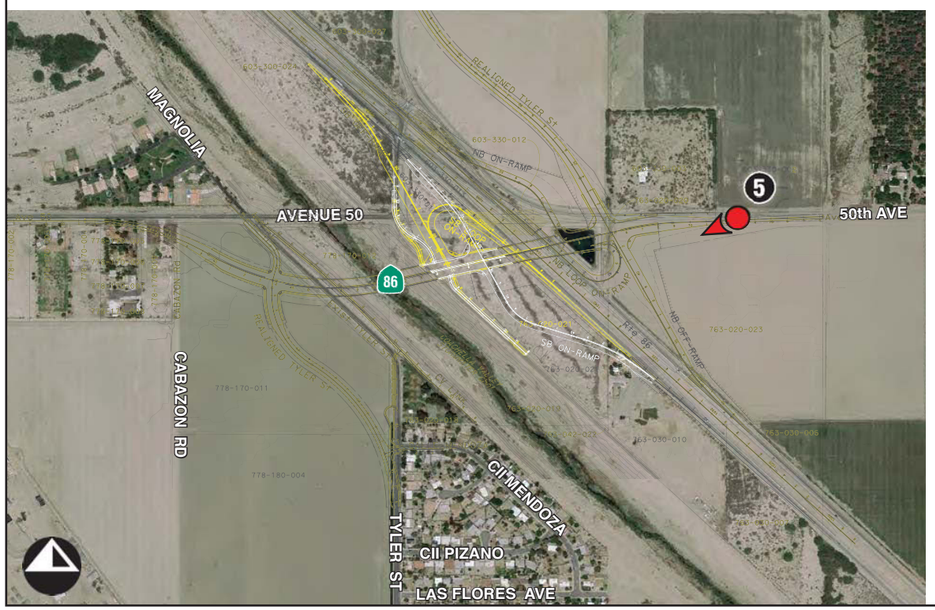


Similar Build Alternative Features
Build Alternative 7 Only
Build Alternative 8 Only
Direction of Photo Key View Location
1 Key View Number

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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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.

This page intentionally left blank.

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 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 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 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 Without Standard Conditions 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 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."

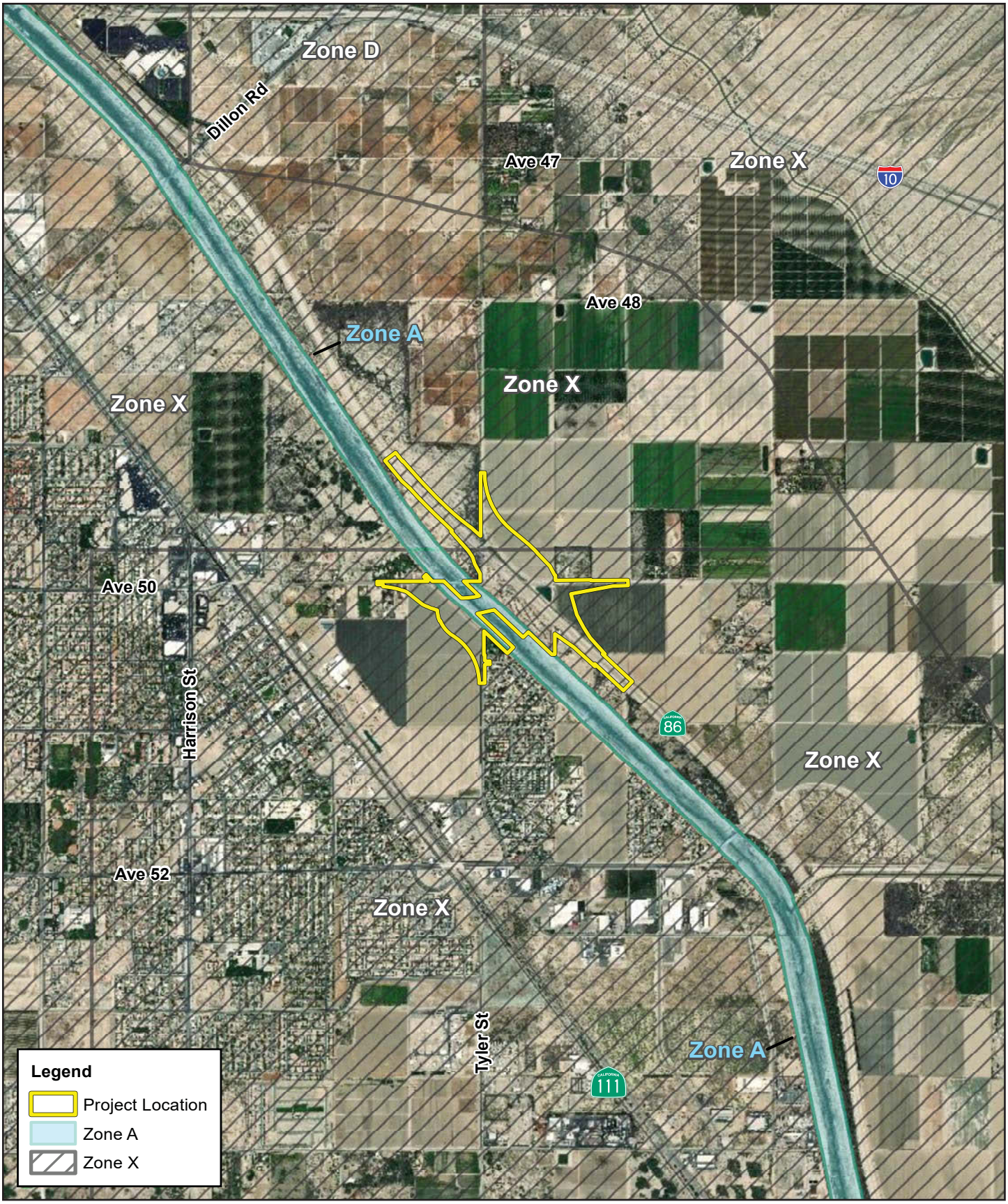
2.2.1.2 Affected Environment

This section is based on the Location Hydraulic Study and Summary Floodplain Encroachment Report (dated May 2018) (LHS/SFER) prepared for the 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 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.



NOT TO SCALE

11/18 | JN 159814

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

Flood Zones

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 project but would not be removed. Although the 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 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 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 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 project 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 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 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 project dated June 2018.

2.2.2.2.1 Surface Streams

Storm water that falls within the 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 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 project and its location in the watershed. Figure 2.2.2-2, Hydrologic Sub-Area Map, shows the project's location in the Hydrologic Sub Area. The 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

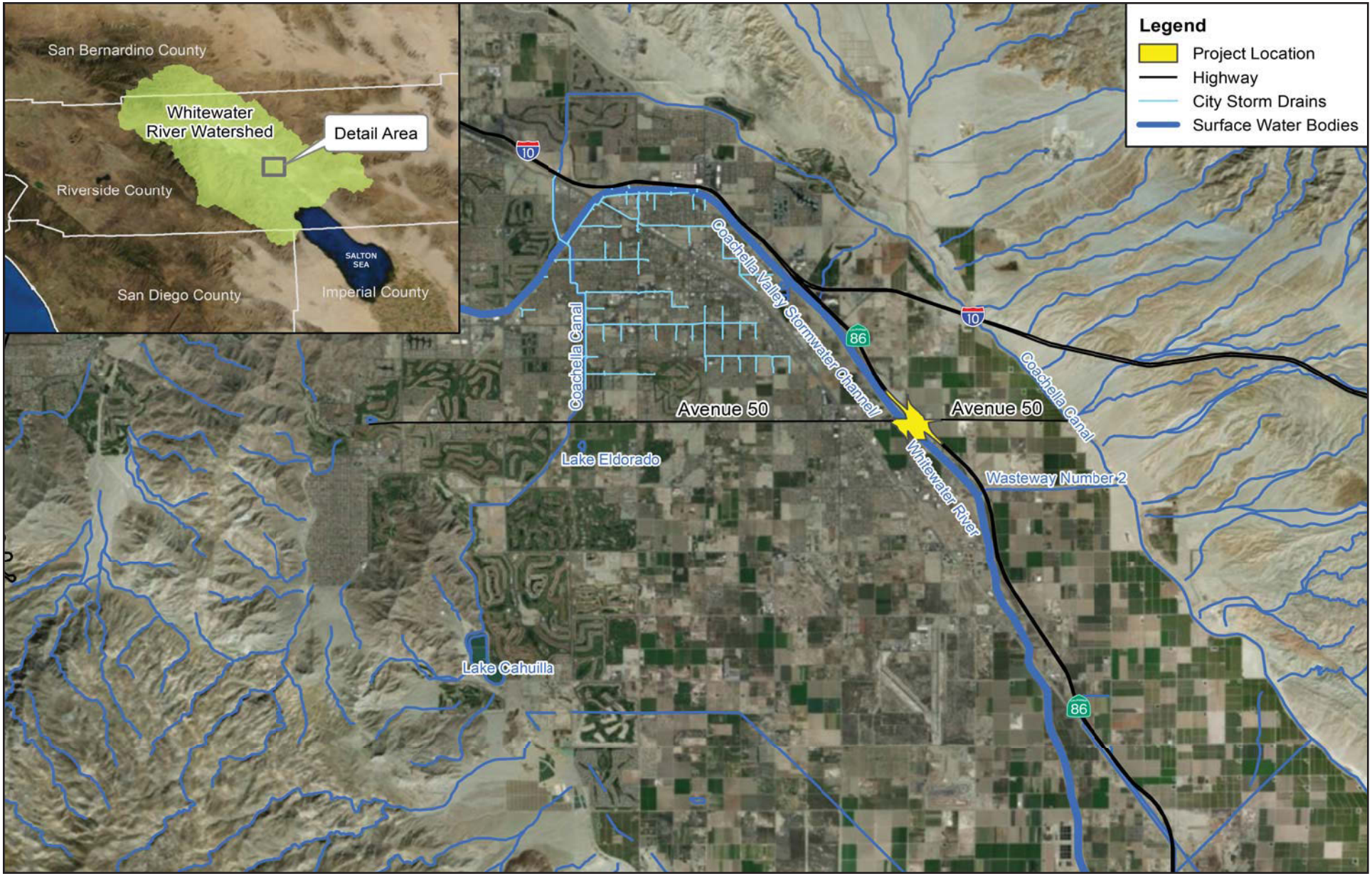
When storm water falls on the existing road and highway system within the project area, it sheet flows towards roadside ditches and gullies. Within the Caltrans ROW, Caltrans standard drains and culverts convey the runoff from roadside ditches. Underground pipes direct this flow directly to the local county flood control drainage network. Ultimately, the storm water that falls within the 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 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 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.

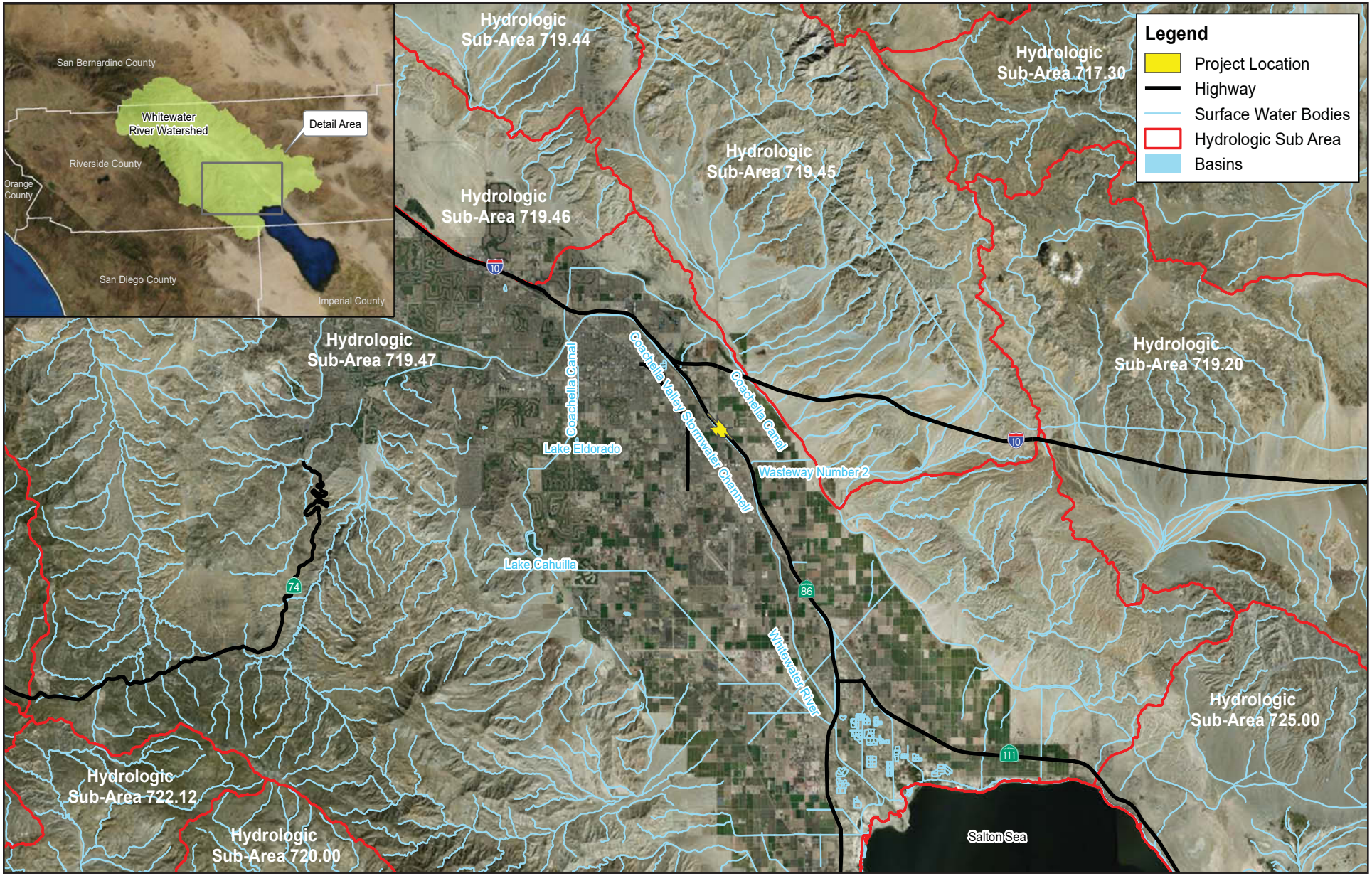
NOT TO SCALE

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.

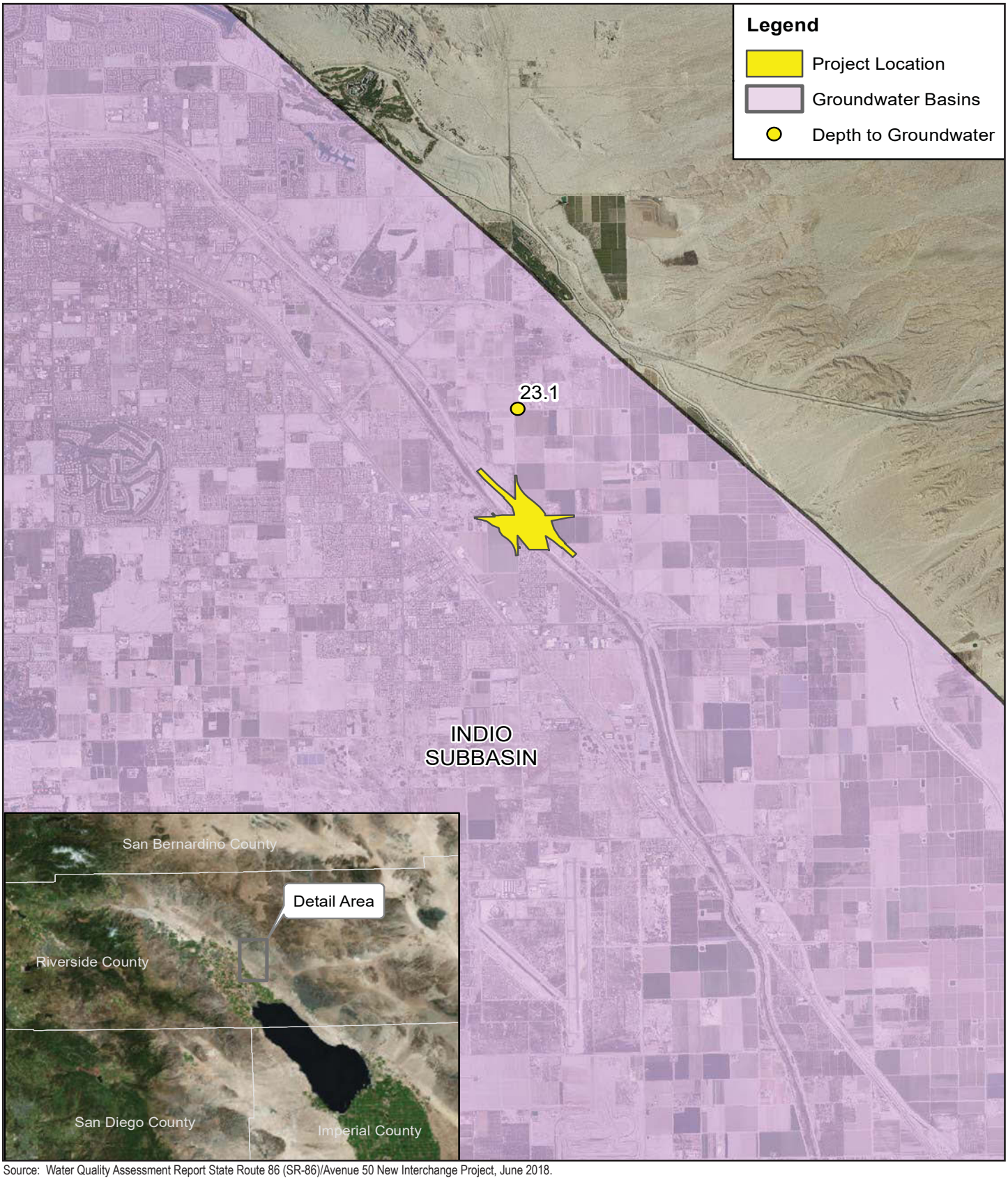
NOT TO SCALE

11/18 | JN 159814

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.

NOT TO SCALE

11/18 | JN 159814

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 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 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 project to the Salton Sea was used to determine what water bodies could potentially be impacted by the project. Precipitation that falls within the 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 project in their order of contact from the 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.

Analysis related to CWA Sections 401 and 404 are discussed in Section 2.3.2, Wetlands and Other Waters.

2.2.2.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

Under the No-Build Alternative, none of the project improvements would be implemented; therefore, no increase in runoff flow velocities, volumes, or peak flow rates or 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 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.

Analysis related to CWA Sections 401 and 404 are discussed in Section 2.3.2, Wetlands and Other Waters.

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 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 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 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 Avenue 50 overcrossing for preliminary liquefaction grade.

