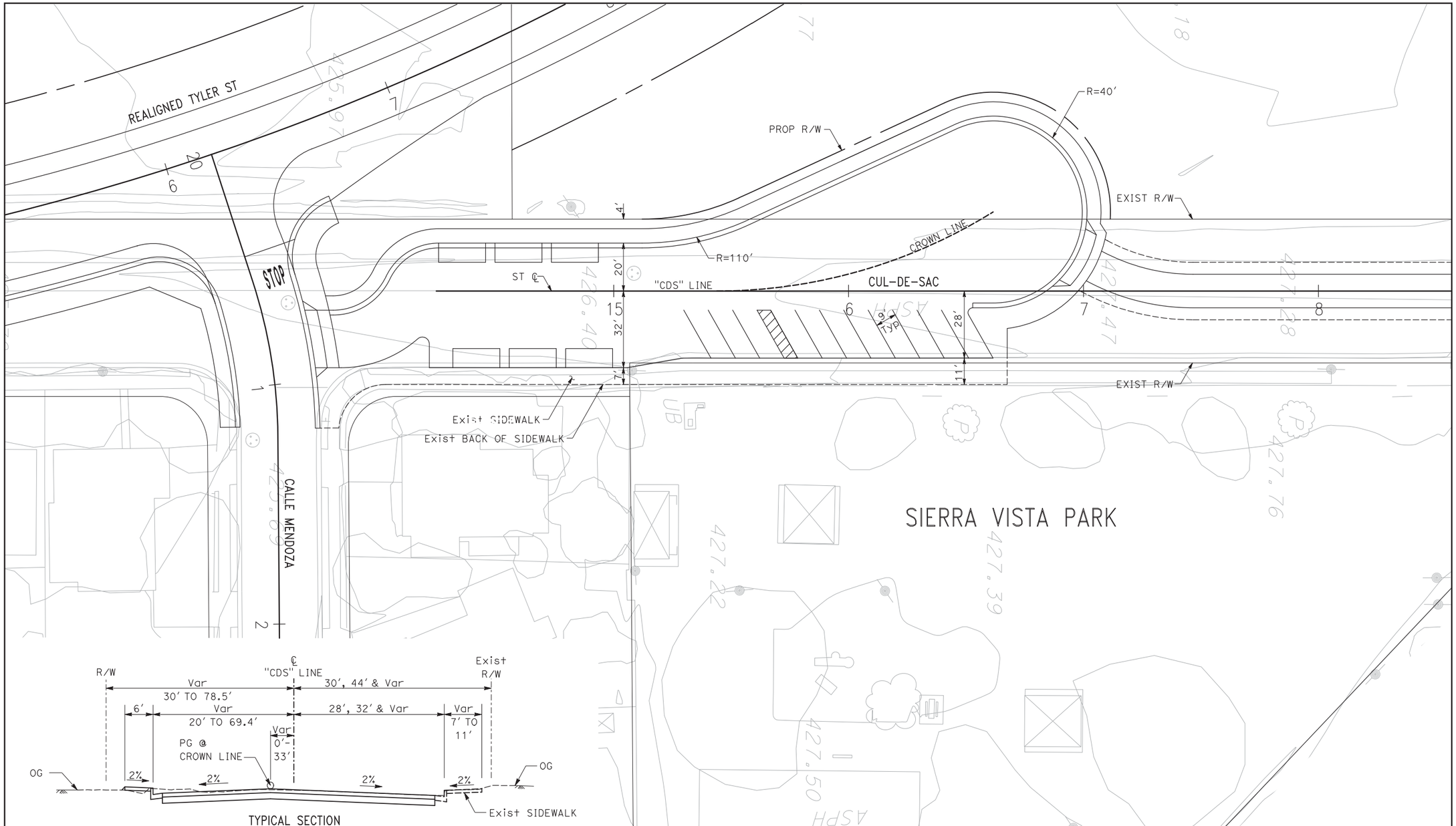


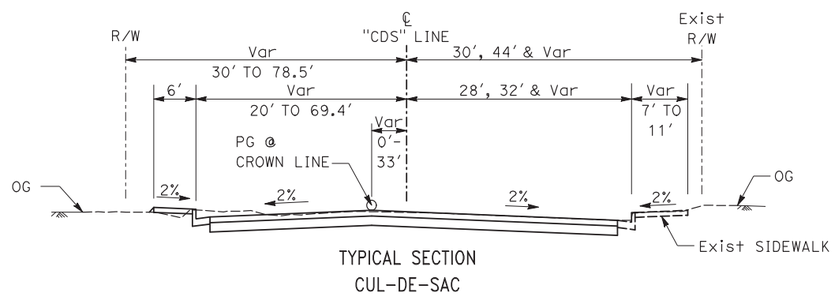
NOT TO SCALE

SR-86/Avenue 50 New Interchange Project—Sierra Vista Park (Aerial View)

09/18 | JN 159814

Exhibit 2b





TYPICAL SECTION
CUL-DE-SAC

NOT TO SCALE

09/18 | JN 159814

SR-86/Avenue 50 New Interchange Project—Tyler Street Realignment and new Cul-de-sac next to Sierra Vista Park

Exhibit 3



NOT TO SCALE

09/18 | JN 159814

SR-86/Avenue 50 New Interchange Project—
Tyler Street Realignment and new Cul-de-sac next to Sierra Vista Park

Exhibit 4



NOT TO SCALE

09/18 | JN 159814

SR-86/Avenue 50 New Interchange Project—Alternative 7 (Key Map)

Exhibit 5



NOT TO SCALE

09/18 | JN 159814

SR-86/Avenue 50 New Interchange Project—Alternative 7 (Sheet 1 of 3)

Exhibit 6

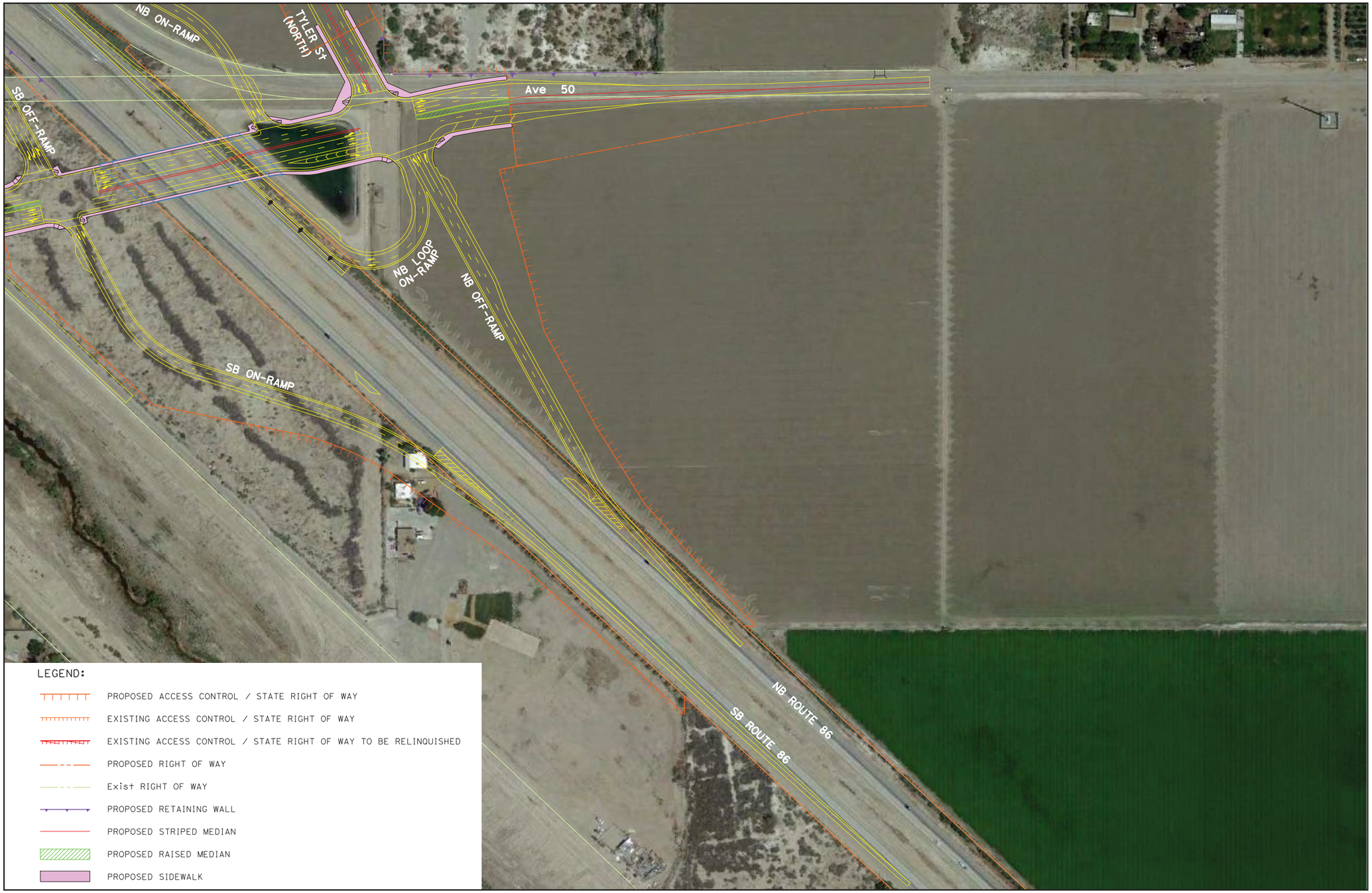


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SR-86/Avenue 50 New Interchange Project—Alternative 7 (Sheet 2 of 3)

Exhibit 7



NOT TO SCALE

09/18 | JN 159814

SR-86/Avenue 50 New Interchange Project—Alternative 7 (Sheet 3 of 3)

Exhibit 8



NOT TO SCALE

09/18 | JN 159814

SR-86/Avenue 50 New Interchange Project—Alternative 8 (Key Map)

Exhibit 9



NOT TO SCALE

09/18 | JN 159814

SR-86/Avenue 50 New Interchange Project—Alternative 8 (Sheet 1 of 3)

Exhibit 10

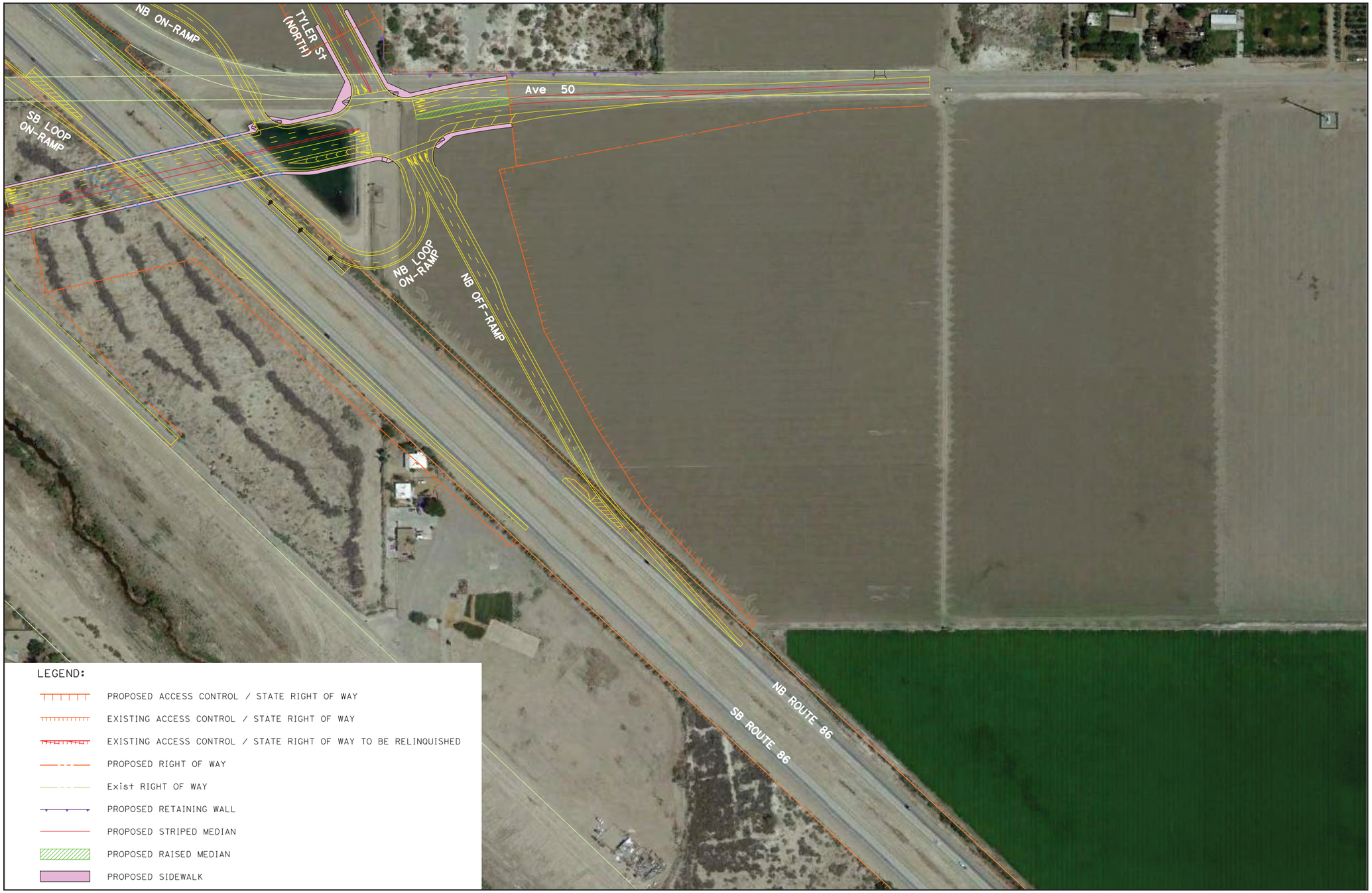


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09/18 | JN 159814

SR-86/Avenue 50 New Interchange Project—Alternative 8 (Sheet 2 of 3)

Exhibit 11



NOT TO SCALE

09/18 | JN 159814

SR-86/Avenue 50 New Interchange Project—Alternative 8 (Sheet 3 of 3)

Exhibit 12



Note: Based on Preliminary Engineering and subject to change.

NOT TO SCALE

SR-86/Avenue 50 New Interchange Project—Phase 1 Detour Map

09/18 | JN 159814

Exhibit 13

Appendix B

Title VI Policy Statement

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

Making Conservation a California Way of Life.

April 2018

NON-DISCRIMINATION POLICY STATEMENT

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

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

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

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

LAURIE BERMAN
Director

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Appendix C

Summary of Relocation Benefits

DECLARATION OF POLICY

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

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

FAIR HOUSING

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

RELOCATION ASSISTANCE ADVISORY SERVICES

In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, Caltrans will provide relocation advisory assistance to any person, business, farm, or nonprofit organization displaced as a result of the acquisition of real property for public use, so long as they are legally present in the United States. Caltrans 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 Caltrans.

RESIDENTIAL RELOCATION PAYMENTS

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

Moving Costs
Any displaced person, who lawfully occupied the acquired property, regardless of the length of occupancy in the property acquired, will be eligible for reimbursement of moving costs. Displacees will receive either the actual reasonable costs involved in moving themselves and personal property up to a maximum of 50 miles, or a fixed payment based on a fixed moving cost schedule. Lawful occupants who move into the displacement property after the initiation of negotiations must wait until Caltrans 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 Caltrans prior to the date of the initiation of negotiations may qualify to receive a rent differential payment. This payment is made when Caltrans 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 Caltrans 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 Caltrans' initiation of negotiations. The one-year eligibility period in which to purchase and occupy a "decent, safe and sanitary" replacement dwelling will apply.

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

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

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

NONRESIDENTIAL RELOCATION ASSISTANCE

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

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

- The moving of inventory, machinery, equipment and similar business-related property, including: dismantling, disconnecting, crating, packing, loading, insuring, transporting,

unloading, unpacking, and reconnecting of personal property. Items acquired in the right-of-way contract may not be moved under the Relocation Assistance Program. If the displacee buys an Item Pertaining to the Realty back at salvage value, the cost to move that item is borne by the displacee.

- Loss of tangible personal property provides payment for actual, direct loss of personal property that the owner is permitted not to move.
- Expenses related to searching for a new business site, up to $2,500, for reasonable expenses actually incurred.

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

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

ADDITIONAL INFORMATION

Reimbursement for moving costs and replacement housing payments are not considered income for the purpose of the Internal Revenue Code of 1954, or for the purpose of determining the extent of eligibility of a displacee for assistance under the Social Security Act, or any other law, *except* for any federal law providing local "Section 8" Housing Programs.

Any person, business, farm or nonprofit organization that has been refused a relocation payment by Caltrans 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 Caltrans' 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.

The Caltrans Division of Right of Way's Relocation Assistance Program can be viewed at http://www.dot.ca.gov/hq/row/rap/index.htm.