2.2.3.2.5 Geologic Hazards

Geological hazards relevant to the 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

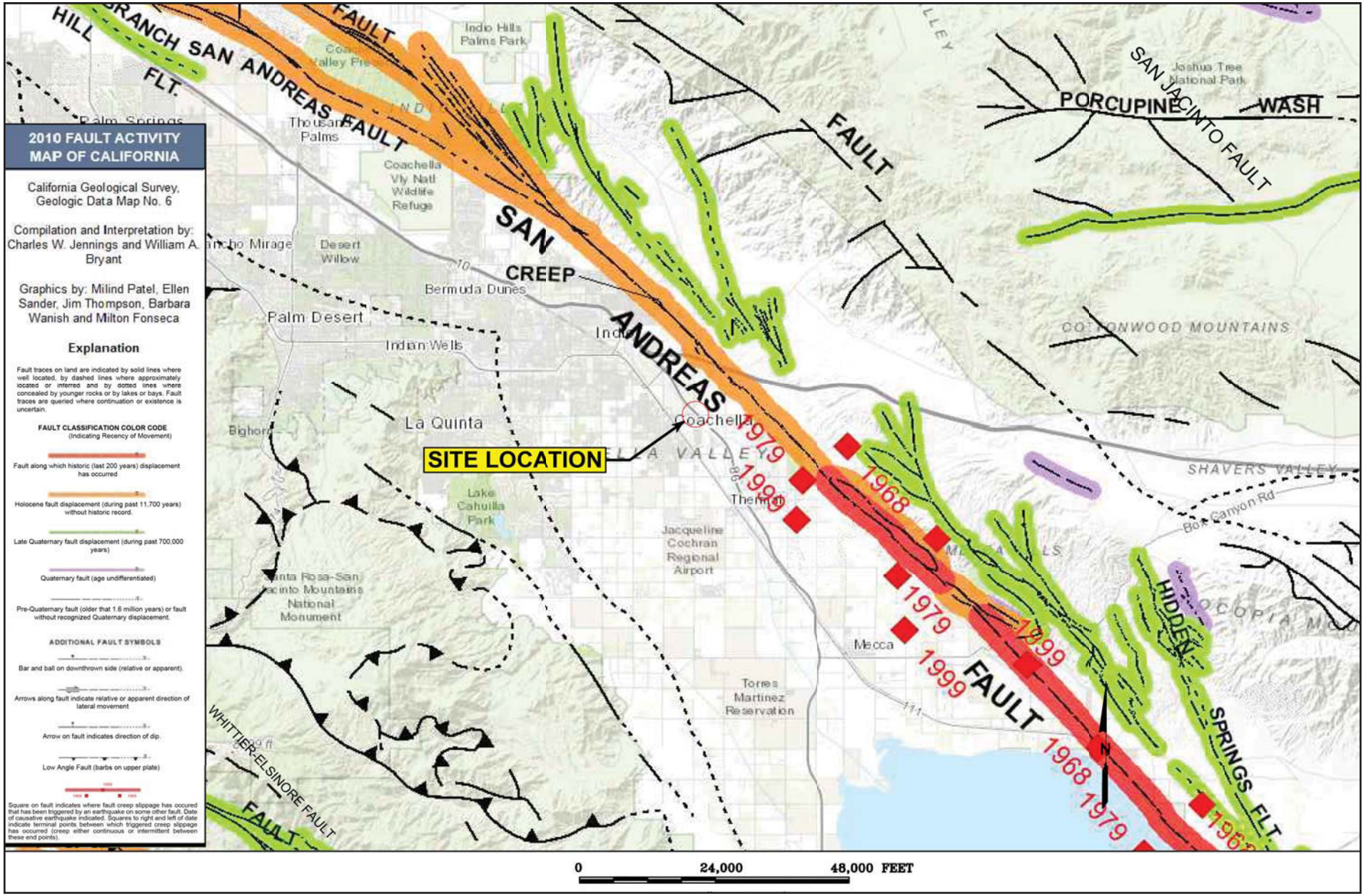
The topography of the project site is flat without any major natural slopes. Therefore, landslide potential is considered low.

Other Geologic Hazards

There are no volcanos in the 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 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 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 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 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 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 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 under 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.

This page intentionally left blank.

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 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 Project.

Table 2.2.4-2: Paleontology Sensitivity for the 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 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 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, if significant.

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 Quaternary surficial sediments, monitoring should not be required in project areas where construction activities disturb sediments at depths less than 20 feet bgs.

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 in the City of Hemet, Riverside County, California 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 yielded fossils, then a copy of the report shall also be submitted to the Western Science Center.

This page intentionally left blank.

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 permanent ROW acquisition areas, including single family residential, agricultural, commercial, and vacant land uses. Vacant land associated with an off-site radio tower station will be acquired 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 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 will also be required. 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 ROW acquisition properties, 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 under 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.	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	Attainment/Serious Maintenance
	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	Unclassifiable/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 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 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 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 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 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 project is listed in the SCAG *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy Final Amendment #3* (RTP/SCS) [Project ID RIV061159], which was found to conform by FHWA and FTA and adopted on April 6, 2018. The project is also included in SCAG 2019 FTIP (Local Highway Amendments 1-13, page 4 of 27 [RIV110825], and State Highway Amendments 1-13, page 10 of 17 [RIV061159]). The SCAG 2019 FTIP was determined to conform by FHWA and FTA on December 17, 2018. The design concept and scope of the project is consistent with the project description in the SCAG 2016 RTP/SCS, 2019 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.

An Air Quality Conformity Analysis (AQCA) was prepared for the project and submitted to the FHWA on March 14, 2019. The FHWA issued their Conformity Determination on April 2, 2019. The FHWA Conformity Determination is provided in Chapter 4.0, Comments and Coordination.

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 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 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 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 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 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 under 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 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 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 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 project involves 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 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 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 project is not a POAQC; refer to subsection, 2.2.6.3.7, Interagency Consultation, below. Therefore, the 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 project does not involve parking lots, and therefore would not increase the number of vehicles operating in cold start mode. As a result, the 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 project is not a POAQC. Therefore, the 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 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 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 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.

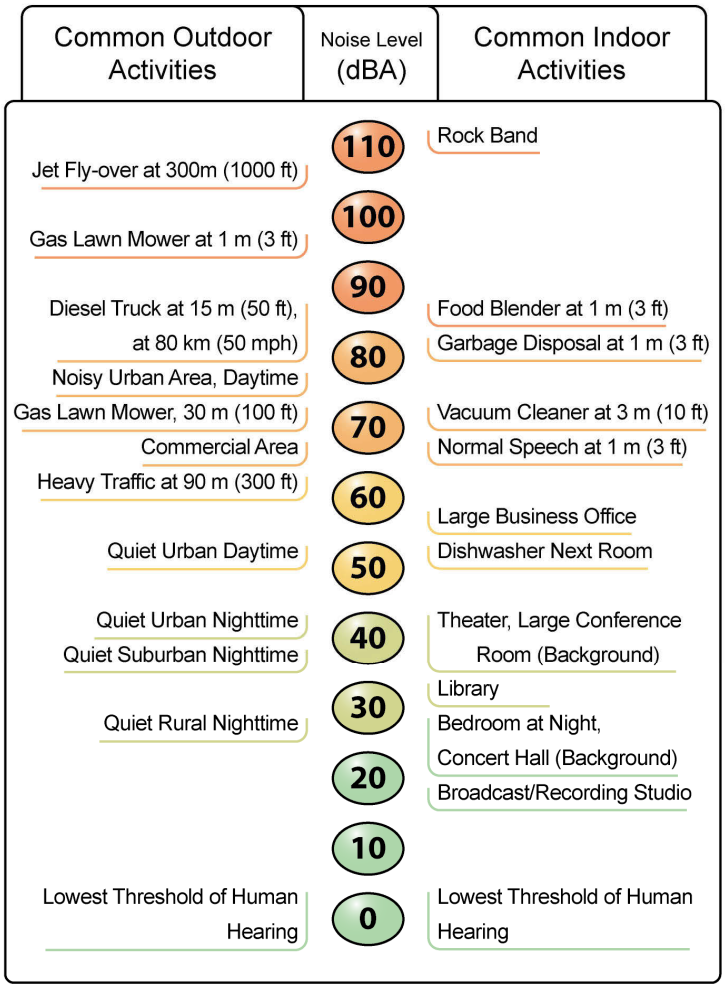
Table 2.2.7-1: Noise Abatement Criteria

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 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

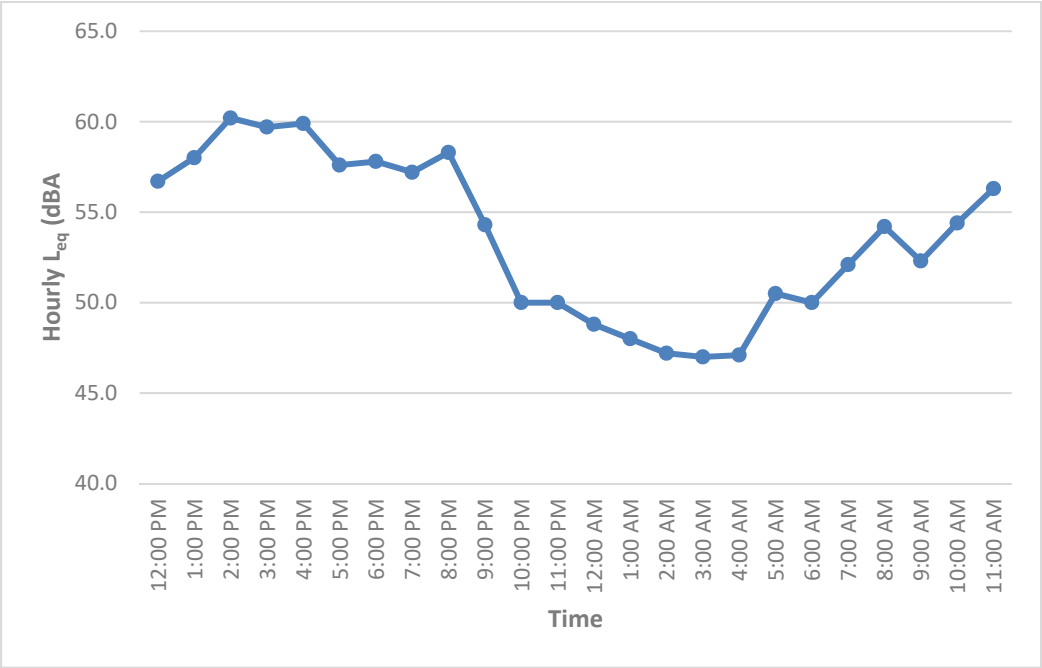


Table 2.2.7-5: Existing Traffic Noise Levels

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.

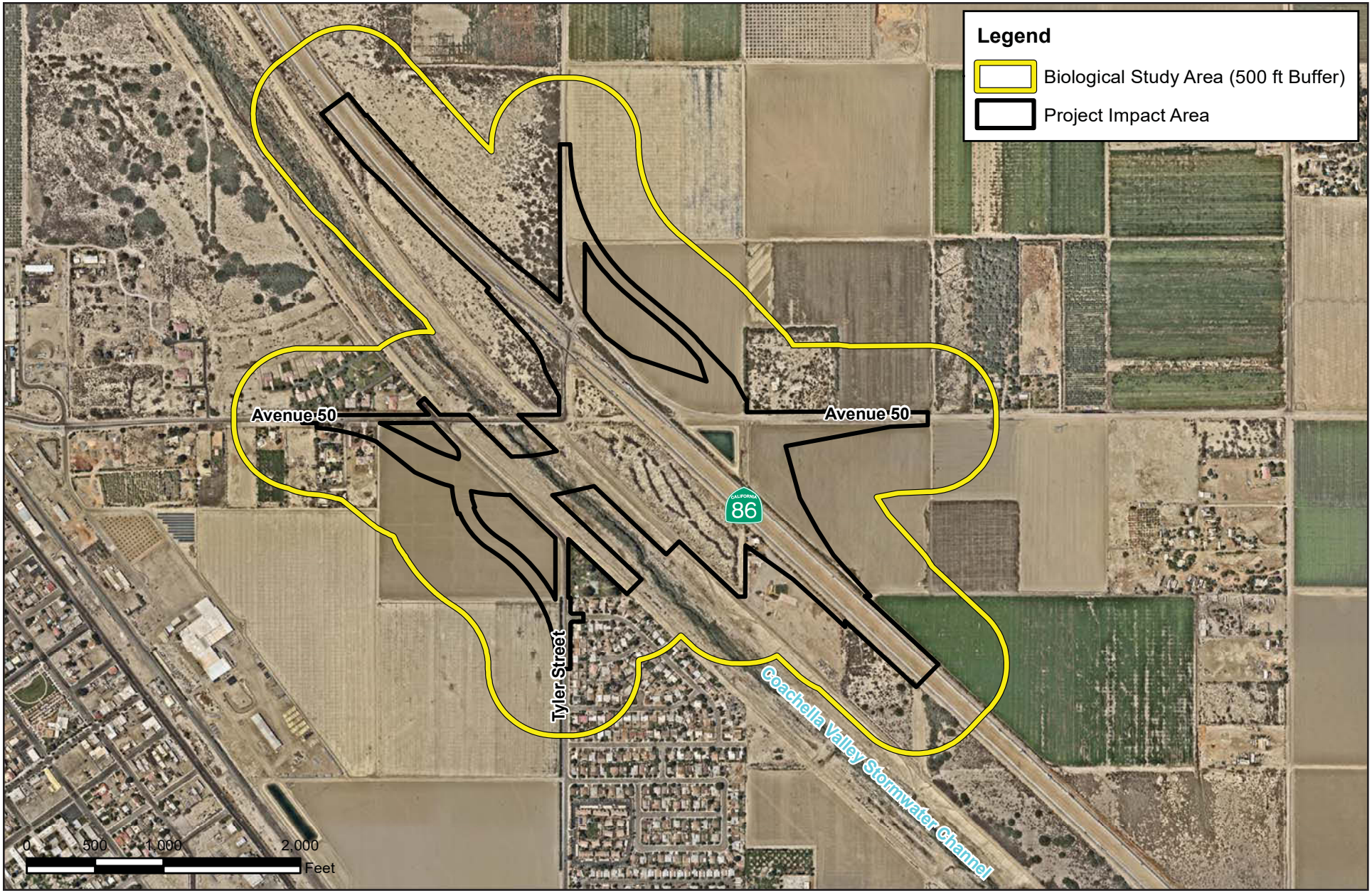
Table 2.3.1-1: Vegetation

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.



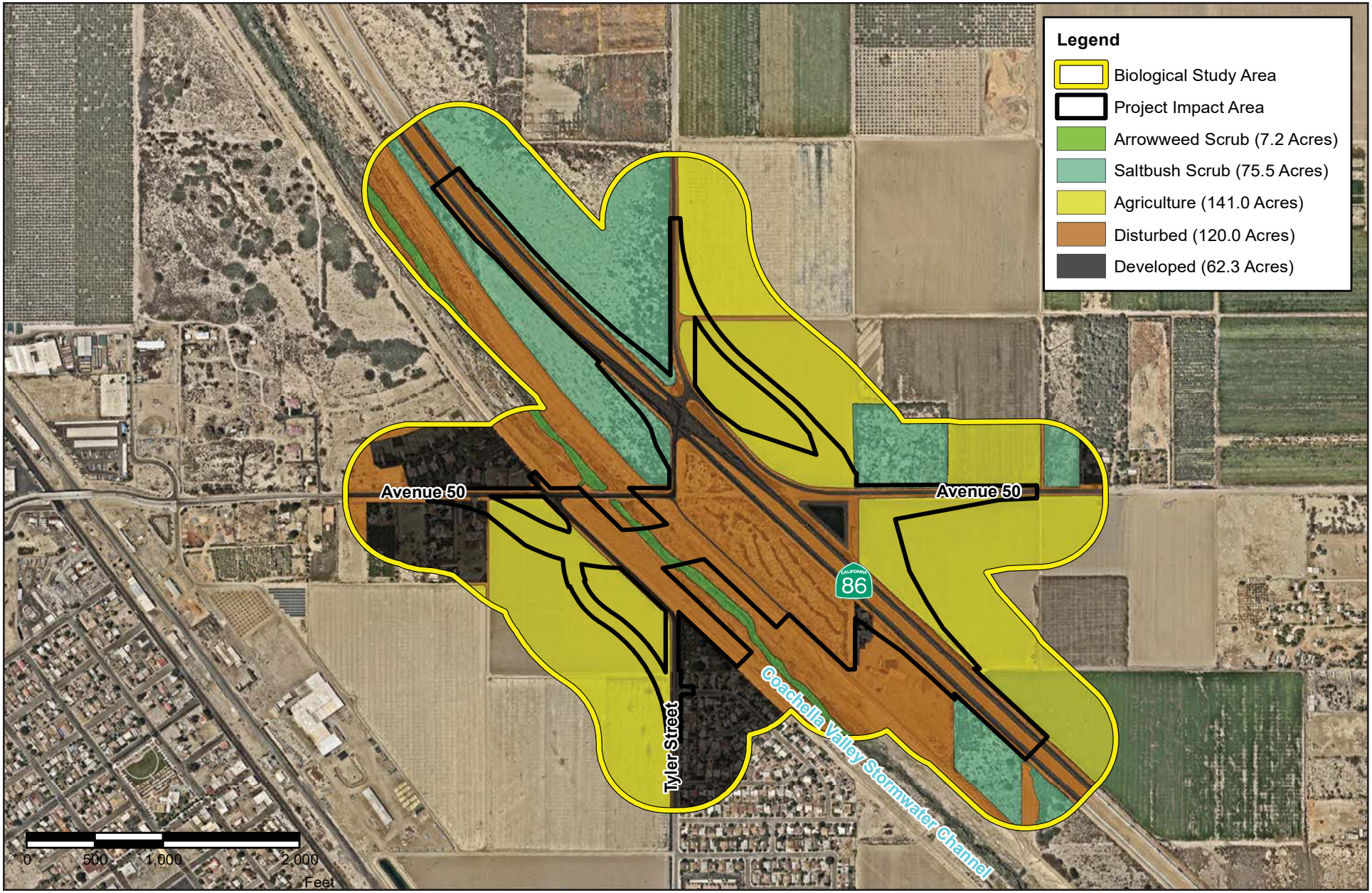
Source: Natural Environment Study, May 2018.

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

Biologicial Study Area

11/18 | JN 159814

Figure 2.3.1-1



Source: Natural Environment Study, May 2018.

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

Vegetation

11/18 | JN 159814

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.

2.3.1.2 Environmental Consequences

2.3.1.2.1 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.

2.3.1.2.2 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.

2.3.1.3 Avoidance, Minimization, and/or Mitigation Measures

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

This page intentionally left blank.

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.