Appendix D

Avoidance, Minimization and/or Mitigation Summary

Appendix D - Environmental Commitments Record

In order to be sure that all of the environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as articulated on the proposed Environmental Commitments Record [ECR] which follows) 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 this ECR are fulfilled. Following construction and appropriate phases of project delivery, long-term mitigation maintenance and monitoring will take place, as applicable. As the following ECR is a draft, some fields have not been completed, and will be filled out as each of the measures is implemented. Note: Some measures may apply to more than one resource area. Duplicative or redundant measures have not been included in this ECR.

State Route 86/Avenue 50 New Interchange Project
08-RIV-86 (PM R19.2/R21.6)
PN 0814000144 / EA 0C970

Date of ECR: August 2018
Type of Environmental Compliance:
CEQA: IS with MND
NEPA: EA
Project Phase:
☒ **PA/ED(DED)**
☐ **PS&E**
☐ **Revalidation**
☐ **Ready To List**
☐ **Construction**

Measure #	Avoidance, Minimization, and/or mitigation Measure	Page # in ED	Source	Responsible for Development and/or Implementation	Timing/Phasing	If Applicable, Corresponding Construction Provisions (Standard, SSP, NSSP)	Action(s) taken to Implement/Remarks	Measure Completed		Environmental Compliance	
								Date	Initials	Yes	No
Land Use											
PR-1	The City of Coachella will receive closure information a minimum of 60 days in advance so that the City would be able to provide 30 days advance notice to the neighborhood from Calle Mendoza south to Avenue 52.	2-17	State Route 86/Avenue 50 New Interchange Project IS/EA, November 2018	City of Coachella	60 Days Prior to Notice and 30 Days Notice Prior to Construction						
Farmland											
ROW-1	Right-of-way 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.	2-22	Community Impact Assessment, September 2018	City of Coachella	Prior to Construction						
Community Impacts											
ROW-1	Right-of-way 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.	2-63	Community Impact Assessment, September 2018	City of Coachella	Prior to Construction						

Measure #	Avoidance, Minimization, and/or mitigation Measure	Page # in ED	Source	Responsible for Development and/or Implementation	Timing/Phasing	If Applicable, Corresponding Construction Provisions (Standard, SSP, NSSP)	Action(s) taken to Implement/Remarks	Measure Completed		Environmental Compliance	
								Date	Initials	Yes	No
Visual/Aesthetics											
VIS-1	*Construction Lighting*. Construction lighting types, plans, and placement shall be designed to minimize light and glare impacts on surrounding sensitive uses.	2-147	Visual Impact Assessment, May 2018	City of Coachella, Project Engineer, Caltrans Project Engineer	Construction						
VIS-2	*Landscaping*. Expressway landscaping shall retain the character of the existing desert scrub. Landscape palettes of context sensitive, water-conservation plants, and concept plans will be implemented in consultation with the City of Coachella and the Caltrans District Landscape Architect. All landscaping within the Caltrans right-of-way shall be reviewed and approved by Caltrans prior to final design and implementation.	2-147	Visual Impact Assessment, May 2018	City of Coachella, Project Engineer, Caltrans District Landscape Architect	Final Design						
VIS-3	*Existing Vegetation*. To minimize erosion on the project site, established, non-invasive vegetation shall be preserved to the maximum extent possible. Areas that are disturbed due to construction activities shall be stabilized with erosion control and plant replacement at a ratio acceptable to the Caltrans District Landscape Architect. All plant materials used will be non-invasive, and native vegetation will be used as much as possible.	2-147	Visual Impact Assessment, May 2018	City of Coachella, Project Engineer, Caltrans District Landscape Architect	Construction						
VIS-4	*Architectural Treatments and Review*. Structures will receive architectural aesthetics to minimize viewshed effects of the project and will received textures and anti-graffiti treatment to deter vandalism. All proposed architectural treatments shall be developed during the Plans, Specifications, and Estimates Phase in consultation with the City of Coachella and the Caltrans District Landscape Architect. All proposed architectural treatments shall be reviewed and approved by Caltrans prior to final design and implementation.	2-147	Visual Impact Assessment, May 2018	City of Coachella, Project Engineer, Caltrans District Landscape Architect	Final Design						
VIS-5	*Roadway Abandonment and Hydroseeding/Revegetation*. Abandoned roadways not scheduled for repurposing shall be removed and hydroseeded or landscaped in consultation with the City of Coachella and the Caltrans District Landscape Architect using non-invasive plants. All proposed hydroseeding/landscaping within Caltrans right-of-way shall be reviewed and approved by Caltrans prior to final design and implementation.	2-147	Visual Impact Assessment, May 2018	City of Coachella, Project Engineer, Caltrans District Landscape Architect	Final Design						
VIS-6	*Operational Lighting*. The project shall be designed to reduce permanent new sources of light and glare.	2-147	Visual Impact Assessment, May 2018	City of Coachella, Project Engineer Caltrans Project Engineer	Final Design						
Paleontological Resources											
PAL-1	Prior to the start of construction, all field personnel shall be briefed 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 at the pre-grade kick-off meeting or morning tailboard meeting and shall be conducted by the Project Paleontologist or his/her representative. Specifically, the training shall provide a description 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 Project Paleontologist and on-site monitor(s). The training shall be developed by the Project Paleontologist and may be conducted	2-184	Paleontological Identification Report/ Paleontological Evaluation Report, March 2018	City of Coachella, Project Engineer, Caltrans Resident Engineer, Project Paleontologist, Construction Contractor	Prior to Construction						

Measure #	Avoidance, Minimization, and/or mitigation Measure	Page # in ED	Source	Responsible for Development and/or Implementation	Timing/Phasing	If Applicable, Corresponding Construction Provisions (Standard, SSP, NSSP)	Action(s) taken to Implement/Remarks	Measure Completed		Environmental Compliance	
								Date	Initials	Yes	No
	concurrent with other environmental training (e.g., cultural and natural resources awareness training, safety training, etc.).										
PAL-2	A Paleontological Mitigation Plan (PMP) that follows Caltrans guidelines and the recommendations of the Society of Vertebrate Paleontology (SVP) will be prepared. The PMP is anticipated to include, but not be limited to, the following mitigation measures: a) A Paleontological Mitigation Plan (PMP) will be prepared and implemented for the project. The PMP will be conducted by a qualified professional paleontologist prior to the commencement of ground-disturbing activities. b) If a paleontological resource is discovered, the paleontological monitor and the Resident Engineer may divert the construction equipment around the find temporarily. c) The paleontological find will be assessed for scientific significance and collected. The PMP will also include, but not be limited to, the following avoidance measures: d) Part-time monitoring will be conducted for grading and excavation activities at depths greater than or equal to 20 feet below ground surface (bgs) that will disturb previously undisturbed Holocene to Late Pleistocene lacustrine deposits of Lake Cahuilla. e) Due to soil development, previous anthropogenic developments, and young age of surficial soil and native Quaternary surficial sediments, monitoring should not be required in project areas where construction activities disturb sediments at depths less than 20 feet below ground surface. f) Monitoring shall entail the visual inspection of excavated or graded areas and trench sidewalls. g) In areas of high sensitivity, monitoring efforts can be reduced or eliminated at the discretion of the Project Paleontologist.	2-184	Paleontological Identification Report/ Paleontological Evaluation Report, March 2018	City of Coachella, Project Engineer, Caltrans Resident Engineer, Project Paleontologist	Prior to Ground Disturbance Construction					
PAL-3a	Upon completion of fieldwork, all significant fossils collected shall be prepared in a properly equipped paleontology laboratory to a point ready for curation. Preparation will include the careful removal of excess matrix from fossil materials and stabilizing and repairing specimens, as necessary. Following laboratory work, all fossils specimens shall be identified to the lowest taxonomic level, cataloged, analyzed, and delivered to the Western Science Center for permanent curation and storage. The cost of curation is assessed by the repository and is the responsibility of the project owner.	2-185	Paleontological Identification Report/ Paleontological Evaluation Report, March 2018	City of Coachella, Project Engineer, Caltrans Resident Engineer, Project Paleontologist	Post-Construction						
PAL-3b	At the conclusion of laboratory work and museum curation, a final Paleontological Mitigation Report shall be prepared describing the results of the paleontological mitigation monitoring efforts associated with the project. The report will include a summary of the field and laboratory methods, an overview of the project area geology and	2-185	Paleontological Identification Report/ Paleontological Evaluation Report, March 2018	City of Coachella, Project Engineer, Caltrans Resident Engineer, Project Paleontologist	Post-Construction						

Measure #	Avoidance, Minimization, and/or mitigation Measure	Page # in ED	Source	Responsible for Development and/or Implementation	Timing/Phasing	If Applicable, Corresponding Construction Provisions (Standard, SSP, NSSP)	Action(s) taken to Implement/Remarks	Measure Completed		Environmental Compliance	
								Date	Initials	Yes	No
	paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. If the monitoring efforts produced fossils, then a copy of the report shall also be submitted to the Western Science Center in the City of Hemet, Riverside County, California.										
Hazardous Waste/Materials											
HAZ-1	Asbestos containing-materials (ACMs) and lead-based paints (LBPs) testing will be conducted prior to demolition/modification of structures by a certified specialist. If present, the certified specialist will monitor the disposal of the ACMs/LBPs as they are uncovered.	2-194	Phase I Initial Site Assessment October 2017	City of Coachella, Resident Engineer, Caltrans Resident Engineer, Construction Contractor	Prior to Demolition/ Modification of Structures						
HAZ-2	Any transformer to be relocated/removed during site construction/demolition will be conducted under the purview of the local purveyor to identify proper handling procedures regarding polychlorinated biphenyls (PCBs).	2-194	Phase I Initial Site Assessment October 2017	City of Coachella, Resident Engineer, Caltrans Resident Engineer, Construction Contractor	Construction/ Demolition						
HAZ-3	The location of septic tanks and leach fields will be confirmed prior to site disturbance activities. Should septic systems be present on-site, the City of Coachella will properly abandon the existing system(s) and relocate the system(s) appropriately.	2-194	Phase I Initial Site Assessment October 2017	City of Coachella, Project Engineer, Caltrans Project Engineer	Prior to Site Disturbance						
Biological Resources											
Wetland and Other Waters (Including **MSHCP riparian/ riverine resources)**											
WET-1	Permanent and temporary impacts to jurisdictional waters will be mitigated at a minimum 1:1 ratio at an approved mitigation bank, applicant-sponsored mitigation area, or on-site. The project will include a restoration plan that will provide requirements for site selection, implementation, monitoring, long-term maintenance, and performance standards, in consultation with the resource agencies.	2-241	Natural Environment Study, November 2018	City of Coachella, Project Engineer, Caltrans Project Engineer, Project Biologist	Final Design						
WET-2a	Prior to any construction related ground disturbing activities, ESA fencing will be installed where and as specified on project plans.	2-241	Natural Environment Study, November 2018	City of Coachella, Project Engineer, Caltrans Project Engineer, Project Biologist	Prior to Vegetation Clearing or Construction Construction						
WET-2b	Silt fence barriers will be installed at the ESA boundary.	2-241	Natural Environment Study, November 2018	City of Coachella, Project Engineer, Caltrans Project Engineer, Project Biologist	Prior to Vegetation Clearing or Construction Construction						
Animal Species											
AS-1a	A Qualified Biologist shall present to each construction employee (including temporary, contractors, and subcontractors) a worker environmental awareness training prior to the initiation of work. Workers shall be advised of the special status animal species in the Biological Study Area (BSA), the steps to avoid impacts to the species, and the potential penalties for taking such species. At a minimum, the program shall include the following topics: occurrence of the listed and sensitive species in the area, their general ecology, sensitivity of the species to	2-267	Natural Environment Study, November 2018	City of Coachella, Project Engineer, Caltrans Environmental Planner, Project Biologist	Prior to Construction						

Measure #	Avoidance, Minimization, and/or mitigation Measure	Page # in ED	Source	Responsible for Development and/or Implementation	Timing/Phasing	If Applicable, Corresponding Construction Provisions (Standard, SSP, NSSP)	Action(s) taken to Implement/Remarks	Measure Completed		Environmental Compliance	
								Date	Initials	Yes	No
	human activities, legal protection afforded to these species, penalties for violations of Federal and State laws, reporting requirements, and project features designed to reduce the impacts to these species and promote continued successful occupation of the project area environs.										
AS-1b	Color photographs of the listed species shall be included in this program, which shall be shown to the employees. Following the education program, the photographs shall be posted in the contractor and resident engineer office, where the photographs shall remain through the duration of the project.	2-267	Natural Environment Study, November 2018	City of Coachella, Project Engineer, Caltrans Environmental Planner, Project Biologist	Prior to Construction						
AS-1c	The contractor, resident engineer, and the Qualified Biologist shall be responsible for ensuring that employees are aware of the listed species.	2-267	Natural Environment Study, November 2018	City of Coachella, Project Engineer, Caltrans Environmental Planner, Project Biologist	Prior to Construction						
AS-1d	If additional employees are added to the project after initiation, they shall receive instruction prior to working on the project.	2-267	Natural Environment Study, November 2018	City of Coachella, Project Engineer, Caltrans Environmental Planner, Project Biologist	Prior to Construction						
AS-2	Construction activities shall not be scheduled to occur during special status bird breeding season identified as January 15th to September 30th (up to 500 feet) of all suitable habitat unless one of the following exceptions apply: i. Completed protocol-level surveys conducted by a Qualified Biologist during the year of implementation determined the site to not be occupied; ii. Noise levels resulting from the project construction activities do not exceed the existing ambient noise level; or iii. If this work window is not feasible, then pre-construction surveys for special status birds and migratory bird nests within a specified distance of the project impact area will be conducted by a Qualified Biologist. If an active nest is found during the pre-construction nesting bird surveys, then consultation with the USFWS and/or CDFW may be initiated.	2-267	Natural Environment Study, November 2018	City of Coachella, Project Engineer, Caltrans Environmental Planner, Project Biologist	Construction						
AS-3a	If project activities cannot be avoided during the breeding season, a preconstruction nesting bird clearance survey shall be conducted by a Qualified Biologist for avian species, including Cooper's hawk, summer tanager, black-tailed gnatcatcher, Vermillion flycatcher, Crissal thrasher, Le Conte's thrasher, least Bell's vireo, and yellow-headed blackbird, no more than three days prior to ground breaking or vegetation removal activities to determine the presence of nesting birds by a Qualified Biologist. The surveys shall be conducted by a Qualified Biologist at the appropriate time(s) of day.	2-268	Natural Environment Study, November 2018	City of Coachella, Project Engineer, Caltrans Environmental Planner, Project Biologist	Construction						
AS-3b	If an active avian nest is located, the bird shall be identified to species and a "no construction" buffer (up to 500 feet) shall be established in accordance with the guidelines provided in the CVMSHCP and the	2-268	Natural Environment Study, November 2018	City of Coachella, Project Engineer,	Construction						

Measure #	Avoidance, Minimization, and/or mitigation Measure	Page # in ED	Source	Responsible for Development and/or Implementation	Timing/Phasing	If Applicable, Corresponding Construction Provisions (Standard, SSP, NSSP)	Action(s) taken to Implement/Remarks	Measure Completed		Environmental Compliance	
								Date	Initials	Yes	No
	sensitivity of the species. The "no construction" buffer shall remain in place until nesting has ceased or the young have fledged.			Caltrans Environmental Planner, Project Biologist							
AS-3c	The Qualified Biologist shall monitor the nest to ensure that impacts to nesting birds do not occur.	2-268	Natural Environment Study, November 2018	City of Coachella, Project Engineer, Caltrans Environmental Planner, Project Biologist	Construction						
AS-4a	Prior to implementation of the proposed project, the construction area and adjacent areas within 500 feet of the development footprint, or to the edge of the property if less than 500 feet, shall be surveyed by a Qualified Biologist for burrows that could be used by burrowing owl.	2-268	Natural Environment Study, November 2018	City of Coachella, Project Engineer, Caltrans Environmental Planner, Project Biologist	Prior to Construction						
AS-4b	If a burrow is located, the biologist shall determine if the burrow has recently been used or if an owl is present in the burrow. If the burrow is determined to be occupied, the burrow shall be flagged and a 160-foot buffer during the non-breeding season and a 250-foot buffer during the breeding season or a buffer to the edge of the property boundary if less than 500 feet, shall be established around the burrow, in accordance with the CVMSHCP. The buffer shall be staked and flagged. No construction activities shall be permitted within the buffer until the young are no longer dependent on the burrow. If the burrow is unoccupied, the burrow shall be made inaccessible to owls, and construction activities may proceed.	2-268	Natural Environment Study, November 2018	City of Coachella, Project Engineer, Caltrans Environmental Planner, Project Biologist	Prior to Construction						
AS-4c	If either a nesting or escape burrow is occupied, owls shall be relocated pursuant to accepted Wildlife Agency protocols. A burrow is assumed occupied if records indicate that, based on surveys conducted following protocol, at least one burrowing owl has been observed occupying a burrow on-site during the past three years. If there are no records for the site, surveys shall be conducted to determine, prior to construction, if burrowing owls are present. Determination of the appropriate method of relocation, such as eviction/passive relocation or active relocation, shall be based on the specific site conditions (e.g., distance to nearest suitable habitat and presence of burrows within that habitat) in coordination with the California Department of Fish and Wildlife (CDFW).	2-268	Natural Environment Study, November 2018	City of Coachella, Project Engineer, Caltrans Environmental Planner, Project Biologist	Prior to Construction						
AS-4d	Active relocation and eviction/passive relocation require the preservation and maintenance of suitable burrowing owl habitat determined through coordination with the CDFW.	2-268	Natural Environment Study, November 2018	City of Coachella, Project Engineer, Caltrans Environmental Planner, Project Biologist	Prior to Construction						
AS-5a	A Qualified Biologist shall conduct a pre-construction clearance survey for American badger no more than three days prior to the initiation of vegetation removal or ground disturbing activities to determine if American badger den sites are present within the work area. The clearance survey shall cover all areas of suitable habitat that would be directly and indirectly impacted by project activities, including areas within 100 feet of the project limits.	2-269	Natural Environment Study, November 2018	City of Coachella, Project Engineer, Caltrans Environmental Planner, Project Biologist	No More Than Three Days Prior to Construction						
AS-5b	All potential dens shall be assessed using non-intrusive methods (e.g., scope, mirror, camera) to determine the presence of badgers. Dens that are determined to be inactive by the Qualified Biologist shall be hand-	2-269	Natural Environment Study, November 2018	City of Coachella, Project Engineer, Caltrans Environmental	No More Than Three Days Prior to Construction						