NOT TO SCALE

11/18 | JN 159814

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

Overview of Jurisdictional Features

Figure 2.3.2-1a

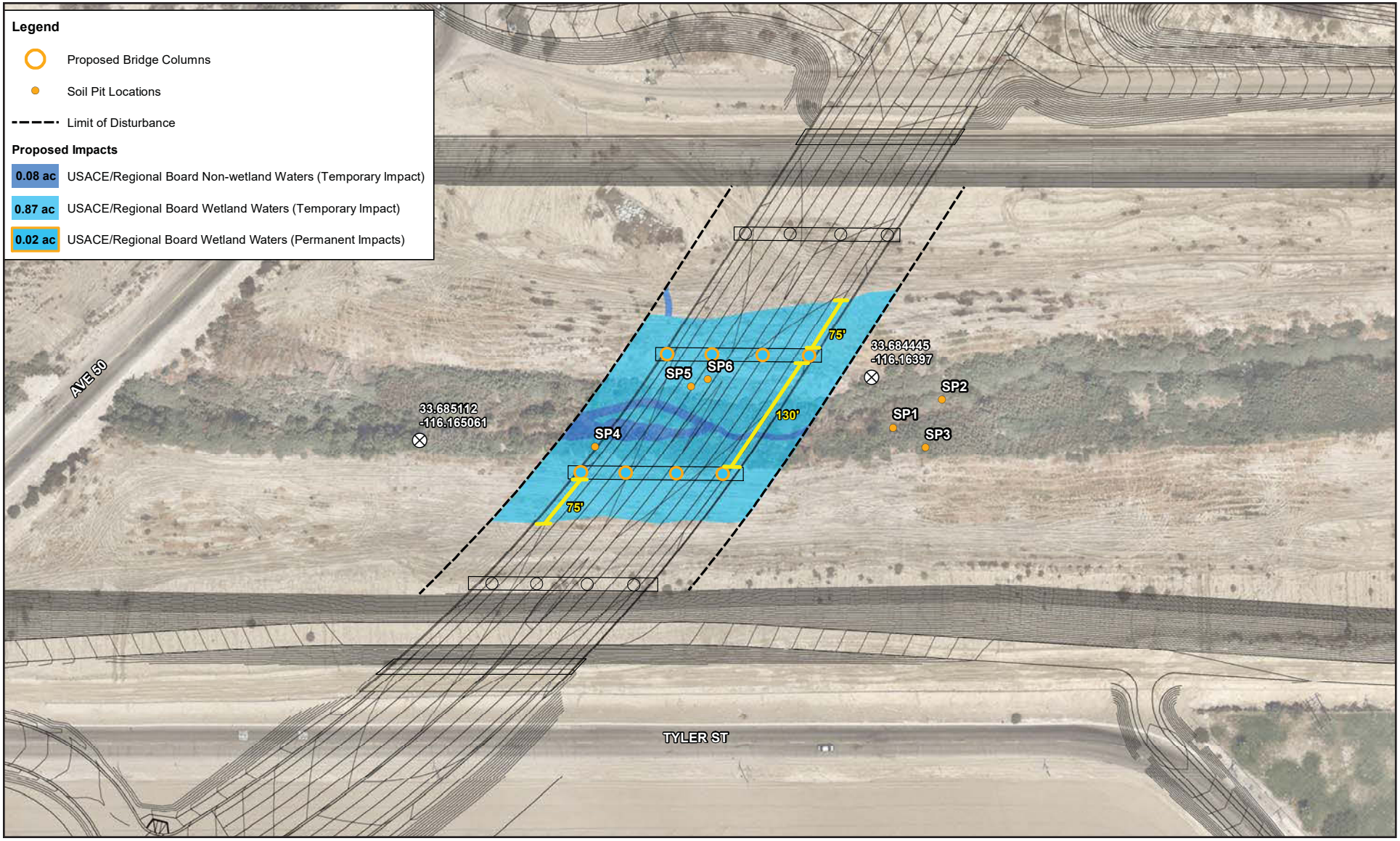
NOT TO SCALE

11/18 | JN 159814

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

Overview of Jurisdictional Features

Figure 2.3.2-1b



NOT TO SCALE

11/18 | JN 159814

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

Jurisdictional Areas

Figure 2.3.2-2a

NOT TO SCALE

11/18 | JN 159814

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 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 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 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 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 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 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 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 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 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 was received in the form of a Preliminary Jurisdictional Determination Form signed by the USACE on February 13, 2019, and an Approved Jurisdictional Determination Form signed by the USACE on March 21, 2019. 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.

Least Environmentally Damaging Practicable Alternative

As discussed in Section 2.2.2 Water Quality and Stormwater Runoff, the USACE issues permits only if there is no practicable alternative. The evaluation of practicable alternatives must consider a reasonable range of options that could fulfill the project purpose and need with focus on the project that avoids waters of the U.S. or impacts the smallest area of waters of the U.S.. An alternative is practicable "if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes" (40 CFR §230.10 [a] [2]). The Least Environmentally Damaging Practicable Alternative (LEDPA) must not have other overriding significant environmental consequences, must be practicable, and must meet the project purpose and need.

Identification of the LEDPA

Chapter 1.0 describes the range of alternatives examined during development of the project. A number of alternatives were withdrawn from consideration before the initiation of the IS/EA, due to the potential for greater impacts related to tribal lands, conflicts with Caltrans design standards and associated safety concerns, and a sizable increase in impact area and ROW acquisition. Alternative 1, the No-Build Alternative, was carried forward for analysis within the IS/EA, but is not consistent with the purpose and need of the project. Build Alternatives 7 and 8 were also carried forward for analysis, satisfy the purpose and need of the project, and result in a similar potential for impacts. Therefore, Alternatives 7 and 8 are considered the two practicable alternatives under consideration for the LEDPA.

A subject-specific comparison of impacts is provided in Table 1-16. The potential for environmental impacts are very similar under Alternatives 7 and 8. Alternative 7 would require slightly more acreage of permanent ROW acquisition than Alternative 8, but would impact slightly less tribal land. Impacts to waters of the U.S. are identical under both Build Alternatives, and all unavoidable impacts to wetlands and waters of the U.S. would be minimized to the extent practicable or mitigated.

Alternative 7 would require fewer nonstandard features as opposed to Alternative 8, and would result in enhanced safety for travelers within the project site. Therefore, Alternative 7 has been identified as the LEDPA, because this alternative avoids and/or minimizes environmental impacts to the maximum extent practicable while meeting the overall project purpose and need most effectively.

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.

2.3.2.5 Wetlands Only Practicable Alternative Finding

As noted above, EO 11990 regulates the activities of federal agencies with regard to wetlands. Essentially, EO 11990 states that a federal agency, such as FHWA and/or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to the construction and (2) the project includes all practicable measures to minimize harm.

The No-Build Alternative is not considered the Wetlands Only Practicable Alternative (WOPA), because it is not consistent with the purpose and need for the project. Build Alternatives 7 and 8 would both result in identical permanent impacts to 0.02-acres of wetlands under USACE and RWQCB jurisdiction. Based on the discussion provided above in Section 2.3.2.3.2, a bridge design with an increased span between bridge columns that avoids impacts to wetlands is not considered practicable. Measures WET-1 through WET-2b have been incorporated and represent all practicable measures to minimize harm to wetlands. Permanent impacts to wetlands would not be avoidable or minimizable under any practicable alternative available for the current project.

Based on the above considerations, it is determined that there is no practicable alternative to the construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.

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 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 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 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 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 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 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 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 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 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 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 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 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 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 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.

This page intentionally left blank.

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 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 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 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 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 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 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 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 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 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 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 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 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 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 SR-86/Avenue 50 New Interchange Project. The potential for cumulative impacts was evaluated by considering those resources potentially impacted by the project, either directly or indirectly. In accordance with Caltrans' Guidance for Preparers of Cumulative Impact Analysis, if a project 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 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 project.

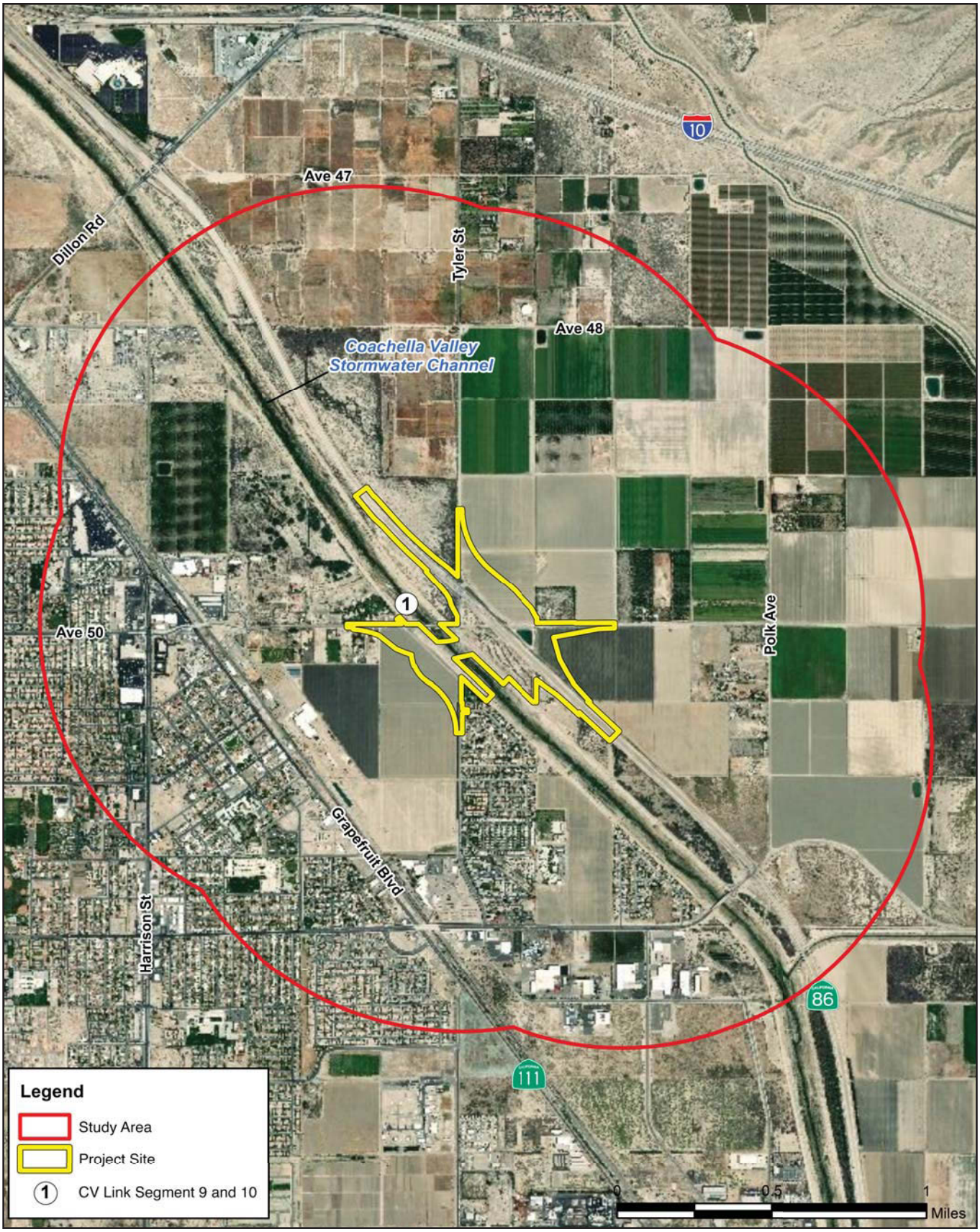
The RSA is defined by mainly developed and agricultural uses in the Coachella Valley, with surrounding views of the hillsides and ridgelines of Joshua Tree National Park to the north/east, eastern foothills of the San Bernardino National Forest to the northwest, Santa Rosa Mountains to the south, and 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.



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

Cumulative Impacts Resource Study Area for Visual/Aesthetics

11/18 | JN 159814

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 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 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 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 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]

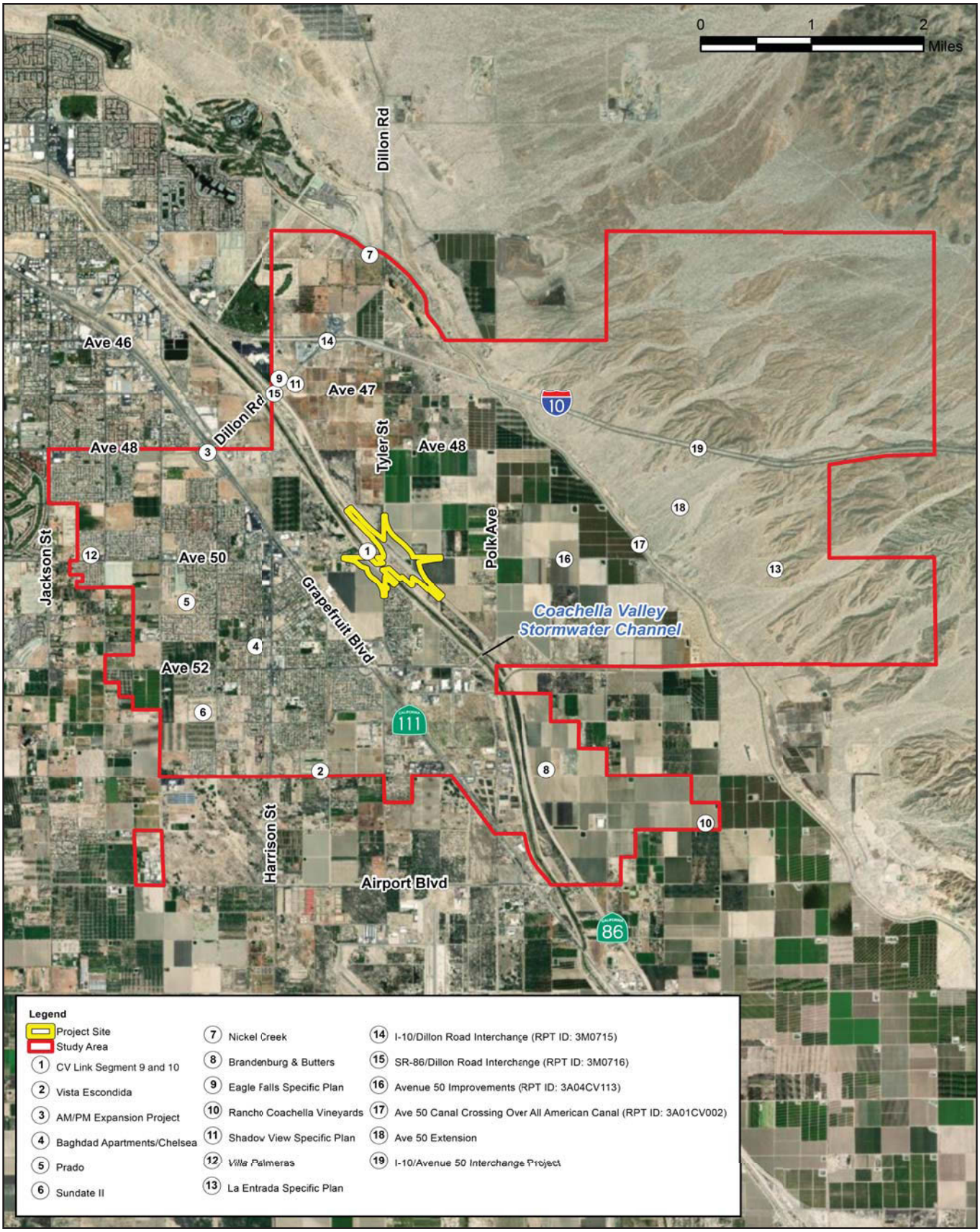
Direct and Indirect Impacts

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 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.



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

Cumulative Impacts Resource Study Area for Farmlands

11/18 | JN 159814

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 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.

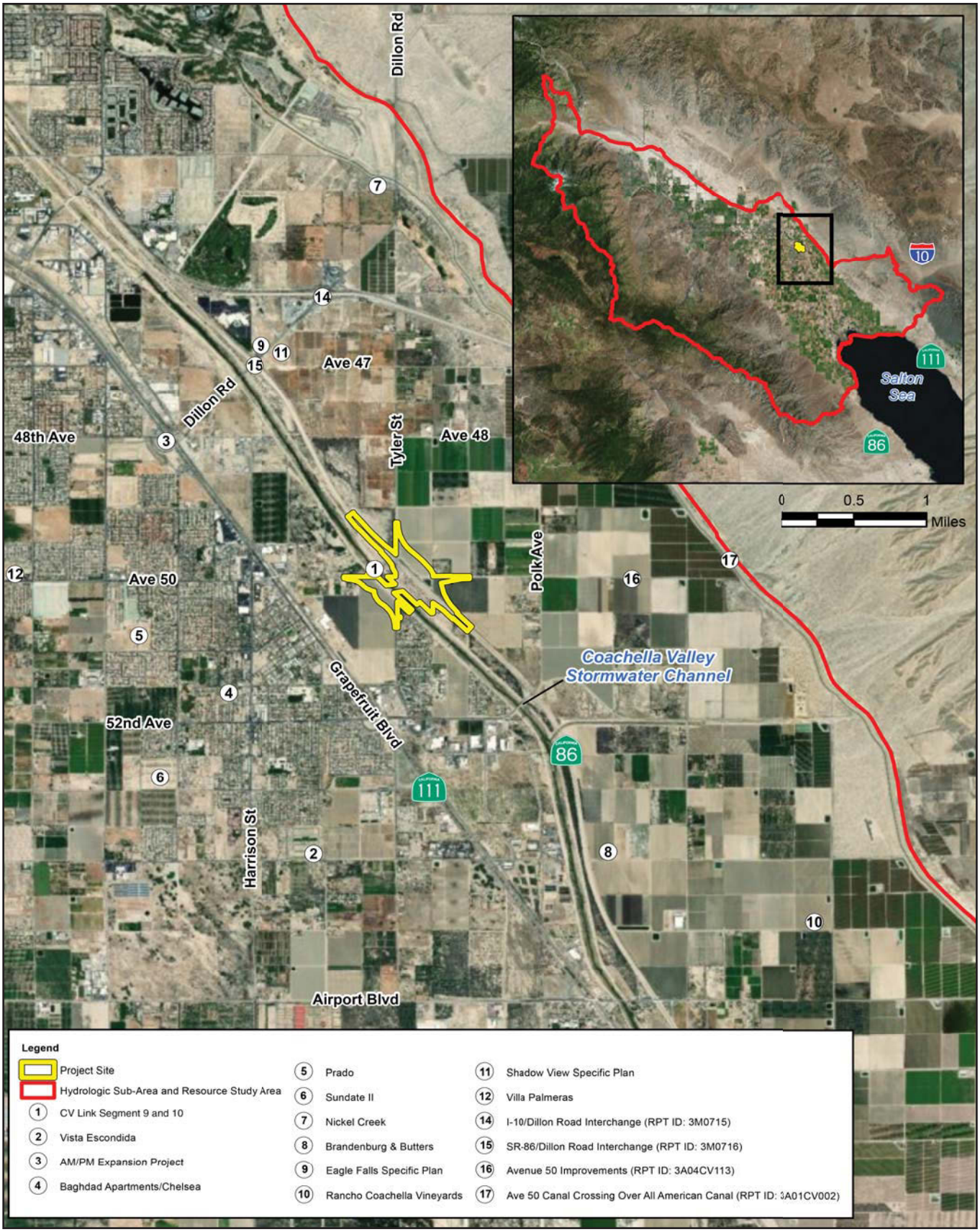
Specifically, the RSA includes the Indio Hydrologic Sub-Area of the Whitewater River watershed, which encompasses approximately 1,500 square miles and is bounded by the southeastern area of the San Bernardino Mountains (southeast of San Gorgonio Mountain), San Jacinto Mountains, the Santa Rosa Mountains, 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.



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

Cumulative Impacts Resource Study Area for Water Resources

11/18 | JN 159814

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, the project 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 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 project is "Low Risk."

Potential Cumulative Impacts

Similar to the 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 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 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 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 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 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 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.

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

Cumulative Impacts Resource Study Area for Biological Resources

11/18 | JN 159814

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 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 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 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 project's construction and operational effects on nesting birds and special-status animal species would not be adverse. Therefore, the project would not contribute to cumulative adverse effects related to special-status animal species.

Potential Cumulative Impacts

Similar to the 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 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 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 project would result in a "no effect" determination to least Bell's vireo. Therefore, the project would not contribute to cumulative adverse effects related to threatened or endangered plant or animal species.

Potential Cumulative Impacts

Similar to the 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 project is not expected to substantially contribute to cumulative impacts related to threatened and endangered species considerations.

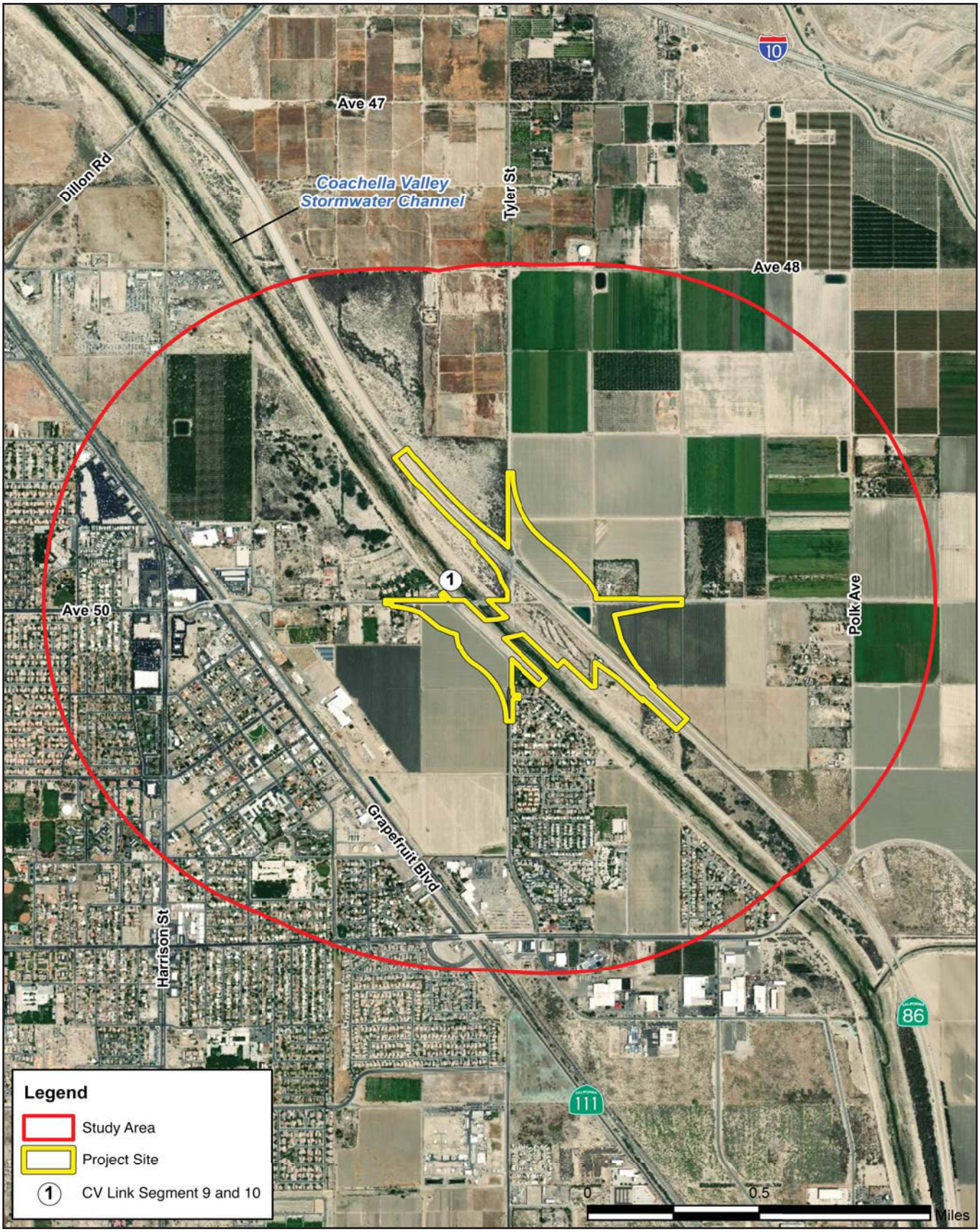
Avoidance, Minimization, and/or Mitigation Measures

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

11/18 | JN 159814

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 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 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 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 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 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 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.

This page intentionally left blank.

Chapter 3 California Environmental Quality Act (CEQA) Evaluation

3.1 Determining Significance Under CEQA

The 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.

This page intentionally left blank.

3.2 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the 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 SR-86/Avenue 50 interchange 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) Less Than Significant Impact.

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 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 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 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 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 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 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 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 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 project is included in the SCAG 2016 RTP/SCS and 2019 FTIP, both of which were found to be conforming (see Section 2.2.6, Air Quality, of this IS/EA). Therefore, the project would not conflict with the AQMP, violate any air quality standard, or result in a net increase of any criteria pollutant. 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 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 project would not contribute a cumulatively considerable net increase of any nonattainment criteria pollutant. Therefore, cumulative operational impacts associated with implementation of the 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 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 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 project include residential uses that are along the north and south of the existing Avenue 50 and residents along Tyler Street. Accordingly, the 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 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 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 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) <u>Less Than Significant Impact</u>.

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) <u>Less Than Significant With Mitigation Incorporated</u>.

No fossils are known to exist within the 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 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 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 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 under 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) <u>No Impact</u>.

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) <u>No Impact</u>.

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) <u>No Impact</u>.

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 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 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 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 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 project, but would not be removed.

Although the 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 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 project 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 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 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 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 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 project 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 improvements would not have the potential to divide an established community. No impacts would occur and no measures are required.

b) No Impact.

The 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 project falls within the boundaries of the CVMSHCP. As discussed in the Community Impact Assessment prepared for the project, the 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) <u>No Impact</u>.

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 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 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 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) <u>No Impact</u>.

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) <u>No Impact</u>.

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) <u>No Impact</u>.

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) <u>Less Than Significant Impact</u>.

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) <u>No Impact</u>.

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 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 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 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.

This page intentionally left blank.

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.

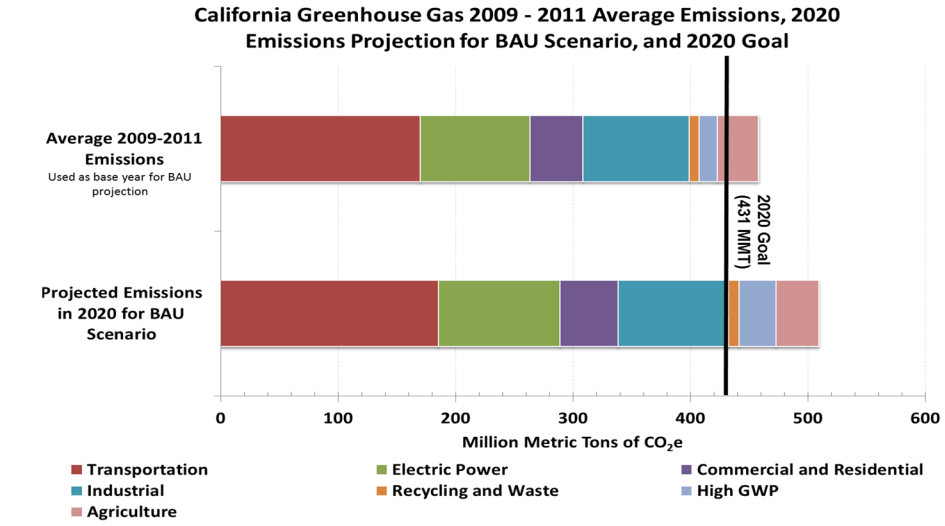
An emissions projection estimates future emissions based on current emissions, expected regulatory implementation, and other technological, social, economic, and behavioral patterns. The projected 2020 emissions provided in Figure 3.3-1, 2020 Business as Usual (BAU)

[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).

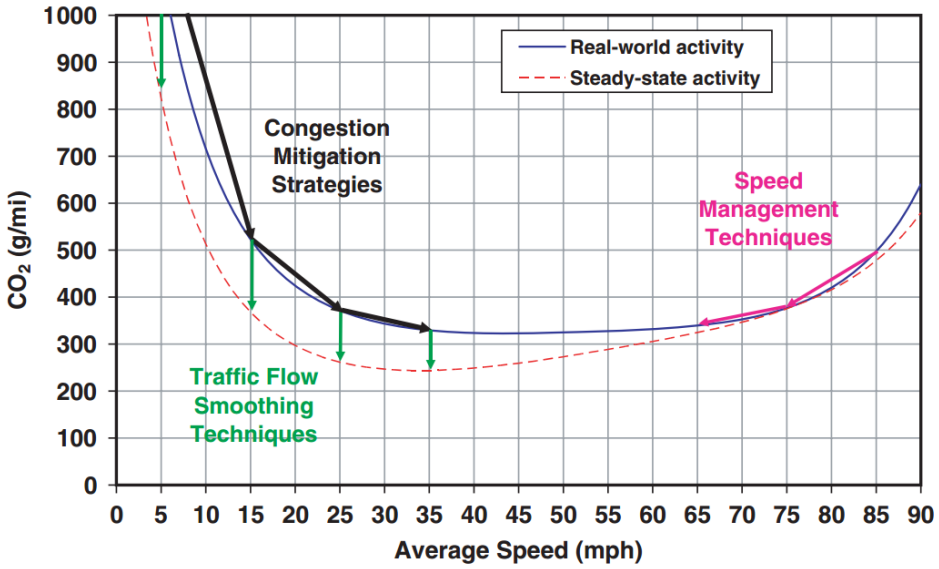
[7] This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011) 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 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 project 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 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 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 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 bridge structure as discussed below.

Phase 1 of the project includes mobility to and from eastern parts of the City of Coachella by providing direct and dependable access over the CVSC. The project is located in the Whitewater River Watershed. Runoff from the surrounding mountains drains through a network

[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/.

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 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 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 project is about 3.7 inches, as measured at a station located approximately 16 miles north of the 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 bridge as designed would continue to function effectively throughout its 75-year design life.

This page intentionally left blank.

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	N/A	**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	N/A	**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	N/A	**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 project. On November 6, 2018, the HPSR was provided to SHPO for review and on November 8, 2018, SHPO provided concurrence. See Section 4.9, 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, September 24, 2018, and again on February 5, 2019. See Section 4.9, 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 project would be anticipated to need a Standard Individual Permit. Written concurrence from the USACE on the results and findings of the Jurisdictional Delineation was received in the form of a Preliminary Jurisdictional Determination (PJD) Form and an

Approved Jurisdictional Determination (AJD) Form signed by the USACE on March 21, 2019. The approved PJD and AJD Forms are provided in Section 4.9, below.

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 project is not a Project of Air Quality Concern (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 4.9, below, for a copy of the TCWG determinations.

An Air Quality Conformity Analysis (AQCA) was prepared for the project and submitted to the FHWA on March 14, 2019. The FHWA issued their Conformity Determination on April 2, 2019. The FHWA Conformity Determination is provided in Section 4.9, below.

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 SR-86/Avenue 50 New Interchange Project and CVAG's planned CV Link project explaining that the project will not cause any impacts, nor impair the activities, features, and/or attributes of the planned CV Link facility, but would promote the future implementation of the 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. CVAG also noted that the project would promote regional mobility and active transportation, and that CVAG supports the interchange project. See Section 4.9, below, for copies of these letters.

4.7 Public Distribution of IS/EA and Public Hearing

4.7.1 Circulation of IS/EA

Caltrans circulated the *Initial Study with Proposed Mitigated Negative Declaration/ Environmental Assessment* for public review and comment between December 6, 2018 and January 7, 2019. December 6, 2018 was the publication date of the initial notices in newspapers (first notices in both English language and Spanish language newspapers occurred on December 6, 2018), announcing the availability of the IS/EA for public review and comment. December 6, 2018 was also the date that copies of the IS/EA were made available for review at

the City of Coachella's City Hall, located at 1515 Sixth Street, and at the City of Coachella's library located at 1500 Sixth Street. In addition, the IS/EA was made available on the City of Coachella's website.

Advertisements announcing the public hearing were placed in the following newspapers on the following dates:

- The Desert Sun: December 6 and 13, 2018
- El Informador Del Valle (Spanish): December 6 and 13, 2018

Copies of the advertisements are shown in Section 4.9, below.

4.7.2 Public Hearing

A public hearing was held on December 20, 2018 from 6:00 pm to 8:00 pm at the Coachella Library, 1500 Sixth Street, Coachella, CA 92236. The date and location of the public hearing was included in the published notices (advertisements) and in information sent to all agencies and persons on the distribution list, contained in Chapter 6 of this IS/EA.

The public hearing utilized the open house format, and a court reporter was available to record verbal comments provided by attendees on the publicly-circulated IS/EA. Information stations were set up and addressed project schedule; layout plans, and cross sections of the two Build Alternatives (Alternatives 7 and 8).

Approximately 13 visitors attended the public hearing. Attendees included local residents, business owners and representatives, public agency representatives, property owners, private consultants, and others interested in the project. Visitors reviewed displays and spoke with project personnel. One comment card was submitted and one verbal comment was recorded by the court reporter at the public hearing. Verbal questions and comments from those in attendance primarily focused on potential impacts to local property owners, the project schedule, and traffic circulation in the context of the project providing a new access point with SR-86 for the region and for planned development in the area.

4.8 Public Circulation Comments and Responses to Comments

The following section contains a reproduction of each of the comments received during the circulation period for the *Initial Study with Proposed Mitigated Negative Declaration/ Environmental Assessment* (IS/EA).

Four comments were received by regular mail, one comment was received by comment card at the public hearing, and one comment was verbally recorded by a court reporter at the public hearing.

The following section presents the original comment letters, comment cards, and pertinent portions of the court reporter transcripts of verbally recorded comment taken at the public hearing, and Caltrans' responses. The comments and responses are shown side-by-side. Changes from the IS/EA, as publicly circulated from review and comment, that are contained in this Environmental Document in response to a comment are noted as part of that response.

Changes made in response to the comments listed below are identified in the IS/EA with a vertical line in the margin.

The comments and responses are provided in two sections:

- Comments from governmental agencies
- Comments from members of the public

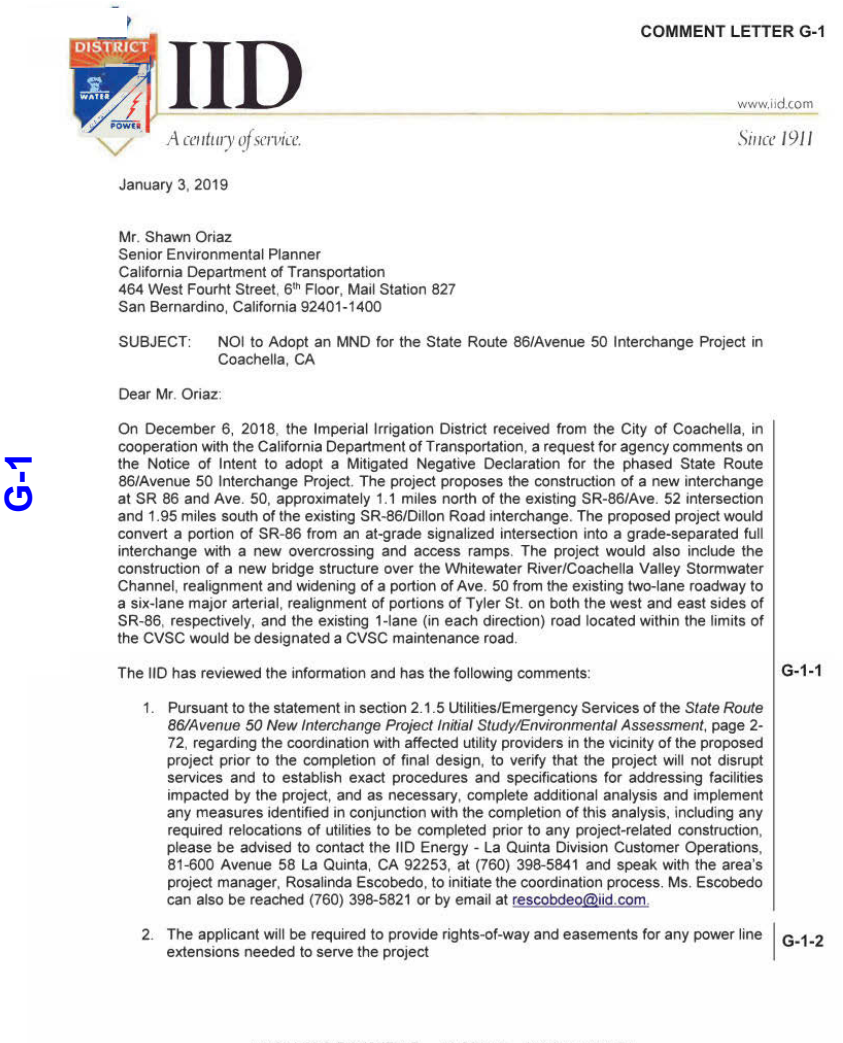
In the following list of all comment received, each commenter is assigned an identification number.

Table 4-2: Index of Commenters

ID	GOVERNMENT AGENCIES	DATE
G-1	Imperial Irrigation District (Donald Vargas)	January 3, 2019
G-2	South Coast Air Quality Management District (Lijin Sun)	January 4, 2019
PUBLIC COMMENTS		
P-1	John Powell	December 20, 2019
P-2	Rene Campos	December 20, 2019
P-3	AHD LP (Palmieri Tyler Attorneys at Law)	January 2, 2019
P-4	AHD LP (Palmieri Tyler Attorneys at Law)	January 7, 2019

This page intentionally left blank.

Comment G-1



COMMENT LETTER G-1

IID

A century of service.

www.iid.com

Since 1911

January 3, 2019

Mr. Shawn Oriaz
Senior Environmental Planner
California Department of Transportation
464 West Fourht Street, 6th Floor, Mail Station 827
San Bernardino, California 92401-1400

SUBJECT: NOI to Adopt an MND for the State Route 86/Avenue 50 Interchange Project in Coachella, CA

Dear Mr. Oriaz:

G-1

On December 6, 2018, the Imperial Irrigation District received from the City of Coachella, in cooperation with the California Department of Transportation, a request for agency comments on the Notice of Intent to adopt a Mitigated Negative Declaration for the phased State Route 86/Avenue 50 Interchange Project. The project proposes the construction of a new interchange at SR 86 and Ave. 50, approximately 1.1 miles north of the existing SR-86/Ave. 52 intersection and 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 and access ramps. The project would also include the construction of a new bridge structure over the Whitewater River/Coachella Valley Stormwater Channel, realignment and widening of a portion of Ave. 50 from the existing two-lane roadway to a six-lane major arterial, realignment of portions of Tyler St. on both the west and east sides of SR-86, respectively, and the existing 1-lane (in each direction) road located within the limits of the CVSC would be designated a CVSC maintenance road.

The IID has reviewed the information and has the following comments: G-1-1

1. Pursuant to the statement in section 2.1.5 Utilities/Emergency Services of the *State Route 86/Avenue 50 New Interchange Project Initial Study/Environmental Assessment*, page 2-72, regarding the coordination with affected utility providers in the vicinity of the proposed project prior to the completion of final design, to verify that the project will not disrupt services and to establish exact procedures and specifications for addressing facilities impacted by the project, and as necessary, complete additional analysis and implement any measures identified in conjunction with the completion of this analysis, including any required relocations of utilities to be completed prior to any project-related construction, please be advised to contact the IID Energy - La Quinta Division Customer Operations, 81-600 Avenue 58 La Quinta, CA 92253, at (760) 398-5841 and speak with the area's project manager, Rosalinda Escobedo, to initiate the coordination process. Ms. Escobedo can also be reached (760) 398-5821 or by email at rescobdeo@iid.com.