Measure #	Avoidance, Minimization, and/or mitigation Measure	Page # in ED	Source	Responsible for Development and/or Implementation	Timing/Phasing	If Applicable, Corresponding Construction Provisions (Standard, SSP, NSSP)	Action(s) taken to Implement/Remarks	Measure Completed		Environmental Compliance	
								Date	Initials	Yes	No
	excavated and collapsed with a shovel to prevent reoccupation between the time of the clearance survey and construction activities.			Planner, Project Biologist							
AS-5c	If badgers are detected, the Qualified Biologist shall passively relocate badgers out of the work area prior to construction, if feasible. If an active den is detected within the work area, the den shall be avoided until the Qualified Biologist determines that the den is no longer active.	2-269	Natural Environment Study, November 2018	City of Coachella, Project Engineer, Caltrans Environmental Planner, Project Biologist	No More Than Three Days Prior to Construction						
Invasive Species											
INV-1	All construction equipment and materials shall be inspected for the presence of invasive species and cleaned as necessary.	2-278	Natural Environment Study, November 2018	City of Coachella, Project Engineer, Caltrans Environmental Planner, Project Biologist	Construction						
Climate Change-Green House Gases (GHG)											
CC-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).	3-58	Air Quality Report, April 2018	City of Coachella, Project Engineer, Caltrans Project Engineer, Construction Contractor	Construction						
CC-2	The project will implement landscaping as determined during final design in coordination with the City of Coachella and the Caltrans District Landscape Architect. This landscaping will help offset any potential CO_2 emissions increase.	3-58	Air Quality Report, April 2018	City of Coachella, Project Engineer, Caltrans District Landscape Architect	Final Design						
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.	3-58	Air Quality Report, April 2018	City of Coachella, Project Engineer, Caltrans Project Engineer	Final Design						
CC-4	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.	3-58	Air Quality Report, April 2018	City of Coachella, Project Engineer, Caltrans Project Engineer, Construction Contractor	Construction						
CC-5	As part of the SCAG's 2016-2040 RTP/SCS, project level mitigation measures were provided to reduce impacts, including those pertaining to climate change. The following project level mitigation measures would apply: • 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. • The project will use the minimum feasible amount of GHG-emitting construction materials. • The project will use cement blended with the maximum feasible amount of fly ash or other materials that reduce GHG emissions from cement production.	3-58	Air Quality Report, April 2018	City of Coachella, Project Engineer, Caltrans Project Engineer, Construction Contractor	Construction						

Measure #	Avoidance, Minimization, and/or mitigation Measure	Page # in ED	Source	Responsible for Development and/or Implementation	Timing/Phasing	If Applicable, Corresponding Construction Provisions (Standard, SSP, NSSP)	Action(s) taken to Implement/Remarks	Measure Completed		Environmental Compliance	
								Date	Initials	Yes	No
	• The project will incorporate design measures to reduce GHG emissions from solid waste management through solid waste reduction, recycling, and reuse. • The project will recycle construction debris.										
Section 4(f) Parks and Recreational Resources											
PR-1	The City of Coachella will receive closure information a minimum of 60 days in advance so that the City would be able to provide 30 days advance notice to the neighborhood from Calle Mendoza south to Avenue 52.	A-5	State Route 86/Avenue 50 New Interchange Project IS/EA, November 2018	City of Coachella	60 Days Prior to Notice and 30 Days Notice Prior to Construction						

Appendix E

List of Acronyms

Appendix E List of Acronyms

°	degrees
#	number
%	percent
µg/m^3	microgram per cubic meter
AADT	Annual Average Daily Trips
AB	Assembly Bill
ACBCI	Agua Caliente Band of Cahuilla Indians
AC	asphalt concrete
ACHP	Advisory Council on Historic Preservation
ACM	Asbestos containing-materials
ACOE	Army Corps of Engineers
ACS	American Community Survey
ADA	Americans with Disabilities Act
ADL	aerially deposited lead
ADT	average daily traffic
AELUP	Airport Environs Land Use Plan
AGR	Agriculture Supply
AM	ante meridiem
amsl	above mean sea level
APCD	Air Pollution Control District's
APE	Area of Potential Effects
APN	Assessor's Parcel Number
apts	apartments
AQUA	Aquaculture
ARB	Air Resources Board

ARPA	Archaeological Resources Protection Act
ARS	Acceleration Response Spectra
ASR	Archaeological Survey Report
ASTM	American Society for Testing and Materials
BAU	Business as Usual
BFE	base flood elevations
bgs	below ground surface
BIOS	Biogeographic Information & Observation System
BLM	Bureau of Land Management
BMP	best management practices
BSA	biological study area
C-D	collector-distributor
C-F	Community Facilities
C-G	General Commercial
C-O	Commercial-Professional Office
CA	California
CAFE	Corporate Average Fuel Economy
Cal-IPC	California Invasive Plant Council
CAL/OSHA	California Division of Occupational Safety and Health
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CDFW	California Department of Fish and Wildlife
CDMG	California Division of Mines and Geology
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
CGP	Construction General Permit
CGS	California Geological Survey
CH_4	methane
GHG	greenhouse gas
CHL	California Historical Landmarks
CHP	California Highway Patrol
CHRI	California Historical Resources Inventory
CHRIS	California Historical Resources Inventory System
CLOMR	Conditional Letter of Map Revision
cm	centimeters
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO-CAT	Coastal and Ocean Working Group of the California Climate Action Team
CO	carbon monoxide
CO_2	carbon dioxide
CO_2eq	carbon dioxide equivalent
COLD	Cold Freshwater Habitat
CPHI	California Points of Historical Interest
CPSC	Consumer Product Safety Commission
CPT	cone penetration test
CRHR	California Register of Historical Resources

CTP	California Transportation Plan
CV	Coachella Valley
CVAG	Coachella Valley Association of Governments
CVMSHCP	Coachella Valley Multiple Species Habitat Conservation Plan
CVSC	Coachella Valley Stormwater Channel
CVWD	Coachella Valley Water District
CWA	Clean Water Act
CY	cubic yards
CZMA	Coastal Zone Management Act of 1972
dBA	A-weighted decibel scale
DDD	dichlorodiphenyldichloroethane
DDE	dichlorodiphenyldichloroethylene
DDI	diverging diamond interchange
DDT	dichlorodiphenyltrichloroethane
DEMO	Demonstration
DOGGR	Department of Oil, Gas, and Geothermal Resources
DP	Director's Policy
DPGR	District Preliminary Geotechnical Report
DSA	Disturbed Soil Area
DTSC	Department of Toxic Substances Control
du/ac	dwelling units per acre
DWR	Department of Water Resources
e.g.	for example
EA	Environmental Assessment
EB	eastbound
EDR	Environmental Data Resources

EIC	Eastern Information Center
EIR	Environmental Impact Report
ELAP	Environmental Laboratory Accreditation Program
EMFAC	Emission Factors
EPACT92	Energy Policy Act of 1992
EO	Executive Order
EPA	Environmental Protection Agency
ESAs	Environmentally Sensitive Areas
etc.	Et cetera
et seq.	and what follows
F	Fahrenheit
FAST Act	Fixing America's Surface Transportation Act
FAR	Floor Area Ratio
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
FRSH	Freshwater Replenishment
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Program