2. The applicant will be required to provide rights-of-way and easements for any power line extensions needed to serve the project G-1-2

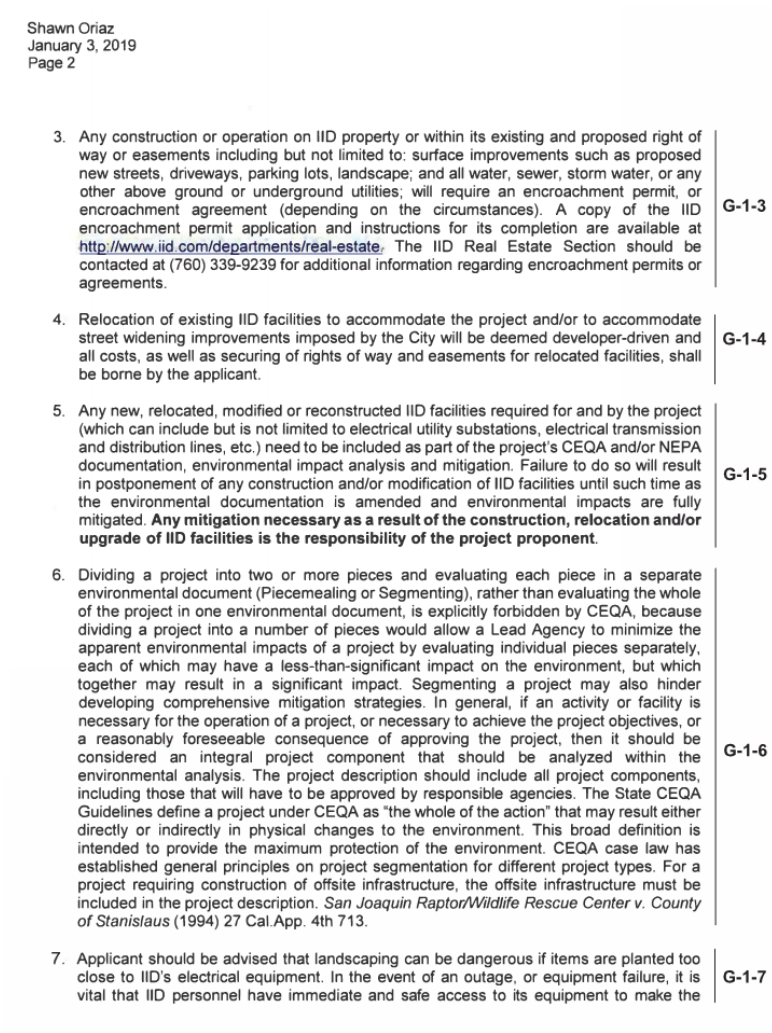
IMPERIAL IRRIGATION DISTRICT • P.O. BOX 937 • IMPERIAL, CA 92251

Response G-1

G-1-1: IID Energy - La Quinta Division Customer Operations Project Manager Rosalinda Escobedo will be consulted at the phone number and address provided as part of the final design phase, and any required utility relocation will be completed according to the procedures and specifications of the affected utilty provider.

G-1-2: The City will provide right-of-way and easements for relocation of IID power line extensions. As noted above in Response G-1-1, coordination with IID will continue through the final design phase, and utility relocation would be performed in accordance with IID procedures and specifications.

G-1



Shawn Oriaz
January 3, 2019
Page 2

3. Any construction or operation on IID property or within its existing and proposed right of way or easements including but not limited to: surface improvements such as proposed new streets, driveways, parking lots, landscape; and all water, sewer, storm water, or any other above ground or underground utilities; will require an encroachment permit, or encroachment agreement (depending on the circumstances). A copy of the IID encroachment permit application and instructions for its completion are available at http://www.iid.com/departments/real-estate. The IID Real Estate Section should be contacted at (760) 339-9239 for additional information regarding encroachment permits or agreements. G-1-3

4. Relocation of existing IID facilities to accommodate the project and/or to accommodate street widening improvements imposed by the City will be deemed developer-driven and all costs, as well as securing of rights of way and easements for relocated facilities, shall be borne by the applicant. G-1-4

5. Any new, relocated, modified or reconstructed IID facilities required for and by the project (which can include but is not limited to electrical utility substations, electrical transmission and distribution lines, etc.) need to be included as part of the project's CEQA and/or NEPA documentation, environmental impact analysis and mitigation. Failure to do so will result in postponement of any construction and/or modification of IID facilities until such time as the environmental documentation is amended and environmental impacts are fully mitigated. **Any mitigation necessary as a result of the construction, relocation and/or upgrade of IID facilities is the responsibility of the project proponent**. G-1-5

6. Dividing a project into two or more pieces and evaluating each piece in a separate environmental document (Piecemealing or Segmenting), rather than evaluating the whole of the project in one environmental document, is explicitly forbidden by CEQA, because dividing a project into a number of pieces would allow a Lead Agency to minimize the apparent environmental impacts of a project by evaluating individual pieces separately, each of which may have a less-than-significant impact on the environment, but which together may result in a significant impact. Segmenting a project may also hinder developing comprehensive mitigation strategies. In general, if an activity or facility is necessary for the operation of a project, or necessary to achieve the project objectives, or a reasonably foreseeable consequence of approving the project, then it should be considered an integral project component that should be analyzed within the environmental analysis. The project description should include all project components, including those that will have to be approved by responsible agencies. The State CEQA Guidelines define a project under CEQA as "the whole of the action" that may result either directly or indirectly in physical changes to the environment. This broad definition is intended to provide the maximum protection of the environment. CEQA case law has established general principles on project segmentation for different project types. For a project requiring construction of offsite infrastructure, the offsite infrastructure must be included in the project description. *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App. 4th 713. G-1-6

7. Applicant should be advised that landscaping can be dangerous if items are planted too close to IID's electrical equipment. In the event of an outage, or equipment failure, it is vital that IID personnel have immediate and safe access to its equipment to make the G-1-7

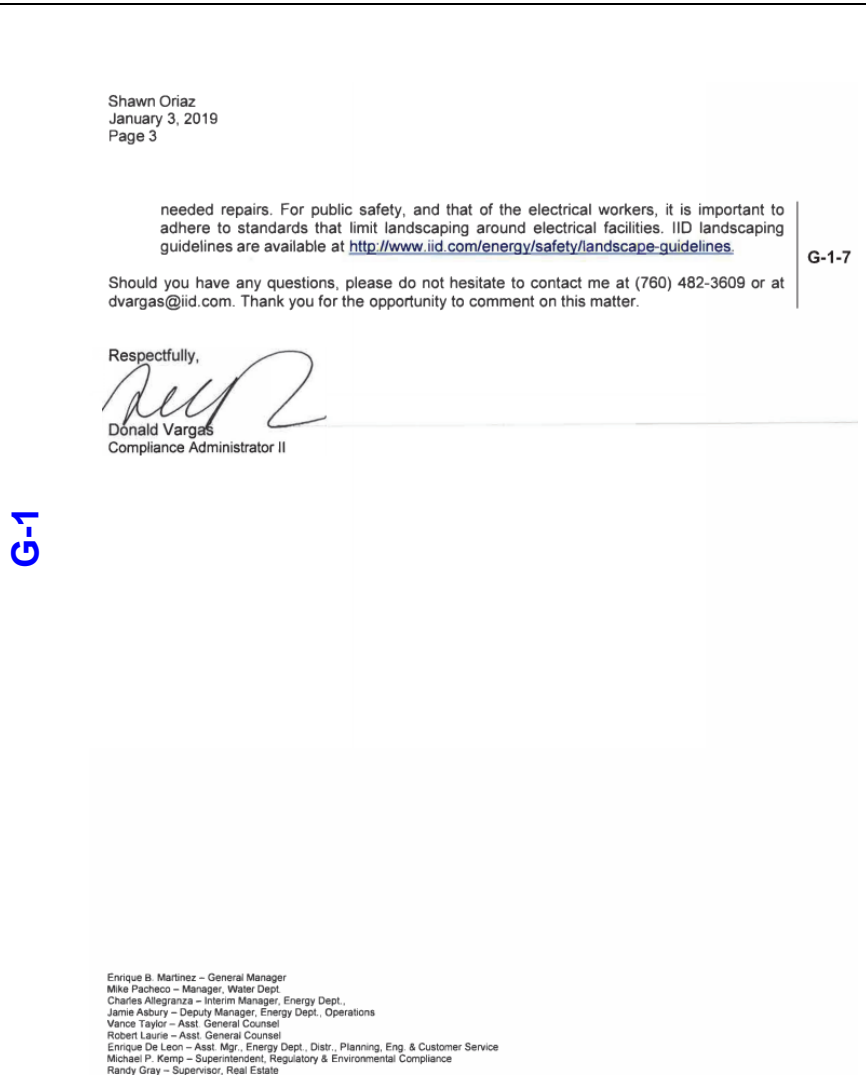
Response G-1 (Continued)

G-1-3: If an encroachment permit is determined to be required from IID, then an encroachment permit application will be submitted to the IID Real Estate Section for IID's consideration prior to construction.

G-1-4: Any utility relocation required for project implementation would be the responsbility of the City, and such relocation would be performed in accordance with IID's procedures and specifications.

G-1-5: Utilities that may be affected by the project have been identified and analyzed in Section 2.1.5 of the IS/EA. Preliminary design of the project and the Draft IS/EA have accounted for the relocation of IID facilities that are required to implement the project. No mitigation beyond what has already been identified in the Draft IS/EA is required, and any potential additional mitigation will be the responsibility of the City.

G-1-6: The environmental impacts for the entire project has been analyzed. The project is proposed to be constructed in two phases. The project has been analyzed as one complete project with two phases of construction, as decribed in Section 1.3 (Project Descriptions) of the IS/EA, in compliance with CEQA Section 15063(1), as disclosed as part of the Draft IS/EA.



Shawn Oriaz
January 3, 2019
Page 3

needed repairs. For public safety, and that of the electrical workers, it is important to adhere to standards that limit landscaping around electrical facilities. IID landscaping guidelines are available at http://www.iid.com/energy/safety/landscape-guidelines. G-1-7

Should you have any questions, please do not hesitate to contact me at (760) 482-3609 or at dvargas@iid.com. Thank you for the opportunity to comment on this matter.

Respectfully,

Donald Vargas
Compliance Administrator II

G-1

Enrique B. Martinez – General Manager
Mike Pacheco – Manager, Water Dept.
Charles Allegranza – Interim Manager, Energy Dept.,
Jamie Asbury – Deputy Manager, Energy Dept., Operations
Vance Taylor – Asst. General Counsel
Robert Laurie – Asst. General Counsel
Enrique De Leon – Asst. Mgr., Energy Dept., Distr., Planning, Eng. & Customer Service
Michael P. Kemp – Superintendent, Regulatory & Environmental Compliance
Randy Gray – Supervisor, Real Estate

Response G-1 (Continued)

G-1-7: As discussed in Section 2.1.7 (Visual/Aesthetics) of the IS/EA circulated for public review, the landscaping pallet shall be coordinated between the City of Coachella and the Caltrans District Landscape Architect prior to final design and implementation, and will retain the character of the existing desert scrub. IID landscaping guidelines will be reviewed and utilized as a part of this process. Any landscaping near any IID electrical equipment will be consistent with IID landscaping guidelines to ensure public safety.

This page intentionally left blank.

Comment G-2

G-2

COMMENT LETTER G-2

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

SENT VIA E-MAIL AND USPS:
sr86-ave50interchange@dot.ca.gov
Shawn Oriaz, Senior Environmental Planner
California Department of Transportation
464 West 4th Street, 6th Floor MS 827
San Bernardino, CA 92401-1400

January 4, 2019

Mitigated Negative Declaration (MND) for the State Route 86/Avenue 50 New Interchange Project

South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the above-mentioned document. The following comments are meant as guidance for the Lead Agency and should be incorporated into the Final MND.

SCAQMD Staff's Summary of Project Description
ne Lead Agency is proposing to build a new interchange at State Route (SR) 86 and Avenue 50 from ast Mile (PM) R19.2 to PM R21.6 (Proposed Project). The Proposed Project would also include nstruction of a bridge overcrossing of 326 feet in length and 122 feet in width, an additional bridge ucture of 605 feet in length and 120 feet in width spanning the Coachella Valley Stormwater Channel VSC), and widening of a portion of Avenue 50 from two lanes to six lanes. The Proposed Project is cated at the existing interchange between SR-86 and Dillon Road interchange in the City of Coachella. ased on a review of Figures 1-4a and 1-5a, *Build Alternative 7 Key Map and Build alternative 8 Key ap*, in the MND and aerial photographs, SCAQMD staff found that sensitive receptors such as sidential uses are located in the immediate vicinity of the Proposed Project. Construction of the oposed Project is expected to occur in two phases, lasting 12 months and 15 months sequentially, and would not overlap[1].

SCAQMD Staff's Summary of and General Comments on the Air Quality Analysis
In the Air Quality Analysis Section, the Lead Agency quantified the Proposed Project's construction emissions and found that air quality impacts from construction activities would not result in significant adverse air quality impacts. However, the Lead Agency did not use SCAQMD's regional CEQA air quality significance thresholds to determine the level of significance. Additionally, the Lead Agency did not conduct a localized air quality impact analysis. Moreover, the modeling parameters used to quantify the Proposed Project's construction emissions may have likely led to an underestimation of the emissions. To further reduce the Proposed Project's construction emissions, SCAQMD staff recommends additional new mitigation measures that the Lead Agency should consider and incorporate in the Final MND. Please see the attachment for more details.

G-2-1

Closing
Pursuant to CEQA Guidelines Section 15074, prior to approving the Proposed Project, the Lead Agency shall consider the MND for adoption together with any comments received during the public review process. Please provide the SCAQMD with written responses to all comments contained herein prior to the adoption of the Final MND. When responding to issues raised in the comments, response should provide sufficient details giving reasons why specific comments and suggestions are not accepted. There should be good faith, reasoned analysis in response. Conclusory statements unsupported by factual

[1] MND. Page 1-38.

Response G-2

G-2-1: This comment requests quantification of air quality impacts from the proposed construction activities to be compared with the SCAQMD thresholds of significance. Additionally, SCAQMD staff is concerned that the localized air quality impacts to nearby sensitive receptors during construction of this project are not adequately disclosed in the materials made available for review. However, the project is under the jurisdiction of the California Department of Transportation (Caltrans) District 8. According to California Public Resources Code (PRC) Section 21082 and CEQA Guidelines Section 15064.7, CEQA provides lead agencies with general authority to adopt criteria for determining whether a given impact is significant. As a result, the analysis for the project followed the guidance within the Caltrans Standard Environmental Reference (SER). Chapter 11 (Air Quality) of the SER provides for a qualitative analysis for temporary construction activities. Construction of the entire project would occur for less than 5 years, which meets Caltrans' criteria as a temporary activity. Therefore, no new mitigaiton measures will be incorporated for air quality because the qualitative analysis determined that there are no significant air quality impacts.

Robert Dalbeck will be added to the distribution list.

G-2

information do not facilitate the purpose and goal of CEQA on public disclosure and are not meaningful or useful to decision makers and to the public who are interested in the Proposed Project.

SCAQMD staff is available to work with the Lead Agency to address any air quality questions that may arise from this comment letter. Please contact Robert Dalbeck, Assistant Air Quality Specialist, at rdalbeck@aqmd.gov if you have any questions. G-2-1

Sincerely,

Lijin Sun

Lijin Sun, J.D.
Program Supervisor, CEQA IGR
Planning, Rule Development & Area Sources

Attachment
LS:RD
RVC181205-09
Control Number

Response G-2 (Continued)

Shawn Oriaz January 4, 2019

ATTACHMENT

SCAQMD's Air Quality CEQA Thresholds of Significance

1. While CEQA permits a Lead Agency to apply appropriate thresholds to determine the level of significance, the Lead Agency may not apply thresholds in a manner that precludes consideration of substantial evidence demonstrating that there may be a significant effect on the environment. Evaluation of air quality impacts, unlike some other impact areas, easily lends itself to quantification. Not only does quantification make it easier for the public and decision-makers to understand the breadth and depth of the potential air quality impacts, but it also facilitates the identification of mitigation measures required to reduce any significant adverse air quality impacts. SCAQMD's CEQA thresholds of significance for air quality provide a clear quantitative benchmark to determine the significance of a project's air quality impacts. Therefore, for most projects within the SCAQMD, SCAQMD's air quality CEQA thresholds of significance for construction and operation[2] are used to determine the level of significance for a project's air quality impacts.

   The Lead Agency quantified the Proposed Project's daily construction emissions in pounds per day[3] and found that "the project would not violate any air quality standards[4]." The Lead Agency also stated the Proposed Project "has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA)[5]." As such, the Proposed Project's construction-related air quality impacts were found to be less than significant. To support this finding, the Lead Agency did not compare the estimated construction emissions to SCAQMD's regional air quality CEQA significance thresholds. Using SCAQMD's CEQA significance thresholds would clearly identify whether the build alternatives would result in significant air quality impacts under CEQA, disclose the magnitude of the impacts, facilitate the identification of feasible mitigation measures, and evaluate the level of impacts before and after mitigation measures. Therefore, SCAQMD staff recommends that the Lead Agency compare construction emissions to SCAQMD's regional air quality CEQA significance thresholds in the Final MND to determine the level of significance.

Localized Air Quality Impact Analysis during Construction

2. Air quality impacts from both construction (including demolition, if any) and operation activities should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips).

   Based on a review of aerial photographs, SCAQMD staff found that sensitive receptors are located in within 25 feet of the Proposed Project. Sensitive receptors are people that have an increased sensitivity to air pollution or environmental contaminants. They include schools, parks and playgrounds, daycare centers, nursing homes, elderly care facilities, hospitals, and residential dwelling units. The Lead Agency did not quantify the Proposed Project's localized construction emissions in the MND and compare those emissions to SCAQMD's localized significance thresholds (LSTs). Therefore, SCAQMD staff recommends that the Lead Agency quantify the Proposed Project's localized construction emissions and disclose the localized air quality impacts in the Final MND to ensure that any nearby sensitive receptors are not adversely affected by the construction

G-2

G-2-1

[2] South Coast Air Quality Management District. March 2015. *SCAQMD Air Quality Significance Thresholds*. Accessed at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf.
[3] MND. Table 2.2.6-3, Estimated Daily Construction Emissions. Page 2-203.
[4] *Ibid*. Page 3-8.
[5] *Ibid*. Page 3-1.

3

Response G-2 (Continued)

Shawn Oriaz January 4, 2019

activities that are occurring in close proximity. SCAQMD guidance for performing a localized air quality analysis is available on SCAQMD's website[6]. G-2-1

Air Quality Modeling Parameters

Construction Schedule

3. On pages 1-38 and 2-202 of the MND, the Lead Agency detailed the anticipated schedule of both construction phases, as well as the proposed construction activities in each phase. The Lead Agency identified phase one would occur over 12 months, beginning in November 2020, and phase two would occur over 15 months, beginning in November 2023. Therefore, the Lead Agency is anticipating approximately 27 months of construction activities, with an approximate two-year gap between each phase. However, in the air quality modeling, the Lead Agency estimated the Proposed Project's construction emissions by using a 43-month construction schedule without distinguishing between phase one and phase two (see Figure 1 below). The Roadway Construction Emissions Model (RCEM) used the total amount of construction activity being proposed and the construction phase and duration input to calculate the estimated amount of daily construction activity, which determined the amount of construction equipment needed to facilitate the said activity. Therefore, by using an elongated construction schedule (43 months rather than 27 months), RCEM may have underestimated the amount of daily construction activity and subsequently underestimated the number of construction equipment that would be required each day and the maximum daily construction emissions. Therefore, SCAQMD staff recommends that the Lead Agency revise the air quality modeling to conduct a worst-case scenario impact analysis by independently modeling each construction phase in the respective years that construction activities would occur, or by combining both phases into one 27-month construction phase.

G-2

Figure 1: Screenshot from Roadway Construction Emissions Model for Construction Schedule Used to Estimate the Proposed Project's Construction Emissions

G-2-2

Construction Periods	User Override of Construction Months	Program Calculated Months	User Override of Phase Starting Date	Program Default Phase Starting Date
Grubbing/Land Clearing		4.30		1/1/2020
Grading/Excavation		17.20		5/1/2020
Drainage/Utilities/Sub-Grade		15.05		10/17/2021
Paving		6.45		1/18/2023
Totals (Months)	43			

Volume of Daily Material Import

4. In the RCEM, the Lead Agency input 800 cubic yards of material to be imported each day during the Proposed Project's grading/excavation construction phase. SCAQMD staff is concerned that the methodology used to estimate the amount of daily transported materials may have led to an underestimation. For example, the Lead Agency divided the total amount of transported materials [311,337 cubic yards (cy)] by the amount of days RCEM assumed for the grading/excavation construction phase [17.20 months or 378 days (22 work days per month)], equating to approximately 823 cubic yards per day. As commented above, the construction schedule used in RCEM was longer than the proposed schedule in the main body of the MND (e.g., 43 months instead of 27 months). Therefore, using a longer construction schedule would may have likely underestimated the amount of materials transported daily and subsequently underestimated the number of haul truck trips for materials delivery and transport needed each day and the maximum daily emissions associated with construction of the Proposed Project. SCAQMD staff recommends that the Lead Agency revise the

[6] South Coast Air Quality Management District. *Localized Significance Thresholds*. Accessed at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds.

4

Response G-2 (Continued)

G-2-2: The project's construction emissions modeled in RCEM accounted for the full construction timeline of the project (a total of 43 months, including a two-year gap between each phase), and the entire soil import (311,337 cubic yards) required for the project. In addition, all construction vehicles and construction equipment would be required to be equipped with state-mandated emission control devices, and comply with SCAQMD Rule 403, Caltrans Standard Specifications for Construction, and Section 11017 of the Government Code to reduce construction emissions. Following compliance with these standards and regulations, project construction is not anticipated to violate state or federal air quality standards or contribute to the existing air quality violations in the Salton Sea Air Basin (SSAB).

As noted by SCAQMD staff, the project construction air emissions modeled in RCEM do not include off-site truck travel trips. However, as discussed above and in the Draft IS/EA, the project would be required to comply with all applicable air quality standards and regulations to minimize short-term construction air emissions, including off-site truck emissions.

SCAQMD staff also suggests that the "Project Type" selected in the RCEM model should be Option 3 (Bridge /Overpass Construction) rather than Option 1 (New Road Construction). The project would construct two new bridge overcrossing structures, on- and off-ramps, and realign existing roadways in the project vicinity. Due to the amount of earthwork and new pavement required for project construction, Option 1 was selected as the most appropriate "Project Type" in RCEM. Option 3 (Bridge/Overpass Construction) could also apply to the project, but the RCEM model does not allow input for two "Project Types" for a single project. In addition, the RCEM model does not have a user's guide or guidance manual to clarify which "Project Type" is most applicable for the project. Further, it is not anticipated that the project's construction emissions would substantially increase or decrease by changing the "Project Type" to Option 3 in the RCEM model.

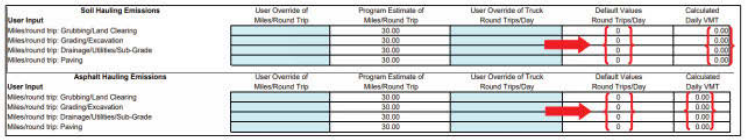
G-2

air modeling to recalculate the daily amount of materials import based on the actual anticipated days for grading/excavation activities within the 27-month construction period.

Haul Truck Emissions

5. According to Table 2.2.6-3, *Estimated Daily Construction Emissions,* in the MND, the grading/excavation construction phase would result in the maximum amount of NOx emissions at 58.40 pounds per day (lbs/day). Additionally, the Lead Agency stated that "the emissions modeling is based on an estimate of 311,337 total cubic yards (CY) of earthwork (import)." However, based on a review of the RCEM parameters, SCAQMD staff found that emissions resulting from haul truck trips may not have been included in the calculations. For example, as shown in Figure 2 below, the Lead Agency did not include haul truck trips per day or daily vehicle miles traveled (VMT) in the RCEM input field for "Soil Hauling Emissions and/or "Asphalt Hauling Emissions." Therefore, SCAQMD staff recommends that the Lead Agency revise the air modeling to account for the emissions from haul truck trips in the Final MND.

Figure 2: Screenshot from Roadway Construction Emissions Model on Haul Truck Trips Per Day



Project Type in the Roadway Construction Emissions Model (RCEM)

6. In the RCEM, the input field 'Project Type' was used to estimate the number and type of construction equipment that would likely be utilized for any given project. In the Proposed Project's RCEM output file, SCAQMD staff found that the Lead Agency utilized Option 1, *New Road Construction,* for the "Project Type" field. According to the brief description found in RCEM[7], Option 1 is most appropriately used when a project includes construction of a new roadway from bare ground, "which generally requires more site preparation than widening an existing roadway[8]." Three other project types are Option 2: *Road Widening*; Option 3: *Bridge/Overpass Construction*; and Option 4, *Other Linear Project.* As stated above in the Summary of the Project Description, since the Proposed Project would include the construction of an overpassing and a new bridge structure, Option 3 would be an appropriate project type for use in RCEM. Therefore, SCAQMD staff recommends that the Lead Agency provide additional information in the Final MND to justify the use of Option 1 as the project type in RCEM.

Mitigation Measures (MM)

7. CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized to minimize or eliminate any significant adverse air quality impacts. To further reduce construction emissions from NOx, PM10, and PM2.5, as well as any adverse impacts from construction activities on nearby sensitive receptors, SCAQMD staff recommends that the Lead Agency incorporate the following mitigation measures in the Final MND.

[7] MND, *Air Quality Report,* Appendix C, *Emissions Modeling Results,* Page 1.
[8] *Ibid.*

G-2-3

G-2-4

Response G-2 (Continued)

G-2-3: SCAQMD staff recommends the Draft IS/EA include the five mitigation measures provided in SCAQMD's January 4, 2019 comment letter for the project. As noted above, the project would be required to comply with all applicable Caltrans, SCAQMD, and CARB air quality standards and regulations to minimize construction air emissions. Following compliance with these standards and regulations, project construction is not anticipated to violate state or federal air quality standards or contribute to the existing air quality violations in the SSAB. Therefore, additional mitigation is not necessary.

G-2

a) Require the use of Tier 4 emissions standards or better for off-road diesel-powered construction equipment of 50 horsepower or greater. To ensure that Tier 4 construction equipment or better will be used during the Proposed Project's construction, SCAQMD staff recommends that the Lead Agency include this requirement in applicable bid documents, purchase orders, and contracts. Successful contractor(s) must demonstrate the ability to supply the compliant construction equipment for use prior to any ground disturbing and construction activities. A copy of each unit's certified tier specification or model year specification and CARB or SCAQMD operating permit (if applicable) shall be available upon request at the time of mobilization of each applicable unit of equipment. Additionally, the Lead Agency should require periodic reporting and provision of written construction documents by construction contractor(s) to ensure compliance, and conduct regular inspections to the maximum extent feasible to ensure compliance.

b) Require zero-emission or near-zero emission on-road haul trucks, if and when feasible. At a minimum, require that construction vendors, contractors, and/or haul truck operators commit to using 2010 model year or newer trucks (e.g., material delivery trucks and soil import/export). G-2-3

c) Suspend all on-site construction activities when wind speeds (as instantaneous gusts) exceed 25 miles per hour.

d) All trucks hauling dirt, sand, soil or other loose materials are to be covered, or should maintain at least two feet of freeboard in accordance with California Vehicle Code Section 23114 (freeboard means vertical space between the top of the load and top of the trailer).

e) Enter into a contract that notifies all construction vendors, contractors, and/or haul truck operators that vehicles and construction equipment idling time will be limited to no longer than five minutes, consistent with the California Air Resources Board's policy[9]. For any idling that is expected to take longer than five minutes, the engine should be shut off. Notify construction vendors, contractors, and/or haul truck operators of these idling requirements at the time that the purchase order is issued and again when vehicles enter the Proposed Project site. To further ensure that drivers understand the vehicle idling requirement, post signs at the Proposed Project site stating that idling longer than five minutes is not permitted.

[9] California Air Resources Board. June 2009. *Written Idling Policy Guidelines*. Accessed at: https://www.arb.ca.gov/msprog/ordiesel/guidance/writtenidlingguide.pdf.

Response G-2 (Continued)

Comment P-1

P-1

Atkinson-Baker, Inc.
www.depo.com

MR. POWELL: So I have a few comments. The first is that we operate a farm on both the east and west side of the project, and we currently have some difficulty moving our equipment from the west side, which would be Avenue 50, over to the east side, which is Tyler Street.

And we move equipment back and forth every day. A lot of equipment is long and wide, and the guardrails constrain our ability to move through there. But we're able to do it. And my concern is that we are able to continue moving the equipment during construction of the project every day during construction of the project. So that's one. P-1-1

Next is we have an irrigation resevoir on the east side of the interchange, which appears like it's underneath the road bed on the drawings, and we need to be able to continue using that resevoir or have a solution which moves it to another location without losing the ability to use it for any period of time. P-1-2

We also have irrigation pipes and drain pipes underneath the ground all over where the project is, and we need to make sure that those remain connected and that we avoid problems that happen. Last time they built the expressway out here at this exact location, where it was in the contract to reconnect them but they P-1-3

4

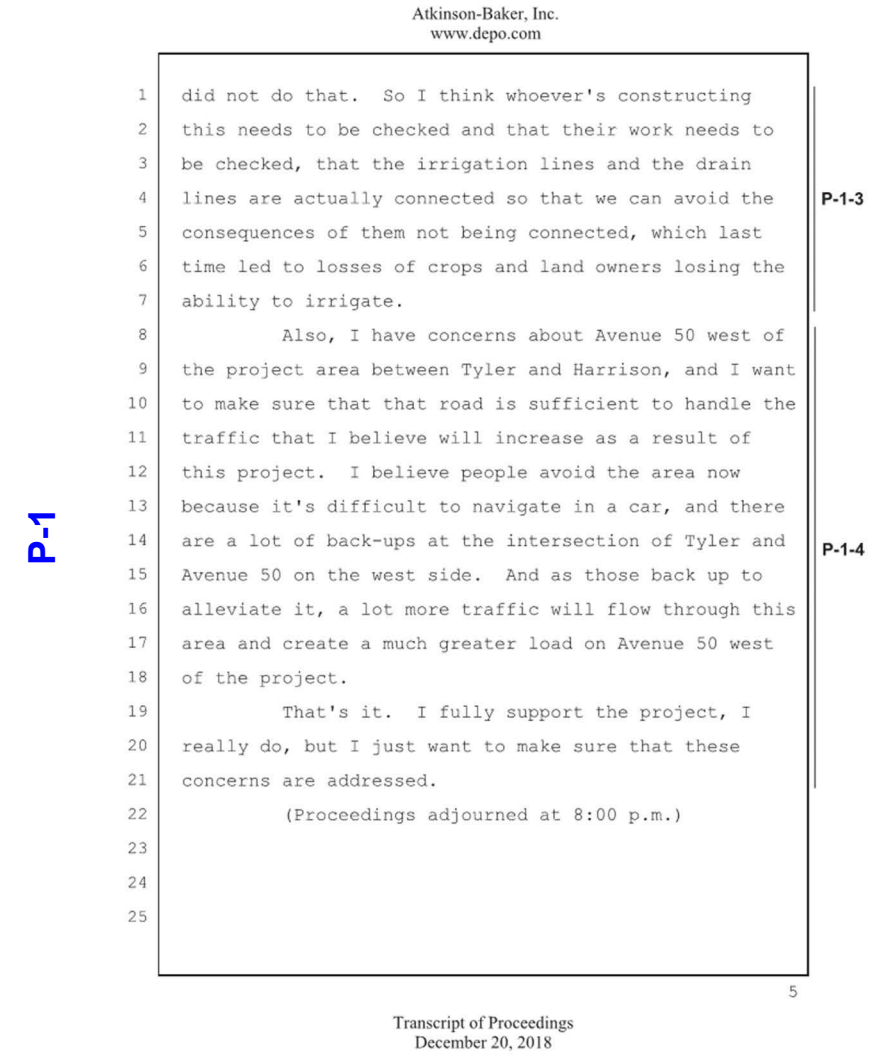
Transcript of Proceedings
December 20, 2018

Response P-1

P-1-1: Consultation with Peter Rabbit Farms will occur during final design to ensure that temporary access for farm equipment will be maintained between farming areas on each side of the project site, throughout the duration of construction. As noted within Section 2.1.6, Traffic and Transportation, of the Draft IS/EA, a Transportation Management Plan (TMP) will be prepared during final design, which will include provisions for alternative routes and property access to ensure farm operations are not adversely affected.

P-1-2: The project would require right-of-way acquisition that would necessitate relocation of the existing irrigation reservoir immediately east of SR-86. As noted in Response P-1-1, consultation with Peter Rabbit Farms will occur during final design to ensure that farming operations are not adversely affected. As part of the right of way acquisition, the land owner will be compensated for relocation of the pond at the location of the owner's choice. Relocation would occur prior to the removal of the existing reservoir, to ensure uninterrupted availabilty of irrigation water for agricultural use.

P-1



Atkinson-Baker, Inc.
www.depo.com

did not do that. So I think whoever's constructing this needs to be checked and that their work needs to be checked, that the irrigation lines and the drain lines are actually connected so that we can avoid the consequences of them not being connected, which last time led to losses of crops and land owners losing the ability to irrigate.

Also, I have concerns about Avenue 50 west of the project area between Tyler and Harrison, and I want to make sure that that road is sufficient to handle the traffic that I believe will increase as a result of this project. I believe people avoid the area now because it's difficult to navigate in a car, and there are a lot of back-ups at the intersection of Tyler and Avenue 50 on the west side. And as those back up to alleviate it, a lot more traffic will flow through this area and create a much greater load on Avenue 50 west of the project.

That's it. I fully support the project, I really do, but I just want to make sure that these concerns are addressed.

(Proceedings adjourned at 8:00 p.m.)

5

Transcript of Proceedings
December 20, 2018

P-1-3

P-1-4

Response P-1 (Continued)

P-1-3: Refer to Response P-1-2, above. Similar to proposed impacts to the existing irrigation pond east of SR-86, numerous irrigation and drain lines would require relocation in order for project construction to occur. Consultation with Peter Rabbit Farms will occur during final design to ensure that farming operations are not adversely affected. Relocation of irrigation/drain pipes would occur prior to the removal of existing infrastructure, to ensure uninterrupted availabilty of irrigation water for agricultural use.

P-1-4: Section 2.1.6 of the Draft IS/EA includes an analysis of traffic conditions at various study intersections upon completion of the project. The commentor notes concerns regarding traffic conditions west of the project area. As noted within the Draft IS/EA, the traffic study area included study intersections west of the project site, including Avenue 50/Leoco Lane and Avenue 50/Peter Rabbit Lane. Both of these intersections are projected to operate at LOS B during AM and PM peak hourse during the Opening Year. During Design Year conditions, the intersections would operate at LOS B during AM peak hours (7-9 AM), and LOS B and D respectively during PM peak hours (4-6 PM). These LOS conditions are acceptable levels of service under Opening Year and Design Year conditions. Thus, adverse effects along Avenue 50 in this area are not expected to occur. Refer to Section 2.1.6 (Traffic) for additional details regarding traffic impacts associated with the project.

Comment P-2	Response P-2
(see comment card below)	**P-2-1:** The City will start negotiations for acquisition and compensations of part of this property during Final Design under the Fair Housing Law (Title VIII of the Civil Rights Act of 1968). All commentors have been added to the project information distribution list. If you have specific questions for the City of Coachella, you may contact Mr. Jonathan Hoy, City Engineer by telephone at (760) 398-5744. La Ciudad comenzará las negociaciones para el proceso de aquisición y compensación de un parte de esta propiedad durante Diseño Final abajo del Ley de Vivienda Justa (Title VIII of the Civil Rights Act of 1968). Todo las personas que tenía comentarios acerca del proyecto estaba adicionado a la lista informaciónal. Si usted tiene preguntas especificas por la Ciudad de Coachella, se puede comunicarse con el Sr. Jonathan Hoy, Ingeniero de la Ciudad, al (760)398-577.

Comment P-2

P-2

SR-86 / AVENUE 50 NEW INTERCHANGE PROJECT

December 20, 2018 Coachella Library 1500 Sixth Street Coachella, CA 92236 **COMMENT CARD**

Name: Renee Campos Phone: (760) 984 3010 Date: Dec-20-18

Address: 85 771 Av. 50

Affiliation: particular owner prop. Email: Renee's General Auto Repair @yahoo.com

Comment(s): Favor de mandar mas informacion si mis propiedad sean afectada por este proyecto o' quien tengo que comunicarme en la ciudad de Coachella sobre este proyecto. P-2-1

Comments on the project may be submitted during the Public Hearing, emailed to sr86-ave50interchange@dot.ca.gov, or submitted by mailing this postcard. The Draft Environmental Document can be downloaded at: http://www.coachella.org/residents/avenue-50/.

Comments are due by Monday, January 7, 2019. ☒ I request to be on the Project Mailing List.

Meeting Accommodations:

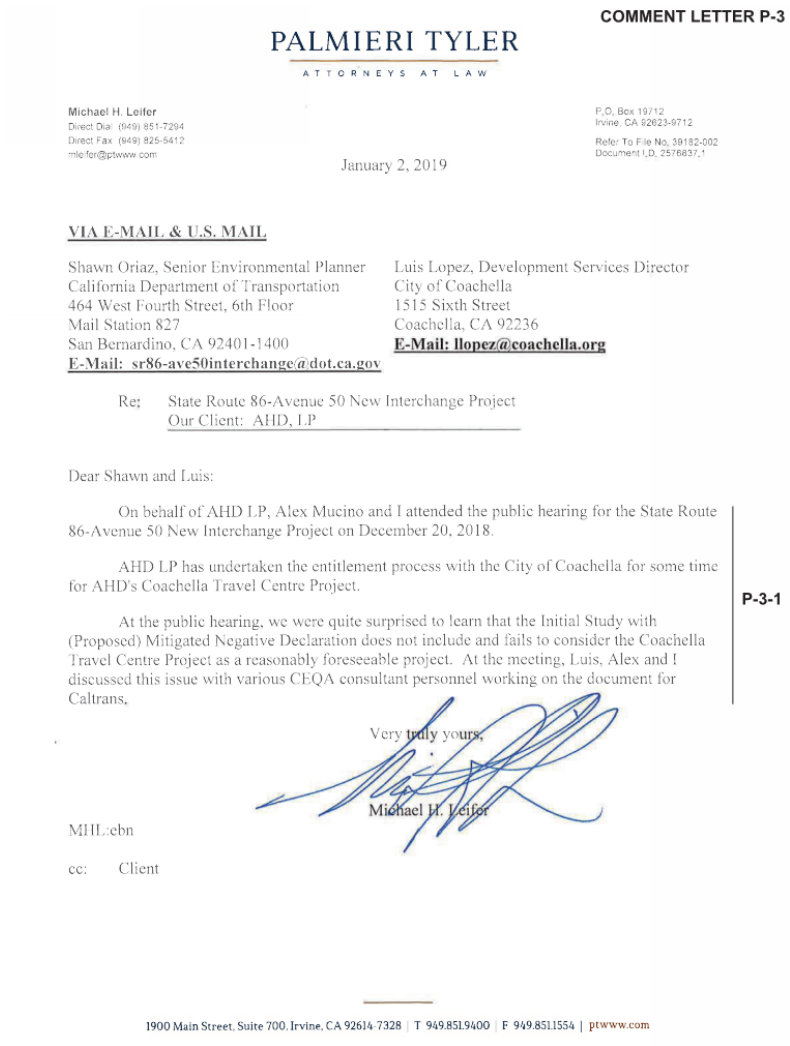
- How did you hear about this public meeting or the project? By mail
- If you are limited in your ability to communicate in English, were your communication needs adequately met? ☒ Yes ☐ No ☐ Not Applicable
- If you were in need of a reasonable accommodation at this meeting as a result of a disability, were your accommodation needs adequately met? ☐ Yes ☒ No ☐ Not Applicable
- If you checked "No" to either of the two questions above, please explain below how your needs could be better met in the future.

To accommodate persons with disabilities, this card will be made available in alternate formats upon request.

This page intentionally left blank.