GPS	Global Positioning System
GWR	Ground Water Recharge
H_2S	hydrogen sulfide
H&SC	Health and Safety Code
HBP	Highway Bridge Program
HCM	Highway Capacity Manual
HCS	Highway Capacity Software
HDM	Highway Design Manual
HFC-134a	s, s, s, 2-tetrafluoroethane
HFC-152a	difluoroethane
HFC-23	fluoroform
HMMP	Habitat Mitigation and Monitoring Program
HSA	Hydrologic Sub-Area
HOV	High Occupancy Vehicle
HPSR	Historic Property Survey Report
HRER	Historic Resources Evaluation Report
I-	Interstate
i.e.	that is
ICE	Intersection Control Evaluation
IID	Imperial Irrigation District
IND	Industrial Service Supply
ILFP	in-lieu fee program
IPaC	Information for Planning and Conservation
IPCC	Intergovernmental Panel on Climate Change
IS/EA	Initial Study/Environmental Assessment
ISA	Initial Site Assessment

ISTEA	Intermodal Surface Transportation Act of 1991
ITS	Intelligent Transportation Systems
JD	Jurisdictional Delineation
kV	kilovolt
L_{dn}	Day/Night Average
L_{eq}	Equivalent Sound Level
L_{max}	Maximum Sound Level
L_{min}	Minimum Sound Level
L_n	Exceedance Level
LACM	Natural History Museum of Los Angeles County
LBP	lead-based paint
LCFS	low carbon fuel standard
LEDPA	least environmentally damaging practicable alternative
LF	linear feet
LHS/SFER	Location Hydraulic Study and Summary Floodplain Encroachment Report
LOP	Letter of Permission
LOS	Level of Service
LRTP	Long Range Transportation Plan
LSEV	low speed electric vehicle
LTRMP	Long-Term Resource Management Plan
LUD	Land Use District
MAP-21	Moving Ahead for Progress in the 21st Century Act
Max	maximum
MBTA	Migratory Bird Treaty Act
mg/kg	milligrams per kilogram
mg/l	milligrams per liter

MLD	Most Likely Descendent
$MMTCO_2e$	million metric tons of carbon dioxide equivalent
MOE	Measures of Effectiveness
MOU	Memorandum of Understanding
mph	miles per hour
MPAH	Master Plan of Arterial Highways
MPO	Metropolitan Planning Organization
MS4s	municipal separate storm sewer systems
MSATs	Mobile Source Air Toxics
MSE	mechanically stabilized earth
msl	mean sea level
MTBE	Methyl tert-butyl ether
$MTCO_2eq$	metric tons per year of carbon dioxide equivalent
MUN	Municipal and Domestic Supply
MUTCD	Manual on Uniform Traffic Control Devices
MW	monitoring well
N/A	Not Available
N/EB	North/Eastbound
N_2O	nitrous oxide
NAC	Noise Abatement Criteria
NAHC	Native American Heritage Commission
NAAQS	National Ambient Air Quality Standards
NB	northbound
NCHRP	National Cooperative Highway Research Program Report
ND	Negative Declaration
NEPA	National Environmental Policy Act

NES	Natural Environment Study
NEVs	neighborhood electric vehicles
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NISZ	Newport-Inglewood Structural Zone
NLEV	national low emission vehicle
No.	number
NO_2	nitrogen dioxide
NOA	naturally occurring asbestos
NOAA	National Oceanic and Atmospheric Administration
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
O_3	ozone
O-A	Open Area
OHP	Office of Historic Preservation
OHWM	ordinary high water mark
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Act
OSTP	Office of Science and Technology Policy
p.	page
PA	Programmatic Agreement
PA/ED	Project Approval/Environmental Document

Pb	lead
pc/mi/hr	passenger cars/mile/hour
pc/mi/In	passenger cars per mile per lane
PCBs	polychlorinated biphenyls
PCE	Passenger Car Equivalents
PDT	Project Development Team
perc	perchloroethylne
pH	Potential of Hydrogen
PIR/PER	Paleontological Identification Report and Paleontological Evaluation Report
PLACs	permits, licenses, agreements, and certifications
PM	particulate matter
PM	post meridiem
PM	Post Mile
$PM_{2.5}$	particles of 2.5 micrometers and smaller
PM_{10}	particles of 10 micrometers or smaller
PMP	Paleontological Mitigation Program
pmvm	per million vehicle miles
POAQC	project of air quality concern
POW	Hydropower Generation
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
Qya2	Holocene to late Pleistocene
RAP	Relocation Assistance Program

RARE	Rare, Threatened or Endangered Species
RC	Resource Change
RCEM	Roadway Construction Emissions Model
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
REC1	Water Contact Recreation
REC2	Non-contact Water Recreation
RFG	reformulated gasoline
RIV	Riverside
RivTAM	Riverside County Traffic Analysis Model
ROG	Reactive Organic Gas
ROW	right-of-way
RSA	Resource Study Areas
RTP	Regional Transportation Plan
RTIP	Regional Transportation Improvement Program
RTPA	Regional Transportation Planning Agency
RWQCB	Regional Water Quality Control Board
S/WB	South/Westbound
SAA	Streambed Alteration Agreement
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Act: A Legacy for Users
SB	Senate Bill
SB	southbound
SCAG	Southern California Association of Governments
SCE	Southern California Edison
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy

SDC	Seismic Design Criteria
Sec Del/Veh	Seconds Delay/Vehicle
SED	Socio-Economic Data
SF_6	sulfur hexafluoride
SFHA	Special Flood Hazard Area
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SLR	Sea-Level Rise
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_2	sulfur dioxide
sp.	species
spp	subspecies
SPUI	Single Point Interchange
SR-	State Route
SRA	Source Receptor Area
SSAB	Salton Sea Air Basin
SSC	California Species of Concern
STAA	Surface Transportation Assistance Act
STIP	State Transportation Improvement Program
STLC	Soluble Threshold Limit Concentration
STURA	Surface Transportation and Uniform Relocation Act of 1987
SWIS	Solid Waste Information System
SMWP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TASAS	Traffic Accident Surveillance and Analysis Systems

TCE	Temporary Construction Easement
TCR	Transportation Concept Report
TCWG	Transportation Conformity Working Group
TDM	Transportation Demand Management
TEA-21	Transportation Equity Act for the Twenty-First Century
TIPS	transportation improvement programs
TMDLs	Total Maximum Daily Loads
TMP	Transportation Management Plan
TNM	Traffic Noise Model
TOPD	Traffic Operations Policy Directive
TPPS	Transportation Project Prioritization Study
TRB	Transportation Research Board
TSAR	TASAS Selective Accident Retrieval
TSCA	Toxic Substances Control Act
TSM	Transportation System Management
TSN	Transportation System Network
TTLC	Total Threshold Limit Concentration
UC	University of California
USC	United States Code
U.S.	United States
USA	Underground Service Alert
USACE	U.S. Army Corps of Engineers
USDA	United States Department of Agriculture
USDOT	U.S. Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

USGS	United States Geological Survey
USPS	United States Postal Service
UST	underground storage tank
v/c	volume-to-capacity
var.	variety
VHD	Vehicle Hours Delay
VHT	Vehicle Hours Travelled
VIA	Visual Impact Assessment
VMT	Vehicle Miles Traveled
vplph	vehicles per lane per hour
vplpm	vehicles per lane per mile
VR	Viewer Response
VRP	Visibility Reducing Particles
VUA	visual assessment unit
WARM	Warm Freshwater Habitat
WB	westbound
WDR	Waste Discharge Requirement
WILD	Wildlife Habitat
WL	Watch List
WPCP	Water Pollution Control Program
WQAR	Water Quality Assessment Report
WQO	Water Quality Objectives
yr	year

Appendix F

RTP/FTIP Listing



2017 Federal Transportation Improvement Program

Riverside County
State Highway
Including Amendments 1 - 13
(In $000`s)

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage	System	Conformity Category	Amendment
RIV061159	Riverside	SSAB		RIV061159	CAXT7	86	19.2	21.6		S	NON-EXEMPT	0
Description:							PTC	32,160		Agency	COACHELLA	

AT SR86/AVENUE 50: WIDEN AND CONSTRUCT NEW 6THROUGH LANE IC FROM E/O COACHELLA STORMWATER CHANNEL BRIDGE TO E/O TYLER ST. IMPROVEMENTS INCLUDE: EXTENDED RAMP ACCELERATION/DECELERATION LANES, RELOCATE/REALIGN AVE 50 AND TYLER ST, BIKE LANES, SIDEWALKS, AND RECONSTRUCT TRAFFIC SIGNALS (SAFETEA LU 1702, CA583, #2543) (EA: 0C970)

Fund	ENG	R/W	CON	Total	Prior	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	Total
DEMO-SAFETEA-LU	800			800	800							800
AGENCY	3,300	3,060	25,000	31,360	901	5,459	25,000					31,360
RIV061159 Total	4,100	3,060	25,000	32,160	1,701	5,459	25,000					32,160

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage	System	Conformity Category	Amendment
RIV070308	Riverside	SCAB		RIV070308	CAX66	91	.6	2.6		S	NON-EXEMPT	0
Description:							PTC	124,663		Agency	RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	

AT SR91/71 JCT: REPLACE EB 91 TO NB 71 CONNECTOR W/ DIRECT FLY-OVER CONNECTOR, AND RECONSTRUCT THE GREEN RIVER ROAD EB ON-RAMP (EA: 0F541) ($1,501/$639/$200 TOLL CREDITS WILL BE USED IN PS&E TO MATCH DEMO-SAFETEALU/DEMO-TEA21/STP, RESPECTIVELY. $159 TOLL CREDITS WILL BE USED IN R/W TO MATCH DEMO-SAFETEALU.)

Fund	ENG	R/W	CON	Total	Prior	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	Total
FFY 2006 APPROPRIATIONS EARMARKS		990		990	990							990
DEMO-SAFETEA-LU	7,504	796		8,300	8,300							8,300
DEMO - TEA 21	3,196			3,196	3,196							3,196
SURFACE TRANS PROG	1,000			1,000	1,000							1,000
SURFACE TRANS PROG - HR4818		739		739	739							739
AGENCY		2,225		2,225	2,225							2,225
RIV CO SALES TAX			102,940	102,940					102,940			102,940
STATE CASH - RIP	5,273			5,273	5,273							5,273
RIV070308 Total	16,973	4,750	102,940	124,663	21,723				102,940			124,663

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage	System	Conformity Category	Amendment
RIV131202	Riverside	SCAB		3M01WT022	NCR88	91	15.4	15.7		S	EXEMPT - 93.127	1
Description:							PTC	75,000		Agency	RIVERSIDE, CITY OF	

IN THE CITY OF RIVERSIDE - SR-91 AT ADAMS STREET INTERCHANGE RECONSTRUCTION (PA&ED ONLY).

Fund	ENG	R/W	CON	Total	Prior	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	Total
STP LOCAL	935			935		935						935
CITY FUNDS	165			165		165						165
RIV131202 Total	1,100			1,100		1,100						1,100

Riverside County
Local Highway
Including Amendments 1 - 13
(In $000`s)

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage	System	Conformity Category	Amendment
RIV110825	Riverside	SSAB		RIV110825	CAXT8					L	NON-EXEMPT	11
Description:							PTC	29,915		Agency	COACHELLA	

IN THE CITY OF COACHELLA - AVE 50 OVER COACHELLA STORMWATER CHANNEL: REPLACEMENT OF A 2-LN LOW WATER X-ING (BRIDGE NO. 00L0055) WITH A 6-LN (3-LNS IN EA DIR) BRIDGE FROM 300-FT W/O APACHE TRAIL TO SR-86S INTERSECTION. OTHER IMPROVEMENTS INCLUDE BIKE LANES/TRAILS, SIDEWALKS, RECONSTRUCT TRAFFIC SIGNAL/DRIVEWAYS, CHANNEL SCOUR PROTECTION, AND REMOVAL OF LOW WATER X-ING AND CULVERTS.

Fund	ENG	R/W	CON	Total	Prior	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	Total
CITY FUNDS	309	229		538	103					206	229	538
BRIDGE - LOCAL	2,392	1,771		4,163	798					1,594	1,771	4,163
RIV110825 Total	2,701	2,000		4,701	901					1,800	2,000	4,701

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage	System	Conformity Category	Amendment
RIV140816	Riverside	SSAB		3NL04	NCN26					L	EXEMPT - 93.126	0
Description:							PTC	520		Agency	COACHELLA	

IN EASTERN RIVERSIDE COUNTY FOR THE CITY OF COACHELLA - INSTALL 8.2 MILES OF CLASS II BIKE LANES ON CITY ARTERIALS TO FACILITATE RESIDENTIAL TO COMMERCIAL CONNECTIVITY ($52.76 OF TC TO MATCH CMAQ IN FY 16/17)(PM 2.5 BENEFITS .816 KG/DAY)

Fund	ENG	R/W	CON	Total	Prior	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	Total
CMAQ			460	460		460						460
CITY FUNDS	60			60	60							60
RIV140816 Total	60		460	520	60	460						520

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage	System	Conformity Category	Amendment
RIV140842	Riverside	SSAB		7120004	NCN25					L	EXEMPT - 93.126	0
Description:							PTC	1,764		Agency	COACHELLA	

IN EASTERN RIVERSIDE COUNTY FOR THE CITY OF COACHELLA - ATP IMPOVEMENTS CYCLE 1: ADD 7 MI. OF CLASS II BIKE LANES & CLASS III BIKEWAYS W/SHARROWS, APSHALT BIKE PATH, PED XING, & CONSTRUCTION OF 2 MI. OF SIDEWALKS AT DIFFERENT LOCATIONS & LANDSCAPED MEDIANS ALONG AVE 50 & AVE 52 FROM WESTERN CITY LIMITS TO CV LINK. TC USED TO MATCH ATP

Fund	ENG	R/W	CON	Total	Prior	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	Total
ACTIVE TRANSPORTATION PROGRAM - MPO	100		1,664	1,764	100	1,664						1,764
RIV140842 Total	100		1,664	1,764	100	1,664						1,764

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage	System	Conformity Category	Amendment
RIV151217	Riverside	SSAB		3A07057	CAX63					L	NON-EXEMPT	0
Description:							PTC	3,600		Agency	COACHELLA	

IN EASTERN RIVERSIDE COUNTY IN THE CITY OF COACHELLA - WIDENING OF AVENUE 48 FROM 2 TO 6 LANES (1 LN EA DIR TO 3 LNS EA DIR) FROM JACKSON RD TO VAN BUREN ST INCLUDING TRAFFIC SIGNAL MODIFICATIONS, STREET LIGHTING, DRAINAGE IMPROVEMENTS INCLUDING SIDEWALK AND BICYCLE LANES AND LANDSCAPING

Fund	ENG	R/W	CON	Total	Prior	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	Total
STP LOCAL			2,278	2,278		2,278						2,278

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost ($1,000's)
County: Riverside									
LOCAL HIGHWAY	COACHELLA	RIV110825	0				IN THE CITY OF COACHELLA - AVE 50 OVER COACHELLA STORMWATER CHANNEL: REPLACEMENT OF A 2-LN LOW WATER X-ING (BRIDGE NO. 00L0055) WITH A 6-LN (3-LNS IN EA DIR) BRIDGE FROM 300-FT W/O APACHE TRAIL TO SR-86S INTERSECTION. OTHER IMPROVEMENTS INCLUDE BIKE LANE	2020	$29,915
LOCAL HIGHWAY	CORONA	3160012	0	RADIO RD	SAMPSON AVE	WALKER LN	GRADE SEPARATION - 2 LANES OVER BNSF RR TRACKS	2022	$25,000
LOCAL HIGHWAY	CORONA	3A04T027	0	MAGNOLIA AVE	ONTARIO AVE	KELLOGG AVE.	INTERSECTION UPGRADES ON MAGNOLIA AVE. BETWEEN ONTARIO AVE. AND KELLOGG AVE.TO ACCOMMODATE RESTRIPING FROM 4 TO 6 LANES.	2035	$277
LOCAL HIGHWAY	CORONA	3A04WT030	0	MAIN ST	SOUTH GRAND BLVD.	ONTARIO AVE.	WIDEN FROM 2 TO 4 LANES.	2035	$4,575
LOCAL HIGHWAY	CORONA	3A04WT032	0	RAILROAD ST	SHERMAN AVE	MAIN ST (AT GRAND)	WIDEN FROM 2 TO 4 LANES	2035	$9,416
LOCAL HIGHWAY	CORONA	RIV010209	0	FOOTHILL PARKWAY	LINCOLN AVE	PASEO GRANDE	IN THE CITY OF CORONA - CONSTRUCT FOOTHILL PARKWAY WESTERLY EXTENSION 4 LANE ROAD FROM LINCOLN AVE TO PASEO GRANDE (APPROX 2.5 MILES)	2016	$67,481
LOCAL HIGHWAY	CORONA	RIV011240	0				IN CORONA ON EXISTING MCKINLEY ST - CONSTRUCT GRADE SEPARATION AT BNSF RAILROAD CROSSING (PROJECT STUDY REPORT & PRELIMINARY ENVIRONMENTAL ANALYSIS REPORT ACTIVITIES)	2019	$3,800
LOCAL HIGHWAY	CORONA	RIV011241	0				IN CORONA ON AUTO CENTER DRIVE - CONSTRUCT 4 LANE OVERCROSSING (GRADE SEPARATION) OVER EXISTING BNSF TRACKS ($1,240 TOLL CREDITS IN CONST TO MATCH PNRS).	2015	$32,675
LOCAL HIGHWAY	DESERT HOT SPRINGS	3120017	0	MISSION LAKES BLVD	SR62	INDIAN AVE.	WIDEN FROM 2 TO 4 LANES	2022	$9,486
LOCAL HIGHWAY	DESERT HOT SPRINGS	3120018	0	MOUNTAIN VIEW RD.	PIERSON BLVD. AT EAST TERMINUS OF DESERT VIEW AVE.	HACIENDA AVE.	WIDEN FROM 2 TO 4 LANES	2022	$1,064
LOCAL HIGHWAY	DESERT HOT SPRINGS	3120021	0	PIERSON BLVD.	AMBROSIO DR	MIRACLE HILL RD.	WIDEN FROM 2 TO 4 LANES	2023	$2,150