Comment P-3

P-3



COMMENT LETTER P-3

PALMIERI TYLER
ATTORNEYS AT LAW

Michael H. Leifer
Direct Dial: (949) 851-7294
Direct Fax: (949) 825-5412
mleifer@ptwww.com

P.O. Box 19712
Irvine, CA 92623-9712

Refer To File No. 39182-002
Document I.D. 2576837.1

January 2, 2019

VIA E-MAIL & U.S. MAIL

Shawn Oriaz, Senior Environmental Planner
California Department of Transportation
464 West Fourth Street, 6th Floor
Mail Station 827
San Bernardino, CA 92401-1400
E-Mail: sr86-ave50interchange@dot.ca.gov

Luis Lopez, Development Services Director
City of Coachella
1515 Sixth Street
Coachella, CA 92236
E-Mail: llopez@coachella.org

Re: State Route 86-Avenue 50 New Interchange Project
Our Client: AHD, LP

Dear Shawn and Luis:

On behalf of AHD LP, Alex Mucino and I attended the public hearing for the State Route 86-Avenue 50 New Interchange Project on December 20, 2018.

AHD LP has undertaken the entitlement process with the City of Coachella for some time for AHD's Coachella Travel Centre Project.

At the public hearing, we were quite surprised to learn that the Initial Study with (Proposed) Mitigated Negative Declaration does not include and fails to consider the Coachella Travel Centre Project as a reasonably foreseeable project. At the meeting, Luis, Alex and I discussed this issue with various CEQA consultant personnel working on the document for Caltrans.

P-3-1

Very truly yours,

Michael H. Leifer

MHL:ebn

cc: Client

1900 Main Street, Suite 700, Irvine, CA 92614-7328 | T 949.851.9400 | F 949.851.1554 | ptwww.com

Response P-3

P-3-1: Although AHD LP has submitted an Application for Pre-Application Review for development of the Coachella Travel Centre for the City's consideration, the attachments submitted along with ADH LP's comment letter (P-4, dated January 7, 2019) show that the proposed Coachella Travel Centre is currently in a "Pre-Application" status; and is therefore not an existing facility. There is no requirement under CEQA to analyze an alternative or consider mitigation that would minimize impacts to this "Pre-Application"-status proposal. Numerous outstanding planning/engineering items, details, plans, and documents are required in order for the application to be deemed complete. Additionally, environmental documentation and associated technical studies under CEQA have not been prepared, circulated, or approved by the City for the Coachella Travel Centre. As such, it was not considered a reasonably foreseeable project within the Draft IS/EA.

This page intentionally left blank.

Comment P-4

P-4

COMMENT LETTER P-4

PALMIERI TYLER
ATTORNEYS AT LAW

Michael H. Leifer
Direct Dial (949) 851-7294
Direct Fax (949) 825-5412
mleifer@ptwww.com

P.O. Box 19712
Irvine, CA 92623-9712

Refer To File No. 39182-002
Document I.D. 2579196.2

January 7, 2019

VIA E-MAIL & U.S. MAIL

Shawn Oriaz, Senior Environmental Planner
California Department of Transportation
464 West Fourth Street, 6th Floor
Mail Station 827
San Bernardino, CA 92401-1400
E-Mail: sr86-ave50interchange@dot.ca.gov

Re: State Route 86-Avenue 50 New Interchange Project
Our Client: AHD, LP

Dear Mr. Oriaz:

This office represents AHD, LP, the owner of property located at Avenue 50 and SR86, Assessor's Parcel Number 763-020-021. This comments on the State Route 86-Avenue 50 New Interchange Project ("Project") and the Initial Study and (Proposed) Mitigated Negative Declaration ("MND").

AHD attended the open house and has reviewed the MND that was recently provided. AHD has sought information from staff and the agency that has not been provided.

As AHD previously informed, AHD has been working for years to develop and entitle the Coachella Travel Centre Project on its property. AHD submitted its project to the City in December 2018--more than a year ago. AHD's submittal to the City of Coachella and the City's comments are enclosed as Exhibits 1 and 2 respectively. P-4-1

CEQA requires that the environmental documents must provide "information" about possible impacts for the decisionmakers and the public. The MND does not include, and fails to include, the Coachella Travel Centre Project as a reasonably foreseeable project. The development participants of AHD have had meetings with Caltrans representatives and consultants and City staff for a number of years concerning the AHD property and project. That the Coachella Travel Centre Project was omitted from the MND was not explained by the Caltrans consultants at the open house.

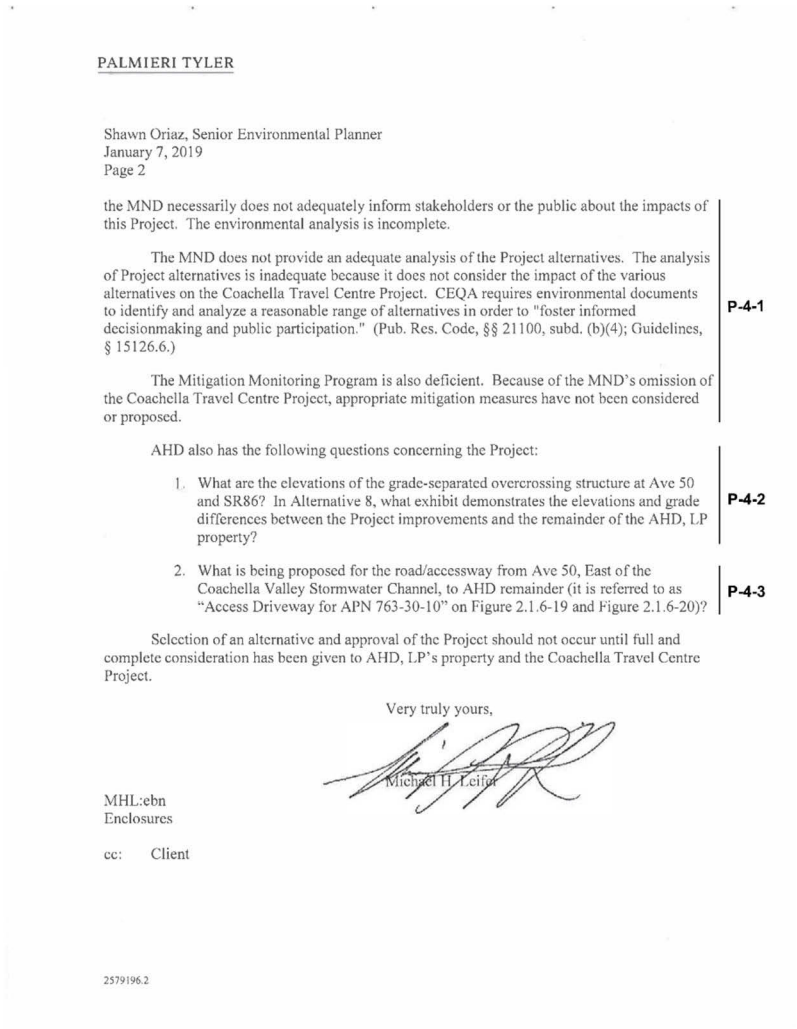
The Coachella Travel Centre Project is impacted by the Project. Yet, the MND has omitted consideration of the Coachella Travel Centre Project. As such, the analysis set forth in

1900 Main Street, Suite 700, Irvine, CA 92614-7328 | T 949.851.9400 | F 949.851.1554 | ptwww.com

Response P-4

P-4-1: Refer to Response P-3-1, above.

P-4



PALMIERI TYLER

Shawn Oriaz, Senior Environmental Planner
January 7, 2019
Page 2

the MND necessarily does not adequately inform stakeholders or the public about the impacts of this Project. The environmental analysis is incomplete.

The MND does not provide an adequate analysis of the Project alternatives. The analysis of Project alternatives is inadequate because it does not consider the impact of the various alternatives on the Coachella Travel Centre Project. CEQA requires environmental documents to identify and analyze a reasonable range of alternatives in order to "foster informed decisionmaking and public participation." (Pub. Res. Code, §§ 21100, subd. (b)(4); Guidelines, § 15126.6.) P-4-1

The Mitigation Monitoring Program is also deficient. Because of the MND's omission of the Coachella Travel Centre Project, appropriate mitigation measures have not been considered or proposed.

AHD also has the following questions concerning the Project:

1. What are the elevations of the grade-separated overcrossing structure at Ave 50 and SR86? In Alternative 8, what exhibit demonstrates the elevations and grade differences between the Project improvements and the remainder of the AHD, LP property? P-4-2

2. What is being proposed for the road/accessway from Ave 50, East of the Coachella Valley Stormwater Channel, to AHD remainder (it is referred to as "Access Driveway for APN 763-30-10" on Figure 2.1.6-19 and Figure 2.1.6-20)? P-4-3

Selection of an alternative and approval of the Project should not occur until full and complete consideration has been given to AHD, LP's property and the Coachella Travel Centre Project.

Very truly yours,

Michael H. Leifer

MHL:ebn
Enclosures

cc: Client

2579196.2

Response P-4 (Continued)

P-4-2: The overcrossing structure is approximately 25 feet above the SR-86 expressway. The overcrossing structure varies in elevation between 442 and 455.41 feet, a difference of 14.96 to 29.08 feet above the existing Avenue 50.

Please note that the elevations in this area are below sea level and are therefore negative per the NAVD 88 datum. To give positive elevations, a constant elevation of 500 feet was added to the elevations.

P-4-3: A 20 foot-wide paved access driveway (approximately 700 feet in length) is being proposed to provide access to both properties (APN 763-020-021 and APN 763-030-010). Presently, these two properties are served by driveway from existing Avenue 50. This existing driveway will be replaced by the new access driveway from the realigned Avenue 50 to avoid landlocked situation. Actual length of the driveway will be finalized during the final engineering phase.

P-4

AHD, LP
422 WIER ROAD, FRONT OFFICE
SAN BERNARDINO, CA 92408

DECEMBER 14, 2017

MR. LUIS LOPEZ
DEVELOPMENT SERVICES DIRECTOR
CITY OF COACHELLA

RE: AGENT AUTHORIZATION LETTER FOR ALEX MUCINO/86 TRAVEL CENTRE

DEAR MR. LOPEZ,

BY MEANS OF THIS LETTER, I AUTHORIZE MR. ALEX MUCINO, AGENT, TO SUBMIT THE ATTACHED " PRE-APPLICATION" ON MY BEHALF.

SHOULD YOU HAVE ANY QUESTIONS, PLEASE CALL ME AT: 909-754-8038.

P-4-4

THANK YOU,

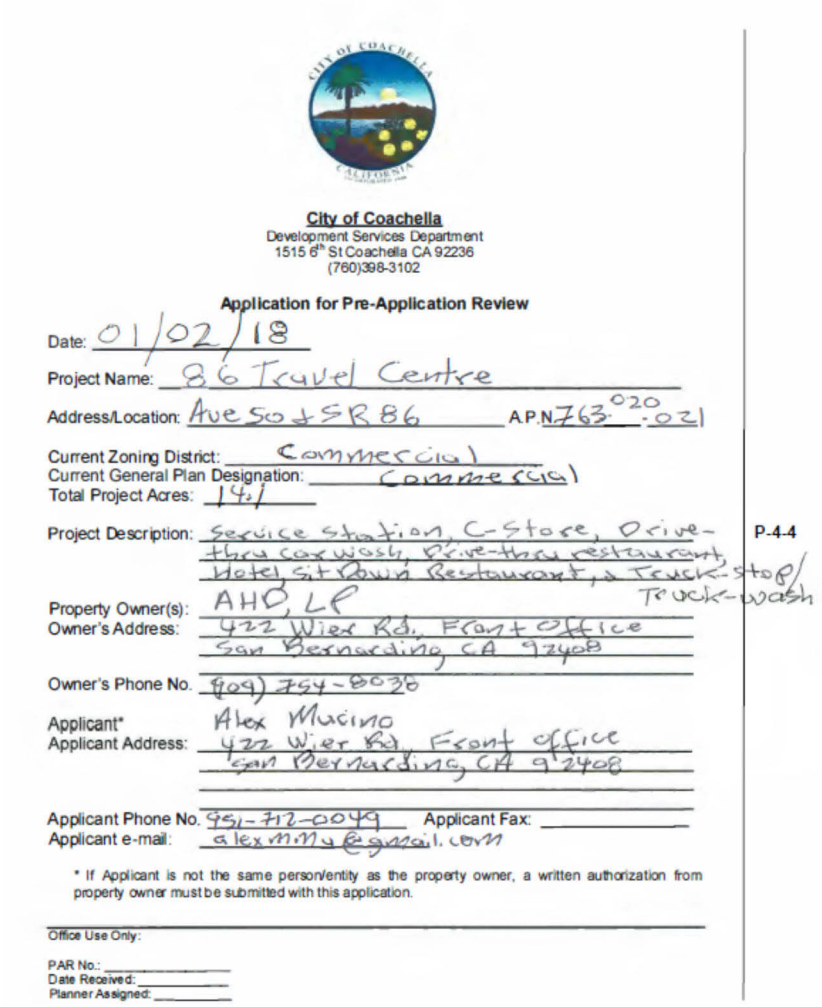
ED HADDAD, PARTNER
FOR AHD, LP

ATTACHMENT: PRE-APPLICATION

Response P-4 (Continued)

P-4-4: This comment is an attachment to the comment letter, and includes documentation related to the pre-application submittal for the Coachella Travel Centre. This documentation does not provide information related to the adequacy of the Draft IS/EA, and no response is required.

P-4



City of Coachella
Development Services Department
1515 6th St Coachella CA 92236
(760)398-3102

Application for Pre-Application Review

Date: 01/02/18

Project Name: 86 Travel Centre

Address/Location: Ave 50 & SR 86 A.P.N. 763-020-021

Current Zoning District: Commercial

Current General Plan Designation: Commercial

Total Project Acres: 14.1

Project Description: Service station, C-Store, Drive-thru car wash, Drive-thru restaurant, Hotel, Sit Down Restaurant, a Truck-stop/Truck-wash P-4-4

Property Owner(s): AHD, LP

Owner's Address: 422 Wier Rd. Front Office
San Bernardino, CA 92408

Owner's Phone No. (909) 754-8036

Applicant* Alex Mucino

Applicant Address: 422 Wier Rd. Front office
San Bernardino, CA 92408

Applicant Phone No. 951-712-0049 Applicant Fax: _____

Applicant e-mail: alexmmy@gmail.com

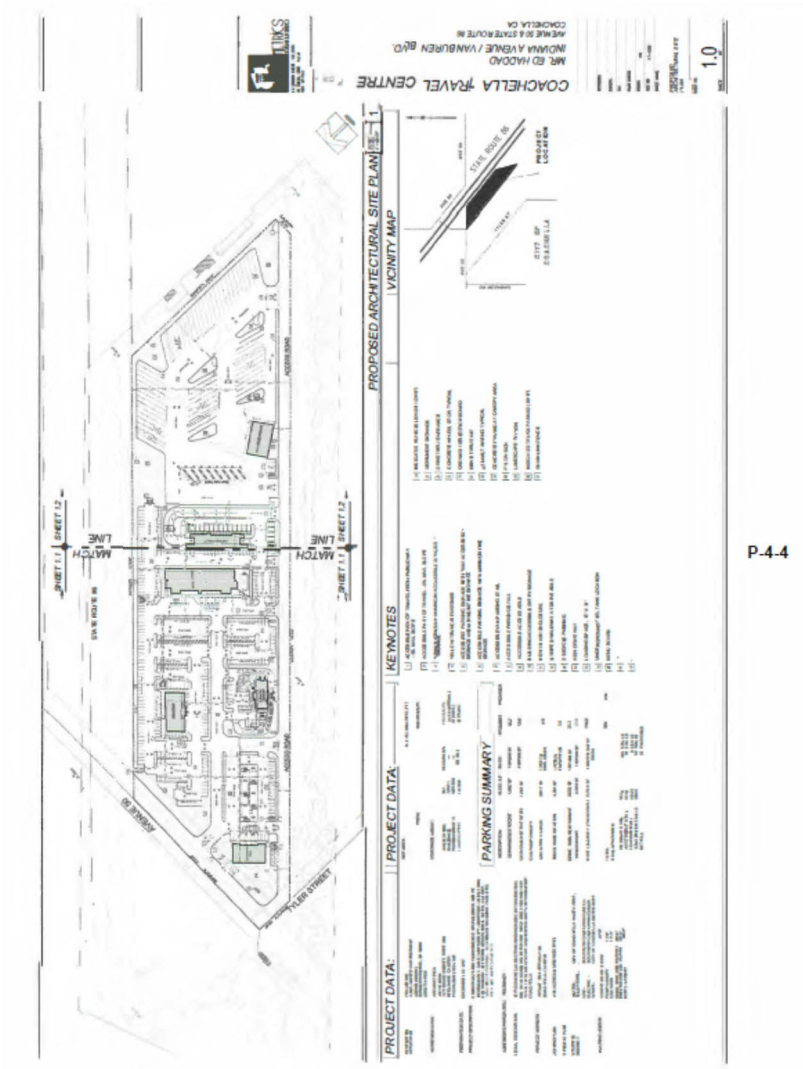
* If Applicant is not the same person/entity as the property owner, a written authorization from property owner must be submitted with this application.

Office Use Only:

PAR No.: _____
Date Received: _____
Planner Assigned: _____

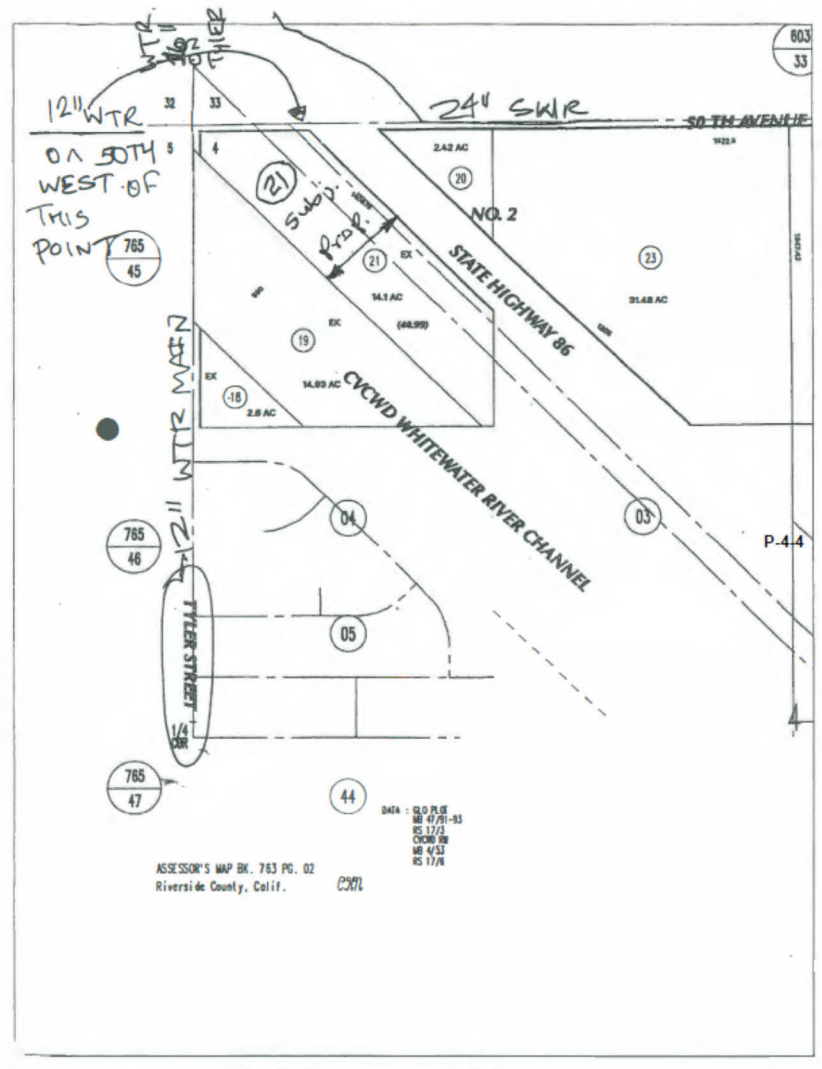
Response P-4 (Continued)

P-4



Response P-4 (Continued)

P-4



Response P-4 (Continued)

P-4

City of Coachella
Development Services Department

1515 Sixth Street
Coachella CA 92236
(760) 398-3102
(760) 398-5421 Fax

PRE-APPLICATION No. 18-01
Pre-Application Review Meeting
=Final Comments=

Meeting Date: Tuesday, April 24, 2018

Project: Coachella Travel Centre

Applicant: Mr. Alex Mucino, Archimetrics
422 Wier Road, Front Office
San Bernardino CA 92408

Attendees: Luis Lopez, Juan Carrillo, Rosa Montoya, Alex Mucino, Luke Millick, Berlinda Blackburn, Mike Leifer, Doug Goodman, Jay Nelson, Castulo Estrada

P-4-4

Project Description: The applicant is proposing the construction of a new commercial center on 14.1 acres of vacant land in the A-R (Agricultural Reserve) zone located at the southwest corner of the 86-S Expressway and Avenue 50. The proposed project includes the following:

a) Convenience store – 3,800 sq. ft. with 10 fuel pumps,
b) Quick Serve Restaurant – 1,200 sq. ft.
c) Car Wash Station – 2,677 sq. ft.
d) Sit down restaurant- 5,555 sq. ft.
e) 5-Story Hotel – 11,259 sq. ft.
f) Truck Wash Station – 4,754 sq. ft.
g) Site improvements

Address/Location: Avenue 50 at Expressway 86 (APN 763-020-021)

Planning Division Comments:

1. The subject site is designated as "Suburban Retail District" under the City's General Plan 2035 Land Use and Community Character Element, which allows a variety of retail uses. The City's vision for this district is to allow a concentration of retail businesses including "big box" and "large format" retailers. The General Plan polices for Suburban Retail District requires connectivity of these centers with adjoining neighborhoods requiring vehicle or

Response P-4 (Continued)

P-4

pedestrian connections at the project boundary every 800 feet. Additionally, the building heights are envisioned to be one-story and two-story construction. The Sub-Area #9 policies provide further policy guidance for the subject site and vicinity. There is a strong emphasis on creating retail centers that are within a walking distance to future residential communities and incorporating strong pedestrian amenities within the project site as they will serve the goods and services needs of future residents. The proposed location of the site having limited street access and the heavy emphasis on auto-oriented and trucking uses (drive-thru restaurant, car wash, and truck washing uses) are not in keeping with the City's vision. It is recommended that the car wash, and truck washing uses not be included in this project, and that the hotel building be limited to two stories. Additionally, there is a need to incorporate sidewalks and street trees along the Access Road and pedestrian amenities within the complex such as tree-lined walkways, outdoor dining areas, and trellis covers.