TABLE 2 Financially-Constrained RTP/SCS Projects - Continued

System	Lead Agency	RTP ID	Route #	Route Name	From	To	Description	Completion Year	Project Cost ($1,000's)
County: Riverside									
STATE HIGHWAY	LAKE ELSINORE	3A04WT047	74	SR-74	HUNCO WAY	ORTEGA MOUNTAINS	IN MID-WESTERN RIVERSIDE COUNTY IN THE CITY OF LAKE ELSINORE: WIDENING OF SR-74 FROM 2 TO 6 THROUGH LANES (3 LANES IN EACH DIRECTION), WEST OF I-15 TO THE ORTEGA MOUNTAINS. OTHER IMPROVEMENTS INCLUDE TURN POCKETS AND ONE TRAFFIC SIGNAL AT INTERSECTION OF SR74 (RIVERSIDE DR) AND GRAND AVE (RIV131127).	2020	$11,500
STATE HIGHWAY	RIVERSIDE COUNTY	3A04SH12	79	SR-79	HUNTER RD	DOMENIGONI PKWY	WIDEN FROM 4 TO 6 LANES	2030	$124,803
STATE HIGHWAY	RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV62024	79	SR79	2.0 KM S/O DOMENIGONI PKWY	GILMAN SPRINGS RD	ON SR79 IN SOUTHWESTERN RIVERSIDE COUNTY BETWEEN 2.0 KILOMETERS SOUTH OF DOMENIGONI PKWY TO GILMAN SPRINGS ROAD: REALIGN AND WIDEN SR79 FROM 2 TO 4 THROUGH LANES.	2020	$1,125,438
STATE HIGHWAY	COACHELLA	3M01CV03	86	SR-86S (PM 17.81 TO 18.81)	AT AVE 54	BTWN SR-111 RAMP; FILLMORE	CONSTRUCT 4 LANE BRIDGE/INTERCHANGE AND RAMPS ACROSS SR-86S	2035	$92,843
STATE HIGHWAY	COACHELLA	3M0716	86	SR86S (PM 21.02 TO 22.9)	AT DILLON RD	BTWN WEST OF COACHELLA STORM WATER CHANNEL AND AVENUE 47	RECONSTRUCT/WIDEN IC FROM 2 TO 4 LANES AND RECONSTRUCT/WIDEN RAMPS	2020	$26,851
STATE HIGHWAY	COACHELLA	3M0717-RIV071274	86	AVENUE 52	COACHELLA STORM DRAIN	E/O TYLER ST.	AT SR86S/AVENUE 52: WIDEN AND CONSTRUCT NEW 6 THROUGH LANE IC FROM E/O COACHELLA STORMWATER CHANNEL BRIDGE TO E/O TYLER ST. IMPROVEMENTS INCLUDE: REALIGN POLK ST AND RELOCATE AVE 52 AND POLK ST INTERSECTION, EXTENDED RAMP ACCELERATION/DECELERATION LANES, BIKE LANES, SIDEWALKS, AND RECONSTRUCT TRAFFIC SIGNALS (EA: 0C960).	2023	$33,000
STATE HIGHWAY	COACHELLA	RIV061159-RIV061159	86	AVENUE 50	E/O COACHELLA STORMWATER CHANNEL BRIDGE	E/O TYLER	AT SR86S/AVENUE 50: WIDEN AND CONSTRUCT NEW 6THROUGH LANE IC FROM E/O COACHELLA STORMWATER CHANNEL BRIDGE TO E/O TYLER ST. IMPROVEMENTS INCLUDE: EXTENDED RAMP ACCELERATION/DECELERATION LANES, RELOCATE/ REALIGN AVE 50 AND TYLER ST, BIKE LANES, SIDEWALKS, AND RECONSTRUCT TRAFFIC SIGNALS (SAFETEA LU 1702, CA583, #2543) (EA: 0C970)	2019	$32,160

Appendix G

List of Technical Studies

Appendix G List of Technical Studies

Air Quality Report for the State Route 86/Avenue 50 New Interchange Project (April 2018)

Historic Property Survey Report (November 2018)/Archaeological Survey Report (August 2018)/Historic Resources Evaluation Report for the State Route 86/Avenue 50 New Interchange Project (May 2018)

Combined Paleontological Identification Report and Paleontological Evaluation Report for the State Route 86/Avenue 50 New Interchange Project (March 2018)

Community Impact Assessment, State Route 86/Avenue 50 New Interchange Project (October 2018)

Relocation Impact Memorandum, State Route 86/Avenue 50 New Interchange Project (May 2018)

District Preliminary Geotechnical Report, State Route 86/Avenue 50 New Interchange Project (May 2018)

Location Hydraulic Study and Summary Floodplain Encroachment Report, State Route 86/Avenue 50 New Interchange Project (May 2018)

Natural Environment Study and Jurisdictional Delineation, State Route 86/Avenue 50 New Interchange Project (November 2018)

State Route 86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017)

State Route 86/Avenue 50 New Interchange Project Noise Study Report (August 2018)

State Route 86/Avenue 50 New Interchange Project Phase I Initial Site Assessment (October 2017)

Visual Impact Assessment for State Route 86/Avenue 50 New Interchange Project (May 2018)

Scoping Questionnaire for Water Quality Issues, State Route 86/Avenue 50 New Interchange Project (June 2018)

Water Quality Assessment Report, State Route 86/Avenue 50 New Interchange Project (June 2018)

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Appendix H

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 6/12/2018	
Name of Project SR-86/Avenue 50 New Interchange Project		Federal Agency Involved California Department of Transportation	
Proposed Land Use Transportation use		County and State Riverside, California	
PART II *(To be completed by NRCS)*		Date Request Received By NRCS: 6/11/2018	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 145,961	Average Farm Size 117
Major Crop(s) Various truck/vegetable	Farmable Land In Govt. Jurisdiction Acres: 227,246 %: 4.8	Amount of Farmland As Defined in FPPA Acres: 713,559 %: 15.1	
Name of Land Evaluation System Used California Agricultural LESA	Name of State or Local Site Assessment System Storie	Date Land Evaluation Returned by NRCS 6/13/2018	

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	44.47			
B. Total Acres To Be Converted Indirectly	13.35			
C. Total Acres In Site	123.45			
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	42.3			
B. Total Acres Statewide Important or Local Important Farmland	15.5			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.006			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	9.5			
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)	89			

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)	13			
2. Perimeter In Non-urban Use	(10)	9			
3. Percent Of Site Being Farmed	(20)	11			
4. Protection Provided By State and Local Government	(20)	20			
5. Distance From Urban Built-up Area	(15)	0			
6. Distance To Urban Support Services	(15)	0			
7. Size Of Present Farm Unit Compared To Average	(10)	2			
8. Creation Of Non-farmable Farmland	(10)	10			
9. Availability Of Farm Support Services	(5)	5			
10. On-Farm Investments	(20)	15			
11. Effects Of Conversion On Farm Support Services	(10)	0			
12. Compatibility With Existing Agricultural Use	(10)	5			
TOTAL SITE ASSESSMENT POINTS	160	90	0	0	0
PART VII ***(To be completed by Federal Agency)***					
Relative Value Of Farmland *(From Part V)*	100	89	0	0	0
Total Site Assessment *(From Part VI above or local site assessment)*	160	90	0	0	0
TOTAL POINTS ***(Total of above 2 lines)***	260	179	0	0	0

Site Selected: A	Date Of Selection 6/14/2018	Was A Local Site Assessment Used? YES ☑ NO ☐

Reason For Selection:

Both proposed project alternatives located within a single site (Site A).

Name of Federal agency representative completing this form: James Shankel	Date: 6/14/2018

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

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