2. The subject site is in the A-R (Agricultural Reserve) zoning district, per the City's Official Zoning Map which is not consistent with the General Plan's Sub-Area #6 policies which promote a wide diversity of employment and civic uses. A change of zone for the base district is required from A-R (Agricultural Reserve) to C-G (General Commercial) is required. The proposed convenience store, restaurant and hotels are permitted in the CG zone and are subject to the other land use regulations and development standards of the General Commercial zone. The proposed drive-thru restaurant, carwash facility and truck wash facility are permitted in the CG zone, subject to obtaining a Conditional Use Permit (CUP), in accordance with section 17.74.010 of the Coachella Municipal Code. This requires a discretionary review by Planning Commission. Three separate requests for conditional use permit must be pursued, as part of the development application. P-4-4

3. An application for conditional use permit must be pursued for any on-sale or off-sale alcohol license, as may be proposed for the convenience store, or restaurant uses. The City's zoning regulations have special development standards for bars and nightclubs that should not affect this project.

4. An application for Architectural Review by the Planning Commission must be pursued to completion (concurrently with the request for CUP's) and will include a review of the site plan, floor plans, architectural elevations, landscaping plans, fencing plans, materials sample board, and sign program. This involves a public hearing and notification of surrounding property owners within 300 feet. The site plan submitted for review by the Planning Commission should show street dedications, ultimate right-of-way improvements, and the immediately adjoining properties' site elevations. The use of dead-end aisles (i.e., south of the hotel) will be discouraged, in order to promote circulation throughout the project parking areas.

5. Colored building elevations shall be provided for all primary and accessory buildings on the site, including trash enclosures and equipment shelters. Cross sections of the site and buildings as proposed shall be provided, showing elevation changes, height, and screening of rooftop equipment. The elevations shall show exterior architectural details in color including

Response P-4 (Continued)

P-4

window and door trims, molding, recessed dimensions, wall finishes and details, lighting fixtures, exterior gutters, and screening materials for roof top or ground mounted equipment and utilities. Catalog Cut Sheets shall be provided for exterior lighting fixtures. A material sample board shall be provided for exterior colors and finishes.

6. The proposed buildings shall be architecturally enhanced with articulated features such as trims, molding, recessed walls, porticos, projecting band courses, and other architectural fenestrations that add dimension and shade/shadow to the building. Large, blank unarticulated walls shall not be permitted. All roof top equipment must be screened from public view by screening materials of the same nature as the building's basic materials. Mechanical equipment generally shall be located below the parapet walls of the building. All gutters, downspouts, vents, louvers, exposed flashing and overhead doors, shall be painted to blend with or compliment the surface to which attached. The roofline at the top of the structure shall not run in a continuous plane for more than fifty (50) feet without offsetting or jogging the roof plane.

7. Prior to pursuing an application for Planning Approvals, the applicant will be required to work with the Development Services Director on procurement of an approved environmental consultant to coordinate the completion of all California Environmental Quality Act (CEQA) documents, including technical studies, public notices, scoping sessions, initial environmental study and Draft Mitigated Negative Declaration, Mitigation Monitoring and Reporting Program, and attendance at public hearings, as directed by the City. Preliminarily, the project will be required to prepare a Phase 1 ESA, Preliminary Soils Report, Traffic Study, Cultural Resources Investigation, and Preliminary Hydrology Study. The developer will be required to reimburse the City for consultant and legal costs associated with the project through a standard agreement. P-4-4

8. The project must improve the entirety of the site, including all off-site improvements for the street frontage. Otherwise, a phased commercial subdivision map may be presented to the Planning Commission, showing a phased development of on-site and off-site improvements for the project.

9. Conceptual landscaping plans to be reviewed by the Planning Commission shall show overall quantities and sizes of plant materials for the project shall be submitted as part of the architectural review documents. This shall include required street trees and parking lot trees consistent with City regulations. Fencing along interior property lines shall consist of decorative masonry pilasters and wrought iron fencing.

10. The proposed landscape plan shall be in conformance with the City's Landscape Development Guidelines and should include water-efficient plantings as encouraged for the tourist commercial areas. A detailed landscape and irrigation plan shall be submitted that addresses landscape requirements for the project site. All landscaping shall fulfill the general requirements of the Coachella Municipal Code Chapter 17.54 as follows:

Response P-4 (Continued)

P-4

Coachella Travel Centre
Pre-Application Review Meeting
April 24, 2018

- Internal landscaping equal to a minimum of five percent 5% of the parking area and driveway area is required and shall be distributed throughout the parking area.
- All landscape planter beds in interior parking areas shall be not less than five (5) feet in width and bordered by a concrete curb not less than six (6) inches nor more than eight (8) inches in height adjacent to the parking surface.
- Where a drive aisle abuts the side of a parking space a landscaped planter shall separate the parking space from the drive aisle.
- At least one (1) fifteen (15) gallon tree shall be provided within the parking area for every ten (10) parking spaces, with size, height and species acceptable to staff.
- All internal landscape planters shall have permanent and automatic sprinkler or drip irrigation systems.

11. The applicant shall submit a lighting plan for all exterior parking, landscape and driveway areas during plan check.

12. Notwithstanding the policies of the General Plan, the maximum height of all buildings in the C-G zone may be 35 feet or two stories, whichever is less, for all structures within 130 feet of a residential zone. A maximum height of 50 feet or three stories is allowed for all other structures. Additionally, height limits for the project may be affected by recommendations contained in the Riverside County - Airport Land Use Compatibility Plan for the Jacqueline Cochran Airport. P-4-4

13. Off street parking and loading shall be provided as follows:

    a. Hotels & Motels: One space per room or suite, plus one space per every three employees on the largest work shift, plus one space per three persons to the maximum capacity of each public meeting and/or banquet room, plus fifty (50) percent of the spaces otherwise required for accessory uses (e.g. restaurants and bars).

    b. A minimum of two (2) 12' X 30' designated Loading Spaces for the resort hotel are recommended, unless an alternative study shows the need for less loading spaces.

    c. Restaurants & Other Eating, Drinking and Food Establishments: One space for each forty-five (45) square feet of customer area, plus one space for each two hundred (200) square feet of noncustomer area.

- The proposed off-street parking areas must reserve reciprocal access for all uses, if the project is subdivided for commercial purposes in the future. Section 17.54.010 (G) of the Coachella Municipal Code allows the planning commission to consider allowing a conditional use permit for of shared parking to reduce the total number of required on-site

4

Response P-4 (Continued)

P-4

parking spaces for different uses when and also to allow sharing of loading spaces when the following requirements have been complied with:

a. A parking study addressing the potential peak parking demand and an actual parking survey of the parking facility under consideration shall be submitted.
b. Sufficient evidence shall be presented demonstrating that no substantial conflict in the principal hours or periods of peak demand for the structures or uses for which the joint use is proposed will exist.
c. Parties concerned in the use of shared or off-site parking facilities shall provide evidence of agreements for such use by a proper legal instrument, which shall be recorded in the office of the county recorder with two copies thereof filed with the planning division as a condition of any approval.
d. In no case shall the total parking reduction be allowed to exceed fifty (50) percent of the total parking for all uses combined.
e. Any off-site parking shall be located so that it will adequately serve the use for which it is intended, with safe and convenient access without unreasonable hazard to pedestrian, vehicular traffic, or traffic congestion, and shall not be detrimental to the use of any business, property or residential neighborhood in the vicinity.

14. Maximum width of a commercial driveway shall be limited to 30 feet in width pursuant to Section 12.16.040 of the Coachella Municipal Code, measured from top of curb cut. Please reduce the width of driveways accordingly or apply for a variance to the driveway width requirements with the Engineering Department. P-4-4

15. All rooftop equipment must be architecturally screened from view to the street with adequate height of parapet walls. Please provide cross sections showing the line of site from street elevation, height of parapets, and height of rooftop mechanical equipment.

16. A minimum 10' X 40' trash and recyclables dual bin enclosure (with 6-ft high masonry wall and opaque metal gates) must be shown on the site plan conforming to the standards of Burrtec Waste Disposal, and located such that it does not conflict with the vehicular circulation pattern on the site. At least one trash enclosure shall be accessible from within 250 feet of every occupied space of buildings on the property, unless an alternative plan is approved by Burrtec.

17. All proposed signage shall comply with the guidelines established under Chapter 17.56 of the City of Coachella Municipal Code. Any wall signs and freestanding "monument" sign (using materials that match the building) should be shown on plans submitted for Planning Commission review. A sign program for the center is recommended to be submitted along with Architectural Review exhibits. This may include provisions for freeway-oriented signs.

18. The applicant will be required to comply with the City's Art in Public Places Ordinance. If the applicant elects to place artwork on the project site, the applicant shall place artwork in outdoor areas of the private property accessible to the public in a manner satisfactory to the

Response P-4 (Continued)

P-4

Public Arts Commission. If the applicant elects to pay in-lieu art fees, then the fees shall be deposited into the Public Arts Fund at an amount of (1) One-half (1/2) of one percent (1%) for new commercial and industrial construction.

19. All on-site utility lines and overhead power lines will be required to be undergrounded on the project site and in the public utility easement areas along the street frontages.

General

The following is a preliminary estimate of planning fees that are expected to be applied to the proposed project:

Conditional Use Permit (Drive-Thru Restaurant)	($3,857 +$10/ac) = $3,998
Conditional Use Permit (Car Wash)	($3,857 +$10/ac) = $3,998
Conditional Use Permit (Truck Wash)	($3,857 +$10/ac) = $3,998
Change of Zone	($5,976 +$10/ac) = $6,116
Architectural Review (Commercial)	($3,857 +$10/ac) = $3,998
Initial Study Review	= $2,118
Technical Study Review	(3x1,500) = $4,500
Total Estimate =	$28,726

P-4-4

All submittal requirements, as specified in the City's Development Application must be submitted along with the appropriate filing fees in order to deem the application complete for processing.

Note: The City's Municipal Code is accessible on-line at the following web link:

https://www.municode.com/library/ca/coachella/codes/code_of_ordinances

Response P-4 (Continued)

P-4

CITY OF COACHELLA
ENGINEERING DEPARTMENT
Pre-Application Review No. 18-01, Coachella Travel Center
COMMENTS AND RECOMMENDATION (4-17-18)

Grading and Drainage

1. A preliminary geological and soils engineering investigation shall be conducted by a registered soils engineer, and a report submitted for review with the precise grading plan and shall include pavement recommendations. The report recommendations shall be incorporated into the precise grading plan design prior to plan approval. The soils engineer and/or the engineering geologist shall certify to the adequacy of the grading plan.

2. A precise grading/improvement plan, prepared by a California Registered Civil Engineer, shall be submitted for review and approval by the City Engineer prior to issuance of any permits. A final soils report, compaction report and rough grading certificate shall be submitted and approved prior to issuance of any building permits.

3. A Drainage Report, prepared by California Registered Civil Engineer, shall be submitted for review and approval by the City Engineer prior to issuance of any permits. The report shall contain a Hydrology Map showing on-site and off-site tributary drainage areas and shall be prepared in accordance with the requirements of the Riverside County Flood Control District. Adequate provisions shall be made to accept and conduct the existing tributary drainage flows around or through the site in a manner which will not adverselyaffect adjacent or downstream properties. If the design of the project includes a retention basin, it shall be sized to contain the runoff resulting from a 10-year storm event and the runoff from a 100-year storm event shall be contained within basin with shallow ponding (3.5' max.). The basin shall be designed to evacuate a 10-year storm event within 72 hours. The size of the retention basin(s) shall be determined by the hydrology report and be approved by the City Engineer. Retention basin shall be provided with a minimum of 2.00 feet sandy soil if determined to contain silt or clay materials. Maximum allowable percolation rate for design shall be 10 gal./s.f./day unless otherwise approved by the City Engineer. A percolation test for this site is required to be submitted. A combination drywell vertical drain field shall be constructed at all points where runoff enters the retention basin. Drywell & vertical drain field design shall be based on soils borings made at the proposed drywell locations after the retention basins have been rough graded. Minimum depth shall be 45-feet. A log that includes sieve analysis for each strata of the borings shall be submitted to the City Engineer for confirmation of depth of the vertical drain fields. Underground retention under the proposed parking area will be considered as an alternative to surface retention subject to the approval of the City Engineer.

4. Site access improvements shall be in conformance with the requirements of Title 24 of the California Administrative Code. This shall include access ramps for off-site and on-site streets as required.

5. Applicant shall obtain approval of site access and circulation from Fire Marshall.

P-4-4

Response P-4 (Continued)

P-4

6. If applicant is planning to build a wall, separate permits shall be required for wall construction. The maximum height of any wall shall be limited to six (6) feet as measured from an average of the ground elevations on either side.

Street Improvements

7. A traffic study by a licensed California Registered Civil Engineer shall be prepared for this project to identify improvements required at intersections of Avenue 50 and Tyler Street and at SR-86, the study shall include improvements as per city general plan and to accommodate the construction of a new bridge on the storm water channel with a new interchange at State Route 86 (see also item No.20 of General Comments).

8. Avenue 50 and Tyler Street shall include improvements as required as per City of Coachella General Plan, applicant shall also verify and dedicate land if necessary to comply with right-of-way requirements.

9. It is recommended by this department to locate a secondary ingress/egress to the property to facilitate continuity for commercial traffic flow.

10. Street improvement plans prepared by a California Registered Civil Engineer shall be submitted for engineering plan check prior to issuance of encroachment permits. All street improvements including street lights shall be designed and constructed in conformance with City Standards and Specifications. Street flow line grade shall have a minimum slope of 0.35 %.

P-4-4

11. Applicant shall construct all off-site and on-site improvements including street pavement, curb, gutter, sidewalk, street trees, perimeter walls, perimeter landscaping and irrigation, storm drain, street lights, and any other incidental works necessary to complete the improvements. Driveways shall conform to City of Coachella standards for commercial driveways with a minimum width of 24.00 feet and curbed radius entrances.

12. Applicant shall obtain an encroachment permit for any improvements constructed within public right-of-way including alleys.

Sewer and Water Improvements

13. Sewer & Water Improvement Plans prepared by a California Registered Civil Engineer shall be submitted for engineering plan check and City Engineer approval.

14. Applicant shall construct all off-site and on-site water improvements and any other incidental works necessary to complete the improvements. Size and location of sewer and water improvements shall be approved by the City Engineer.

Response P-4 (Continued)

P-4

15. A separate fire connection is required as per standard W-1, W-4, W-7, W-10 (Above ground) for the new construction with the following criteria: If a building exceeds 3600 square feet and/or has more than 100 seating area. Fire hydrants are required within 250 feet minimum from the closest building point to the hydrant. Pipe type c-900-CLS-200.

General

16. The City in cooperation with the California Department of Transportation (Caltrans) District 8, and Coachella Valley Association of Governments (CVAG), proposes the construction of a new bridge on the storm water channel in conjunction with a new interchange at State Route 86.

17. Prior to issuance of any encroachment permits by the City of Coachella, the applicant shall resolve CVWD issues related to existing tile drains or irrigation mains located within the project boundary or along the streets adjacent to the property. If necessary tile drains and irrigation lines shall be relocated and easement documents prepared for the new location of any such lines. Plans for the tile drain or irrigation relocation shall be submitted to CVWD for approval and a copy of the plans shall be submitted to the City for evaluation regarding possible conflict with City facilities. The applicant shall submit to the City approved copies of any such relocation plans.

18. The developer shall submit a Fugitive Dust Control and Erosion Control plan in accordance with Guidelines set forth by CMC and SCAQMD to maintain wind and drainage erosion and dust control for all areas disturbed by grading. Exact method(s) of such control shall be subject to review and approval by the City Engineer. No sediment is to leave the site. Additional securities, in bond form, in amount of $2,000.00 per acre of gross area, and a one time cash deposit of $2,000.00 are required to insure compliance with this requirement. No work may be started on or off site unless the PM-10 plan has been approved, the original plans, and executed dust control agreement, are filed in the engineering department at the City of Coachella. A separate submittal and approval to the AQMD agency is required on projects exceeding 10 acres. P-4-4

19. The applicant shall pay all necessary plan check, permit and inspection fees. Fees will be determined when plans are submitted to the City Engineering Department for plan check. Applicant shall comply with the valley wide NPDES permit requirements including but not limited to submittal of a Preliminary WQMP for plan review accompanied by a $3,000 plan check deposit and a Final WQMP for final approval including executed maintenance agreement. All unused plan check fees will be refunded to the applicant upon approval of the Final WQMP.

Completion

20. "As-built" plans shall be submitted to and approved by the City Engineer. Prior to acceptance of the improvements by the City, such plans, once approved, shall be given to the city on compact disk in AutoCad format. All off-site and on-site improvements shall be completed to the satisfaction of the City Engineer prior to acceptance of improvements for maintenance by the City.

21. Prior to issuance to of certificate of occupancy, all public improvements, including landscaping and lighting of the retention basins, and landscaped areas along the exterior streets, shall be completed to the satisfaction of the City Engineer. An engineering final inspection is required.

Response P-4 (Continued)